



**INTOSAI**  
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Environmental Auditing

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# **AUDITING BIOLOGICAL DIVERSITY**

## **The Management and Protection of Water Resources (Albania)**

**Theme:** Auditing Biological Diversity

**Author:** Albania

### **Background on water resources in Albania**

Our country is so rich in water resources that they should be exploited wisely and the government should place more restrictions on their use. The audit available resources for SAIs are always limited. Therefore our SAI is not able to do all performance audits. This is the most important step in performance audit, because here we decide: what to do and how to allocate our resources.

The principle law “For Water Resources” on administration of water resources is adopted in 1996. Being aware that the Water Authorities were established after 2000 and the sub-legal acts were laid down later, SAI sector of environmental protection has carried out regularity audit in the National Water Council in 2003.

The Authorities of the Republic of Albania, responsible for the water, function on basis of law “For Water Resources”. The National Council of Water and its executive bodies carry out the management of the water resources: Technical Secretariat at national level, Local Authorities of Basins, Council of Water Basins and Agencies designated by the National Council of Water. The management of water resources in our country comprises six water basins.

### **Related activities of the SAI of Albania**

We have made collection of complete and reliable information, organizing information gathered and detailed analysis of the gathered information (risk assessment), and the audit planning process consisted in two phases: strategic planning and short-term planning. The steps in planning the design phase are: identify information required, sources of information, methods for gathering information, set timetable and consulting the audited subject. For using evidence gathering technique we have made: planning, execution, recording, confirmation and analyzing.

### **Management of border waters**

A Governmental Commission dealing with water issues related to neighbor countries, which is set up in 1999 and run by the Ministry of Territory Adjustment and Tourism, carries out the management of border waters.

Based on the “Treaty between the Republic of Albania and the Federal Republic of Yugoslavia for the management of border waters”, the Albania-Yugoslavia Commission has dealt with issues concerning the water economy, measures and water works, which join or intersect with the state borders, utilization of water in the field of agriculture, energy, fishery, protection from the floods, etc. The dissolution of the Federal Republic of Yugoslavia raised the need to make an agreement with the Republic of Montenegro and Macedonia. In order to plan and manage the available resources for the economy of our country, a convention between Serbia,

Montenegro and Macedonia should be drawn up and approved on the use of the river waters of White and Black Drin, the coherent utilization, as well as, preservation of common lakes of Oher and Prespe, or other issues relating to water-power station Skavica.

In 1985 it was agreed to set up a joint Albania-Greek Commission of the border river waters, as well as, to sign a draft regulation of this Commission. The joint group of the areas bordering on the common waters consists of technical experts, who have submitted to both governments a draft agreement on the water economy regarding the issues of border waters, the energy utilization of Vjosa river and the lake of Small and Large Prespe, as well as, the research of Korfuz Channel, which is a zone of special natural values for the development of tourism, fishery, marine transport. "A Convention between the governments of the Republic of Albania and the Republic of Greece on the establishment of a joint Albanian-Greek Commission of the border waters" is signed in April 2003. This convention was approved by Decision of the Council of Ministers.

### **Recommendations from the SAI of Albania related to water**

After the final report is drawn up in order to implement the National Program of monitoring the environment, the State Supreme Audit has recommended that the executive bodies of the National Water Council in collaboration with other Ministries and in particular with the Ministry of Environment should accomplish these tasks:

- To supplement and adopt the Water Strategy as the threshold of water reserves management;
- To draw up and adopt all tariffs on water usage in order to manage and set high standards of discipline for using the water reserves appropriately;
- To make a complete inventory of all water reserves and to update their records regularly, this should be done by any Water Authority.
- To set the rules for the direct exploitation of used water;
- To define the standards and the requirements for different kinds of sewage (discharge) works, together with the Ministry of Health and Environment Protection;
- To declare areas of special protection such as basins, rivers and flows of water, which are defined as zones of special natural values and character, as well as, of ecological interest. The management structure and their preservation should be defined by special sub-legal acts;
- To provide information on quarterly basis and submit an annual report to the Ministry of Environment;
- To create a computerized database and provide information about the monitoring of environment, which should be open to the public;
- To draw up the respective regulations and guidelines for monitoring process.

It is worth emphasizing that all our recommendations are accepted by the audited subject which has accomplished and implemented only the first three recommendations during the year 2004.

### **Background on the use of water resources in Albania**

Being supported by the World Bank in the role of co-coordinator of European Commission and UNDP in the role of co-financer, the Council of Ministers has decided and approved: The National Strategy of Water and the Plan of Water Reserve, which deal with all types of water utilization, requirements resources in use, the extent to which the need for water is fulfilled, the quality of the water in use, the potable water, sewages, industrial waters, the drainage systems for discharge, the irrigation systems, hydro-energy, underwater life, fishery, tourism, sailing, etc.

### **Potable water**

In order to provide potable water, it is necessary to follow up a national policy of rehabilitation of water-supply works, so that we can reduce the loss of water, as well as, to ensure a system of tariffs based on the cost of expenditures, improving the commercial and financial performance of water-supply and sewage enterprises. More attention should be paid to issue of providing potable water in order to develop tourism. The National Strategy of Water envisaged the increase of quantitative and qualitative demands for water, as well as, the strengthening of measures for the treatment of dirty waters.

### **Irrigation**

Being supported by the World Bank, the irrigation system is making quick improvements. The rehabilitation of the existing irrigation and draining networks, the organization of farmers into water consumer's unions and the establishment of board for drainage are making possible to monitor the quantity of surface waters, to preserve the soil values and to increase the national agricultural production. The floods cause serious troubles in Albania. They can be avoided by taking measures to reduce the plots of: building of reservoirs for hydro-energy, irrigation, the maintenance of sewer pipes, the function of drainage hydro-pumps and exploitation of gravel from the river beds.

### **Hydro-energy**

Albania is one of the few countries in Europe that has a great capacity of hydro-energy, but most of water reserves are not exploited. Recent researches have been carried out on the construction of new water power station in Banje, Bushat, Skavice and Kalivac. The continued increase of renewable energy sources will be based on the strategy of lower costs of thermal-power plants and other ways of producing energy.

### **Challenges on national planning for water**

Based on the National Strategy of Water, further legal improvements are made by the existing institutional structures such as: Ministry of Environment, Ministry of Agriculture and Food, Ministry of Health, Regulatory Entity of Water-Supply, Sewage and Treatment of Dirty Water Sector, National Council of Water.

The development of the National Water Strategy and balanced exploitation of water reserves are achieved through a National Plan for the Water Reserves. Besides that, sectional plans for supplying potable water, for the irrigation system and administration of basins are drawn up. In order to achieve the objectives, it is required to increase the monitoring capacities, to update the data on the quality of underground and surface waters, to measure the average of rain falls and flow of the rivers, to gauge the level of lakes, rivers, sea, as well as, the level of underground waters applying contemporary technology.

The Albanian Government has obtained technical assistance from the International Organizations to implement the National Strategy of Water. The financial support of Technical Secretariat of the National Water Council is provided by the European Commission, which aims at increasing the management capacity of this Institution, as the coordinating central entity of managing the water resources. This project has defined the structures for managing the waters, the short and long terms activities and has presented the terms of references, as well as, the preliminary costs for carrying out researches on the exploitation of water reserves.

The tariffs on the use of water are approved by the Decision of the Council of Ministers based on the technical assistance of PHARE program, as well as, the observation made by the specialized institutions. The approval of this decision is part of the compilation of sub-legal acts in compliance with the law: "For Water Reserves", thus it makes an economic estimation of all this national resource. All private or public subjects are licensed to make use of one of the regimes of water exploitation and pay all administrative cost. So far, these costs are not paid by irrigation, sewage and water supply system, as well as the sector of energy. The use of water becomes Free, by means of License, Authorization and Concession. The Water Agencies have started the procedures to grant concessionary binding contracts to the subjects that have applied for water exploitation.

The complete inventory of water reserves and its updated has made by all Water Agencies, as a requisite for the actual and effective implementation of Water Strategy. Based on the expansion and extension of water works and resources, this task is fulfilled in collaboration with the local governments, as well as, with the structures of Technical Secretariat, which should work for registering the national water resources.

As regards the researches on underground waters and its exploitation, the National Water Council has approved the respective regulation, as well as the application forms for the License, Authorization and Concession for the exploitation of water reserves. The researches on special basins revealed that water reserves are decreasing, the underground balance is disturbed and divergent issues are raised such as, pollution, the appearance of salt water, the subsidence of land etc.

As regards the other aforementioned recommendations, beside the efforts made, they are not implemented by all relevant Water Authorities and Ministries. Hence it is our permanent duty to follow up and monitor the implementation of SAI recommendations. In this respect we expect to achieve high results and feel the full sought-after impact of them.



## **Austrian Audits Concerning Biodiversity (Austria)**

**Theme:** Auditing Biological Diversity

**Author:** Dr. Heinrich Lang

### **A) AUDITS CONCERNING BIODIVERSITY**

- implementation of the Ramsar convention
- ecosystem Lake Neusiedl/Fertö
- nature protection in the River Thaya/Dyje watershed
- international co-operation in the field of water quality, biodiversity, and nature conservation, in the area of the River Thaya/Dyje
- national park in the alluvial forest of the River Danube

### **B) THE AUDITS OF THE IMPLEMENTATION OF THE RAMSAR CONVENTION**

#### **Background information**

The audit was to assess, if the federal and provincial juridical frameworks are appropriate to the commitments of the convention. As international agreements are in federal competence and nature protection is in the competence of the States, the co-ordination of these two legislative and administrative levels was an issue. Furthermore it should be examined, if there is a detectable ecological output concerning biological trends at species and habitats. The audit was a mixed audit, including performance, legality and financing.

Nine different audits were carried out covering all eleven Austrian Ramsar sites (1180 km<sup>2</sup>) in eight States, the federal ministry of agriculture, forestry, environment and water management, and a national park.

#### **Scope and methodology of the audit**

Target was to assess the achieving of the goals of the convention, especially concerning nomination, wise use, protection, scientific research, international co-operation at the Ramsar sites. Another issue was the definition of the basis for decisions concerning wetlands (biological inventory), and if there are management plans implemented. A comparison of possibilities for the administration for the safeguarding of areas and national and international funding (especially with the European Union) was also topic of the audit.

Information was gathered by sending out a questionnaire in the phase of preparation. The audit itself was carried out at the auditees and at the Ramsar sites directly. Audits and reports covered a national part, concerning international and federal issues, a part concerning the individual State and a part about the Ramsar sites located in the State.

## **Main findings and recommendations**

Not all Ramsar sites were protected areas, they should at least be nature protection zones. In some States there was no legal protection for wetlands.

There were different ways to safeguard areas, from public ownership to contracting systems, with widely varying costs. In the opinion of the Austrian Court of Audit it is better to protect habitats using the legal framework than by contracting. If contracting, it is better to buy the areas than to lease them, because protection and management should be long-term issues.

No comprehensive research concept was in place. At some sites the borders were not clearly defined, there was no comprehensive biological inventory to assist decision-makers. Due to the splitting of legislative competence there were no standards for protection, which were valid for whole Austria.

## **Impacts and results**

Five new sites were nominated to the Ramsar Bureau, another one is projected. Several new nature protection zones were implemented. Many legal and ecological measures were taken in order to improve the condition of Austrian wetlands. Projects partly funded by the EU were initiated. Concepts for "wise use" were implemented in many sites. Restrictions on fishery and hunting were put into effect.

## **C) THE AUDIT OF THE ECOSYSTEM LAKE NEUSIEDL/FERTÖ**

### **Background information**

The audit was to collect information about all influences on this site and get a comprehensive impression about the national and international efforts on this area. Furthermore it was a co-operation project with the Hungarian State Audit Office.

### **Scope and methodology of the audit**

The audit should evaluate the organisation and financing of the measures necessary to maintain the area, including a national park, measures concerning biodiversity, water quality, water management of the lake, traffic systems, waste water management, scientific research, conflicts in use and co-operation with Hungary. The audit was a mixed audit, including performance, legality and financing. It was carried out at the government of the State Burgenland and the administration of the national park. There was a co-ordinated audit of the Hungarian State Audit Office covering the Hungarian side of the audited area.

### **Main findings and recommendations**

The number as well as the area of the characteristic salty ponds (Lacken) decreased dramatically due to economic use of the Lacken. Drainage in the interest of agriculture is responsible for the creeping degradation of soil and Lacken due to the continuous loss of salt. Consequences were disruption of the natural water management, losses of typical plants and endangering of the typical fauna.

Conflicts of use were existing with agriculture, hunting, fishery and tourism. Three exotic species of fish were dramatically pushing away the indigenous species.

In 2000 two wastewater treatment facilities did not correspond to the state of the art concerning their technical equipment. The Austrian Court of Audit recommended to develop a concept for research, nature protection and measures of development and to make up a ranking of the planned measures.

### **Impacts and results**

Due to recommended measures concerning the Lacken, there are no disturbances of their natural water management any more. The problem of illegal wells was solved after an inquiry of all wells in the region. Measures concerning two wastewater treatment facilities were implemented, the adjustment to the state of the art was prioritised. The structure of the fishery concerning the lake was changed. Measures for agricultural downgrading, as implemented in the national park, were extended.

## **D) NATURE PROTECTION IN THE RIVER THAYA/DYJE WATERSHED**

### **Background information**

The audit was to look into the most relevant problems of nature protection in general and the local national park in the border area of the river Thaya/Dyje.

### **Scope and methodology of the audit**

A short information tour through the audited area was undertaken in the preparation phase. Enquiries were carried out in situ at the federal ministry of agriculture, forestry, environment and water management, the government of the State Lower Austria, and the national park. Detailed evidence was established by interviews with decision-makers and responsible staff, and by studying the relevant files. The audit was a mixed audit, including performance, legality and financing.

The audit covered measures and programmes about nature protection and biodiversity concerning the audited area. The audit was conducted concurrently with two other audits of the Austrian Court of Audit (international co-operation and water quality in this area) and three audits carried out on the same topics of the Supreme Audit Institution of the Czech Republic (Nejvyšší kontrolní úřad) in the area of the river Thaya/Dyje. All these audits were co-ordinated.

### **Main findings and recommendations**

Due to negative influences caused by the Czech hydro power plant Vranov, the river reverts to its natural character only after approx. 45 km downstream the hydro power plant, the number of fish species has decreased from 35 to 22.

The borders of the national park were formed not in compliance with ecological criteria but considering the interest of forestry and hunting. The planned size of the national park was not met. There was no biological inventory and no monitoring system in the region except for the national park.

## **Impacts and results**

Negotiations with Czech authorities were intensified. The borders of the national park will be reviewed and changed. Monitoring systems in protected areas will be implemented due to progress in financing.

## **E) INTERNATIONAL CO-OPERATION IN THE FIELD OF WATER QUALITY, BIODIVERSITY, AND NATURE CONSERVATION, IN THE AREA OF THE RIVER THAYA/DYJE**

### **Background information**

The audit was to assess the agreements, programmes and outcome of co-operation with the Czech Republic in the field of environmental conservation and improvement in the border area of the river Thaya/Dyje.

### **Scope and methodology of the audit**

Audit topics and schedule were agreed on with the Supreme Audit Institution of the Czech Republic (Nejvyšší kontrolní úřad) in the preparation phase. Enquiries were carried out in situ at the audited entities. Detailed evidence was established by interviews with decision-makers and responsible staff, by studying the relevant files, and by an evaluation of existing electronic information systems, and then processed. The audit was a mixed audit, including performance, legality and financing.

The audit covered agreements, measures, and programmes subject to co-operation with the Czech Republic concerning the audited area. The audit was conducted concurrently with two other audits by the Austrian Court of Audit and three audits carried out on the same topics by the Supreme Audit Institution of the Czech Republic in the area of the river Thaya/Dyje. All these audits were co-ordinated.

### **Main findings and recommendations**

There is close co-operation between the Austrian national park Thayatal and the Czech national park Podyjí.

In the area of the national parks, the river Thaya/Dyje is very negatively influenced by the small quantity of residual water, by discharge oscillations, and by fluctuating water temperatures caused by the Czech hydro power plant Vranov.

Wastewater from an Austrian factory producing citric acid significantly deteriorates the water quality of the river Pulkau. The river is not capable of taking in the wastewater of a chemical factory due to its low quantity of water.

## **Impacts and results**

Negotiations with Czech authorities were intensified. The wastewater management of the factory is to be reviewed.

## **F) NATIONAL PARK IN THE ALLUVIAL FOREST OF THE RIVER DANUBE**

### **Background information**

The audit was to review the co-operation of the two States, where the national park is located, and federal authorities. Conflicts of use and future threats should be highlighted.

### **Scope and methodology of the audit**

The audit should evaluate the effectiveness of organisation and financing of the enterprise which was founded to manage the national park. A questionnaire was sent out in the preparation phase and during the audit there was close co-operation with the shareholders of the national park. The audit was a mixed audit, including performance, legality and financing.

### **Main findings and recommendations**

There were severe differences in the legal framework of the two States, where the national park is located (State of Lower Austria and the City of Vienna). There was no comprehensive management system for the national park. The enterprise was not able to access all revenues coming from the national park. Parallel structures were found due to lack of competence of the national park enterprise. Fishery in Vienna did not comply with the ecological constraints of the water bodies. The planned size of the national park was not met. There were severe threats from future road constructing, shipping and air transportation projects.

### **Impacts and results**

Most of the shareholders are considering a change in the basic contract. There will be changes in the legal framework concerning national parks. The system of financing, revenues and allocation will be revised. The national park will get involved in future planning of projects.

## **G) THE AUSTRIAN COURT OF AUDIT**

The Court of Audit is the only institution in Austria, including the audit institutions of the States (Länder), which is able and allowed to audit all governments from national level down to local communities, enterprises which are 50% or more state-owned and all grants given by Austrian administrations to private enterprises or persons.

Reports are forwarded to the competent legislative body (Federal or State Parliament). These reports are condensed versions of the original reports, which were forwarded to the auditees. They have a constitutional period of three months to give comments on the findings and recommendations. The reports must not be published before they are forwarded to the legislative body.

The department "Comprehensive Environmental Protection" has to audit everything concerning environmental protection (nature protection, waste, water management, international accords, air pollution, sustainable development, biodiversity ect.) all over Austria, including the administration (all ministries) at all levels (federal, provincial, local) and state-owned enterprises or other organisations dealing with environmental affairs. All audits in the field of environment are performance audits, mixed with financial and legal issues.

The full text versions of the reports in German are available on the Austrian homepage ([www.rechnungshof.gv.at](http://www.rechnungshof.gv.at)). Short English versions of published reports with international dimension (international conventions, co-operation) or with special interest for the Working Groups on Environmental Auditing are put on the homepages of the INTOSAI and the EUROSAI Working Groups ([www.environmental-auditing.org](http://www.environmental-auditing.org), [www.nik.gov.pl/intosai](http://www.nik.gov.pl/intosai)).

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## **Auditing Fishing Industry in Botswana (Botswana)**

**Theme: Auditing Biological Diversity**

**Author: Mrs. Botho Entaile**

### **1.0 INTRODUCTION**

The increase in Global Awareness on Environmental issues prompted Botswana Government “to attach great importance to the wide range of natural resources and features which exist throughout Botswana” (Government Paper No.1 of 1990). This called for accountability and reporting by Ministries and non-governmental organization (NGO) involved with environmental aspects.

In 1983 the Government of Botswana accepted the need for the preparation of a National Conservation Strategy (NCS). This need emanated from the close cooperation between the United Nations Environmental Programme (UNEP) and Botswana Government. Government therefore, prepared Government Paper No. 1 of 1990, outlining the goals of the National Conservation Strategy, which are:

- To increase the effectiveness with which natural resources are utilised and managed.
- To integrate the work of the Sectoral Ministries and Environmental interest groups throughout Botswana, thereby improving the development of natural resources through conservation visa versa (Government Paper No. 1 of 1990). The Natural Conservation Strategy Board was therefore formed in order to liaise with all Ministries, Local Government Authorities, Parastatals and NGOs to promote Governmental Environmental Policy (Government Paper No. 1 of 1990).

Moreover, at the 1992 Earth Summit in Rio de Janeiro, Agenda 21, an international programme of action for the 21st Century was agreed upon, and the Government of Botswana ratified this international obligation and commitment. Agenda 21 called for sustainable and environmentally sound development in all countries:

- To preserve, protect and improve the quality of the environment.
- To contribute towards the protecting human health.
- To ensure prudent and rational utilization of natural resources.

### **1.1 The Environment and Sustainable Development**

According to the National Policy on Natural Resources Conservation and Development of 1990, “the Government has long been committed to sustainable development”, and this entails ensuring that:

- Present generations consumes no more than annual output or yield of those natural resources which are renewable and thereby; Future generations have access to capital stocks of natural resources, at least similar to those presently available.

However, the main environmental challenges in Botswana are:

- Growing pressure on water resources resulting from increase in population, urbanisation and development.
- Degradation of Rangeland Pasture Resources due to a variety of management and other factors.
- Depletion of wood resources both commercial harvest of forests and as the main source of domestic fuel in most settlements. Wood harvesting has been largely undertaken in an uncontrollable manner. Insufficient regard has been paid to ensuring that yields are sustainable.
- Over-use or exploitation of some veld products such as fruits, fungi, tubers etc. This has damaged their regenerative capacities to provide both subsistence and commercial needs.
- Pollution of air, water, soil and vegetation resources. As a result human life support systems in both urban (including industrial) and rural environments are affected.

## **2. ENVIRONMENTAL AUDITING: THE ROLE OF THE OFFICE OF THE AUDITOR GENERAL**

### **2.1 Introduction**

Environmental auditing is a fairly new concept in the auditing arena. The global awareness of environmental aspects has grown significantly, and as such environmental auditing has also increased momentum in that SAIs all over the world conduct environmental auditing. Likewise, Botswana SAI is committed to conducting environmental auditing, as 3 audits have so far been completed. All these audits were conducted from the performance audit perspective.

The objectives of the environmental auditing by OAG is:

- To determine whether Government has put in place effective accountability framework for the implementation of environmental programmes and policies.
- To assess compliance with relevant policy framework and internal requirements.
- To promote good environmental management.
- To determine whether Government meets the set environmental targets (if any).

#### **2.1.1 Background**

In the wake of the growing international awareness on environmental issues the Working Group on Environmental Auditing (WGEA) of the International Organisation of the Supreme Audit Institutions (INTOSAI) prompted SAIs to work on this sector. Furthermore there is a growing realisation that natural resources in Botswana including wildlife and fisheries are one of its greatest resources and as such need to be preserved, protected and managed efficiently or else their interference will lead to their extinction.



In view of the interest of the WGEA and OAG's concern on how these natural resources are protected and conserved, the Office of the Auditor General (OAG) decided to conduct a performance audit of the fishing industry. The reason for the audit was that OAG wanted to determine how unregulated fishing activities; absence of policy framework and operational mechanisms affected the fish sustainability and the environment.

## **2.1.2 Audit Planning**

### **2.1.2.1 Audit Scope and Target**

The focus of the audit was to assess whether the Fisheries Division within the Department of Wildlife and National Parks (DWNP) had adequate policy framework and operational mechanisms to manage and protect the fish. The audit focused on these areas due to the fact that their efficiency and effectiveness are directly linked to the environmental issues.

The audit covered the Fisheries Extension Areas along the Okavango River Basin and the Water Utilities' dams as the fishery potential is found therein. The audit reviewed data pertaining to 3 financial years namely; 2001/ 2002 – 2003/ 2004.

### **2.1.2.2 Audit Objective**

The overall objective of the audit was to assess whether the DWNP (Fisheries Division) had adequate framework and operational mechanisms to manage and protect the fishing industry. The following were sub-objectives:

- To determine whether the Division had a policy framework with clear objectives.
- To determine the extent to which information was collected to devise long –term fisheries management plans and utilisation strategies that would account for protection and fishery regulation measures and sustainable use of the resource.
- To assess the extent to which open fishing affected fish sustainability.
- To determine whether the routine inspections were carried out.
- To determine the extent to which the Fisheries Division adhered to the requirements of the protection of the aquatic environment as specified in the Southern African Development Community (SADC) Protocol on Fisheries Articles Numbers 14 and 15.
- To determine the extent to which monitoring was being conducted.

### **2.1.2.3 Audit Criteria**

- 1a. The Fisheries Policy should exist and should cover all aspects of fishing.
- 1b. The fisheries objectives should be clear, measurable, achievable and time bound.
- 1c. The Fisheries Regulations should exist.
- 1d. Methods, which are detrimental to the fish, should be clearly stipulated.

- 2a. There should be Fishing Management Plans.
- 2b. There should be Annual Operational Plans.
- 3a. There should be sufficient information to be used to devise long-term plans and strategies.
- 3b. There should be continuous stock assessment to make informed decisions.
- 3c. Scientific information should be there to assist management in deciding which fish is declining.
- 3d. Daily Catch Record Forms should be frequently completed to assist management in decision-making.
- 4. The results should be measured to determine whether the implemented actions leading to management and protection of fish and sustainable development of the resource is being achieved.
- 5a. Routine inspections should be conducted.
- 5b. Inspection instructions should be developed, proper and followed to the letter.
- 6a. Monitoring instruction should be developed, proper and followed to the letter.
- 6b. Monitoring should provide management with information that the resource is sustainably utilised and whether education and encouragement initiatives given to fishers achieved their intent of protecting fish.

#### **2.1.2.4 Methodology**

##### **1. Interviews:**

Interviews were conducted with 11 officers, including management and operational officers and 46 fishers were also interviewed. The purpose of interviewing officers was to solicit basic information about the management and protection of fish resource. The purpose of interviewing fishers was to determine whether they understood the purpose of protecting fish resource and the habitat.

##### **1. Document Review:**

The following documents were reviewed to acquire more information regarding the fishing industry and Government policy on fish resource:

- Fish Protection Act of 1975
- National Development Plan 7, 8, and 9
- Vision 2016
- Department of Wildlife and National Parks

- SADC Protocol on Fisheries
- National policy on Natural Resources Conservation and Development government Paper No.1 of 1990.

## **2. Observation**

8 Extension Areas and 5 fishing points were visited to get first hand information regarding environmental issues. To determine the extent to which monitoring was being conducted.

## **3. FINDINGS AND RECOMMENDATIONS**

### **3.1 Key Findings:**

#### **3.1.1 Policy Aspects:**

- (a) The Fisheries Division had not developed a policy framework, which could have provided a direction and necessary guidance to address various aspects of fishing sector.
- (b) The Fish Act of 1975 had become inadequate, as it did not provide for all fishing aspects affecting management.
- (c) The overall objective of protecting fish had never been clearly articulated.
- (d) Despite the provision by the Act of 1975 that Fisheries Regulations be developed, this important document had not been developed. If developed it would “ provide for more effectual control, protection and improvement of fish, management and the government of any specified area in which fishing may be carried out.” (Fish Act of 1975)

#### **3.1.2 Planning Aspects**

- (a) The management plans that could have been used to “set harvesting levels, conservation and fishery regulatory measures and sustainable use of the resource” (NDP 7&8) had not been developed.
- (b) The Annual Plans that could have given direction and acted as an accountability tool for Extension Officers were not prepared.

#### **3.1.3 Daily Catch and Effort Record Forms**

Although the fishers were required to fill and hand in the Daily Catch and Effort Forms to the Fisheries Division, the OAG observed that, there was inadequate recording of catch landings in that some fishers did not provide details of their operations by filling in the forms.

### **3.1.4 Research and Fish Stock Assessment**

- (a) The research and fish stock assessment activity that was conducted as a 3 year project from August 1999 to September 2002 to assist management “to devise long-term fisheries management and utilisation strategies that would consider conservative and fisheries regulatory measures and sustainable use of the resource” (NDP 7&8) was still not completed, as the report to that effect had not been produced at the time of audit, in August 2004 to December 2004.
- (b) There was no data in the database regarding the catch and effort of the traditional (hook line and basket fishing) fishing, recreational and competition fishing, that could be used to evaluate their contribution to the stock assessment activity.

### **3.1.5 Fish and Habitat Controls**

There were no formal fish and habitat protection controls and mechanism in place, but DWNP management adopted extension methodology of educating and encouraging fishers to practice good fishing methods. This initiatives lacked measurable targets that fishers were expected to meet in order to protect the resource base and habitat in a sustainable manner.

### **3.1.6 Manpower, Training and Development**

- (a) The scientific capacity in the Division was lacking to the extent that capacity to support informed decision making and deliver core divisional mandate was lacking as 70.6 % of staff lacked formal training in fishery discipline although they had skills.
- (b) 70.6% Of staff lacked formal training in fishery discipline that is, ‘not highly competent in fish biology and taxonomy’ (Mmopelwa-Trends in Fisheries Development in Botswana post and Present Status)

### **3.1.7 Monitoring and Reporting**

The Division Annual Reports were work related and did not indicate that the initiatives in place for protecting fish and sustainable use of the resource were being achieved.

## **3.2 Recommendations**

### **3.2.1 Policy Aspect**

- (a) The management should develop the policy that is specific to fisheries.
- (b) The DWNP management should review the Fish Protection Act.
- (c) The management should establish clear objectives and targets for managing and protecting fish.
- (d) DWNP management should hasten to develop and implement Fisheries Regulations.

### **3.2.2 Planning**

- (a) The DWNP management should provide direction on the development of both short-term and long-term fisheries management strategies.
- (b) Time oriented and the performance reporting should indicate activities that are in progress, those that have been completed and reasons for not completing the planned activities.

### **3.2.3 Daily Catch Effort Record Forms**

The Division 's management should device methods to improve the quality of data, for example, increased inspections to obtain independent verification of information of the Daily Catch and Effort Forms and strengthen education programmes.

### **3.2.4 Research and Fish Stock Assessment**

- (a) Management should ensure that fish stock data is analysed in a timely manner and that relevant reports are produced without delay in order to allow for decision making at all levels.
- (b) The research should be conducted to determine the impact of non-gillnets fishing methods (basket, fish trapping etc) recreational and competition fishing, on the fish population dynamics, that is Catch rates, mortalities hook selectivity, species composition and size distribution catches. This will assist in evaluating their contribution to the fish stock assessment activity.

### **3.2.5 Fish and Habitat Protection Controls**

- (a) The fish protection encouragement initiatives should be regularly reviewed to determine their effectiveness and should be reported upon on an annual basis.
- (b) DWNP management should develop a comprehensive habitat protection strategy that includes clean up action plans in order to deal with polluted fishing sites or fish markets.

### **3.2.6 Routine Inspections**

The DWNP management should ensure that the inspection activity is conducted efficiently and effectively to support the provision of the Act.

### **3.2.7 Manpower, Training and Development**

The DWNP management should ensure that the skills and number of staff is strengthened and improved in order for the Division to achieve its mandated activities.

### **3.2.8 Monitoring and Reporting**

The DWNP management reports should indicate the Divisions achievements in protecting fish and its habitat and they should assure Parliament and the public that fish resource is sustainably utilised.

## **4. IMPACTS AND RESULTS AND CHALLENGES FACED IN AUDIT**

### **4.1 Impacts and Results**

The recommendations were accepted. Although the recommendations were accepted, there will be a need for OAG to make a follow up to assess the impact.

### **4.2. Challenges Faced In Audit**

The challenges faced in audit were:

- 4.2.1** (a) Absence of Governmental environmental policy, which include inter-alia; fish and habitat protection.
  - (b) Objectives were not clearly articulated and as such could not be measurable.
  - (c) Absence of regulating framework. For example there is no Fisheries Regulations.
  - (d) The Fisheries Act was obsolete and had never been reviewed to include environmental aspects
- 4.2.2** Insufficient monitoring and reporting system.
- 4.2.3** Insufficient data on the state of the environment-eg there was no consolidated inventory for the fish species being monitored and data from the Daily Catch Effort Record Form was inadequate.
- 4.2.4** Vastness of the Extension area –The fishing points were very far and were within the islands of the Okavango Delta and as such it was difficult to reach fishers, as there was no water transport.
- 4.2.5** Lack of awareness on the environmental issues by the fishing community.

## Canada's Experience in Auditing Biological Diversity (Canada)

**Theme:** Auditing Biological Diversity

**Author:** John Morales

### Introduction

Along with over 180 other countries, Canada is a party to the Convention on Biological Diversity.<sup>1</sup> Parties to the Convention are required to develop (or modify, if they already exist) national strategies, plans, or programs for the conservation and sustainable use of biological diversity.<sup>2</sup> These national strategies, plans, or programs are a useful starting point for audits on biodiversity issues. The Canadian Biodiversity Strategy was released to the public in 1996. In 1998, 2000, and 2005, the Office of the Auditor General of Canada published reports of performance audits on implementation of the Strategy by Canada's federal government. This paper describes the planning, methodology, and findings of the 2005 audit; challenges faced by the audit team; and the government's response.<sup>3</sup>

### Background

Many parties to the Convention have developed national strategies, programs, or plans under the Convention.<sup>4</sup> The Strategy was endorsed by Canada's federal, provincial, and territorial governments in 1996. The Strategy is intended to be a framework for action on biodiversity in Canada. It includes five broadly-stated goals, with a number of "strategic directions" under each goal.<sup>5</sup>

Government responsibility for biodiversity-related issues is shared by the federal, provincial and territorial levels.<sup>6</sup> However, the Office of the Auditor General only has a mandate to audit federal government activity.

The federal government set out to implement the Strategy by developing reports, or "modules", on eight biodiversity issues: forests, agriculture, protected areas, education, wildlife, international co-operation, aquatic diversity and ecological management. Our 1998 and 2000 audits focused on

- progress in finalizing the eight modules,
- federal commitment to summarize the modules, and create a federal plan to implement the Strategy.
- federal co-ordination with the provincial and territorial governments, and

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<sup>1</sup> The Convention Web site, [www.biodiv.org/world/parties.asp](http://www.biodiv.org/world/parties.asp), showed 188 parties to the Convention as of September 2005.

<sup>2</sup> Convention on Biological Diversity, article 6.

<sup>3</sup> Our office has undertaken other audits on issues related to biodiversity. Examples include oceans management (2005), ecological integrity of national parks (2005), a public petition regarding guidelines for listing species at risk (2005), invasive species (2004), and implementation of international environmental agreements dealing with fish stocks and wetlands (2004). Reports from our audits are available on the Web site of the Office of the Auditor General of Canada: [www.oag-bvg.gc.ca](http://www.oag-bvg.gc.ca).

<sup>4</sup> In July 2005, the Convention Web site, [www.biodiv.org/world/reports.aspx?type=nbsap](http://www.biodiv.org/world/reports.aspx?type=nbsap), showed 110 of 188 parties to the Convention had posted national biodiversity strategies or plans.

<sup>5</sup> The Strategy is available on the Web, at [http://www.cbin.ec.gc.ca/documents/national\\_reports/cbs\\_e.pdf](http://www.cbin.ec.gc.ca/documents/national_reports/cbs_e.pdf).

<sup>6</sup> For example, land use planning, often connected with loss of habitat, is primarily a responsibility of Canadian provinces. On the other hand, migratory birds and national parks are examples of areas of federal responsibility.

- capacity in biodiversity science.

In 2001, federal, provincial, and territorial ministers unanimously agreed to deliver on four biodiversity priority areas identified in a report entitled *Working Together*. The priorities from *Working Together* had fairly clear outputs and stated time frames. The general headings of the four priority areas were

- biodiversity science and information,
- monitoring and reporting on biodiversity status and trends,
- addressing the threat of invasive alien species, and
- engaging Canadians in biodiversity stewardship.<sup>7</sup>

### **Audit planning**

The objective of this performance audit was to determine the extent to which the federal government had made progress implementing selected aspects of the Canadian Biodiversity Strategy.

There were two criteria:

- First, we expected that federal departments and agencies responsible for implementing the Strategy had developed a federal implementation plan.
- Second, we expected that relevant federal departments and agencies responsible for implementing the Strategy had made satisfactory progress in addressing selected areas identified in the 2000 follow-up audit. These areas were primarily progress on the biodiversity modules and co-ordination with the provinces and territories. We also expected satisfactory progress on four priorities outlined in the 2001 *Working Together* report.

The second criterion required that we determine whether progress on an issue was “satisfactory”. In order to make this assessment, we considered the complexity of the activity involved, the federal government’s ability to implement it, the time available for the government to act and the overall reasonableness of the government’s action.

### **Methodology**

We interviewed selected officials in federal departments, reviewed documentation relevant to assertions made during interviews, and interviewed selected stakeholders outside government.

The government departments within the scope of this follow-up audit were those responsible at the federal level for agriculture, environment, fisheries and oceans, natural resources (in particular, forests) and national parks.

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<sup>7</sup> The specific recommendations in *Working Together* may be found in the report, which is available at [www.cbin.ec.gc.ca/virtual\\_cbin/BCODocuments/2962\\_Living\\_T\\_E.pdf](http://www.cbin.ec.gc.ca/virtual_cbin/BCODocuments/2962_Living_T_E.pdf)



We found that a number of government activities were either not completed or there was no documented evidence of an assertion made by officials. In cases like these, we prepared notes from interviews and government officials were asked to confirm the contents in writing. These approved notes were retained as audit evidence.

### **Findings and recommendations**

Overall, we were not satisfied with the federal government's progress. Ten years after release of the strategy, momentum had stalled on several fronts. Problems identified in our previous audits persisted, and several of the commitments in the Working Together priority areas had not been met. Exhibit 1 summarizes the findings of the 2005 audit.<sup>8</sup>

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<sup>8</sup> At the time of writing this paper, our most recent audit on biodiversity, "The Canadian Biodiversity Strategy: A follow-up audit" was to be tabled in the Parliament of Canada on 29 September 2005. On the day of tabling, our audit reports are made available on our Web site [www.oag-bvg.gc.ca](http://www.oag-bvg.gc.ca).

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**Exhibit 1 Summary of findings of this audit**

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<b>Audit topic</b>	<b>Findings</b>
Progress on the biodiversity modules	Three of the eight planned modules were not completed (international co-operation, aquatic diversity and ecological management). Some components from the modules have been incorporated into strategies that guide federal departments in their work on biodiversity issues.
Federal implementation plan	There is still no federal plan for implementing the strategy. A national (federal-provincial-territorial) biodiversity outcomes framework, which would take the place of a federal implementation plan, is being discussed, but is at a very early stage.
Federal-provincial-territorial co-ordination	Federal-provincial-territorial co-ordination had improved since our 2000 audit. There is still no formal ministerial-level home for biodiversity. The proposed national biodiversity outcomes framework may lead to a national structure, such as a formal ministerial council, to oversee implementation of the strategy. Engagement and accountability have been identified as lacking in the current governance structure.
Biodiversity science and information	Our 2000 audit noted concerns about the lack of federal biodiversity science capacity. The federal, provincial, and territorial governments committed to prepare a strategy to better manage biodiversity information (by 2002) and prepare a biodiversity science agenda (by 2003). Despite some efforts in both areas, neither the strategy nor the agenda has been completed.
Monitoring and reporting	Similar to what we found in our 1998 and 2000 audits, there is still no consolidated, comprehensive report on the state of biodiversity in Canada. Nor is there a report on the implementation of the Strategy. The 2001 commitment has led to work on a Canadian Biodiversity Index, which is currently behind schedule, and Internet access to biodiversity status and trends. However, work on this commitment has not enhanced monitoring of biodiversity.
Invasive species	The commitment to prepare a plan to address invasive alien species led to the approval of An Invasive Alien Species Strategy for Canada. The federal government announced \$85 million over five years in funding for invasive species programs in the February 2005 budget.
Stewardship	The federal, provincial, and territorial governments met their commitment to prepare a biodiversity stewardship strategy. This strategy is called Canada's Stewardship Agenda. The working group that prepared the strategy is currently dormant, however stewardship activity continues across Canada.

We concluded that it was time for the federal government to take stock of what it has done for biodiversity, and how it will continue to implement the strategy. After nearly ten years with the strategy in place, and our office's observations from two prior audits, the government has had a reasonable opportunity to implement the Strategy within its areas of jurisdiction.

We recommended that Environment Canada, the federal department that has, for the most part, led Canada's response to the Convention, lead an assessment of the progress on the five goals of the Strategy. This assessment should conclude

- what has been achieved,
- what remains to be achieved,

- what are the lessons learned, and
- how further progress will be made.

We further recommended that any plan for further progress on the Strategy should include:

- clearly defined outcomes;
- indicators for measuring progress toward the outcomes;
- timeframes;
- clear roles and responsibilities;
- resource requirements; and
- mechanisms for assessing and reporting on results, and making required adjustments to manage the outcomes.

These elements were derived from gaps we identified in implementation of the strategy and from comments received from departmental officials. We also used as a reference the observations from a 2002 report from our office, entitled *Modernizing Accountability in the Public Sector*.<sup>9</sup>

## Impacts and Results

The responses from federal departments to our recommendation were uniformly positive.

Before our audit was completed, the government had already acknowledged some of the shortcomings of the Strategy (such as the lack of identifiable outcomes or priorities), acknowledged a need for a new governance arrangement, and even discussed an assessment of progress in implementing the Strategy.

In response to our recommendation, Environment Canada has agreed to co-ordinate development of an outcomes-based implementation framework for the Strategy to “enable more focused implementation and evaluation of progress.” Environment Canada has committed to complete the framework by the fall of 2006, and to precede this work with a high-level review of progress and a more technical review and consultation process. The framework is to include measurable outcomes, timelines, indicators, and a mechanism for monitoring and reporting.

The federal government has taken steps to create the outcomes framework, although we do not have any information regarding the review of progress, which is to be a preliminary step.

## Challenges Faced in the Audit

**Overlapping responsibility created mandate challenges.** Our office is only mandated to audit activities of the federal government. However, biodiversity is a responsibility shared by

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<sup>9</sup> Chapter 9 of our December 2002 report, is available on the Web at [http://www.oag-bvg.gc.ca/domino/reports.nsf/html/20021209ce.html/\\$file/20021209ce.pdf](http://www.oag-bvg.gc.ca/domino/reports.nsf/html/20021209ce.html/$file/20021209ce.pdf).

other levels of government, and significant portion of the private sector. Most of the issues we audited touched on areas of provincial and territorial responsibility. Because we could not delve into the roles of other governments in biodiversity policy, it was difficult to identify responsibility for poor performance. The audit focussed exclusively on federal activity. A study of governance of biodiversity at the national level (federal-provincial-territorial), prepared in part for Environment Canada, was helpful because it identified problems with the overall governance structure.

**An unclear strategy led to criteria challenges.** The Strategy lacks commitments to concrete actions with timeframes, defined outcomes, or clear roles and responsibilities. For example, the Strategy emphasizes the sharing of biodiversity issues among levels of government, and the private sector (individuals, industry, universities, and others). This makes it difficult for the auditor to identify clear federal-level commitments, which can be audited to use as auditable criteria.

**Accountability challenges.** It was difficult to identify causes of the unsatisfactory performance reported in the audit, and make specific recommendations for improvement. This was largely due to the mandate challenges and the poor accountability built into the Strategy. If no one is clearly responsible for a specific output, it is more difficult to determine whether it has been delivered or why it wasn't delivered. Therefore, our recommendation is relates to the overall implementation of the Strategy.

**Communications challenges.** We anticipate some challenges in creating interest in the audit topic for two reasons.

- First, the concept of biodiversity is not well understood and requires some explanation in the chapter. Indeed, the findings concerning “engagement” in biodiversity (see Exhibit 1, under “Federal-provincial-territorial co-ordination”) indicates that officials responsible for biodiversity may not give it the attention it requires.
- Second, the activities we audited were administrative or bureaucratic, such as whether the government produced a strategy or plan. These topics do not attract attention as well as a report on more concrete results, such as the status of ecological services or the economic cost of lost biodiversity.

## **Audit Experiences SAO, Czech Republic, in the Field of Biological Diversity (Czech Republic)**

**Theme:** Auditing Biological Diversity

**Author:** Sylva Müllerová and Miroslav Kruchina

During the last 2 years SAO carried out two audits focused on the topic of biological diversity:

### **ECOLOGICAL PROJECTS AND MEASURES IN THE DYJE RIVER BASIN FINANCED BY STATE FUNDS AND FUNDS PROVIDED TO THE CZECH REPUBLIC FROM ABROAD**

The audit objective was to verify the management of state financial means and of funds provided to CR from abroad, expended particularly to improve the water quality in the Dyje River Basin.

The period under review was from 1999 till 2003 and any other relevant period. Audited entities were: the Ministry of the Environment (ME); the State Environmental Fund of the Czech Republic (SEF); Nature Protection Administration (APLA); National Park Podyjí (Podyjí NP); water management organizations and selected recipients of state funds.

#### **I. Introduction**

The audit encompassed the management of financial funds provided from the Ministry of the Environment - chapter of the state budget, from SEF and from means provided to the CR from abroad. The audit was carried out on approximately 50% of the total amount provided in the period under review into the defined area. The total amount provided was approx. CZK 3 810 000 thousand (€ 127 000 thousand)



## II. Expenditures from the state budget – Chapter of the Ministry of the Environment

*Funds from the state budget were expended, amongst other things, for:*

### **1. Implementation of landscape programs,**

### **2. Creation of the Natura 2000 network.**

#### Ad 1. – Implementation of landscape programs

Projects in the framework of three landscape programs were supported in the given area:

- The River System Restoration Program (RSRP)
  - The total amount withdrawn was **CZK 86 281 thousand** (€ 2 875 thousand).
- Program of Minor Water Management Environmental Projects (PMWMEP)
  - Total amount withdrawn was CZK 135 050 thousand (€ 4 501 thousand).
- Landscape Program (non-investment) - (LP), total amount withdrawn was CZK 46 672 thousand (€ 1 555 thousand).

Financial means were provided in the form of purpose-bound subsidies and also in the form of loans.

An audit sample of 39 projects was taken of the total number of 547 projects (All of the projects in which the financial assistance attained more than 25% of the highest provided assistance were selected).

The procedure in financing some of the projects was not in accordance with the principles of economy:

- ME did not sufficiently control agreements between the investor and the supplier. ME did not carry out sufficient subsequent checks of the projects; of those that did not fully serve the purpose for which they were financed.
- Some investors did not maintain the conditions laid down in the Decision on Provision of Assistance.
- It was not possible to evaluate the environmental effects of the projects.

#### Ad 2. – Creation of the Natura 2000 network

The Natura 2000 network consists of special protection areas declared pursuant to Directive 92/43/EEC (on protection of natural habitats of wild fauna and flora) and specially protected territories defined on the basis of Council Directive 79/409/EEC (on the conservation of wild birds), that are listed "in the national lists" of the European Union (EU) member states. They are created in order to provide for protection of biodiversity through protection of target

species and types of natural habitats and to provide for their mutual territorial links in the framework of the EU member states.

Out of financial means allocated in the state budget in the Chapter Ministry of the Environment a total of CZK 159 911 thousand (€ 5 330 thousand) were reported to be withdrawn.

The "national list" had not been issued by July 31, 2004, i.e. a Government Regulation containing a list of all localities of European importance in the CR included in the Natura 2000 network. Only on the basis of an existing "national list" would it be possible to evaluate submitted projects and obtain support from structural funds and from the Cohesion Fund, (corresponding to an amount of EUR 1 454 mil. for 2004 to 2006).

By the time that the audit was completed, **no legislation had been created delimiting the Natura 2000 network**, which is essential for evaluation of new projects from the standpoint of the criteria as to whether their implementation could damage the valuable natural environment forming this network.

### III. Expenditures from the State Environmental Fund

In the territory of the Dyje River Basin, SEF supported 682 projects in 1999 - 2003, on the basis of favourable decisions on provision of financial assistance. Agreements were signed for an overall amount of **CZK 2 027 358 thousand** (€ 67 579 thousand).

#### SEF when providing financial assistance

- Did not devote sufficient attention to preparation of the basic materials for provision of support, and to formulating binding conditions in the agreements on support.
- Did not consistently require that the applicant for assistance be sufficiently prepared as investor. Mostly, the object of the assistance was not defined precisely.
- Did not carry out sufficient control during implementation of the project.

### IV. Cooperation of the Ministry of the Environment and the Ministry of Agriculture when implementing the project Supra-regional bio corridor in the territory of Nové Mlýny water work (NMWW)

NMWW was constructed as part of "complex" water management measures in Southern Moravia. At the level of ME, with competence over the aspect of remedying the environmental impacts of NMWW from 1990, a long-term conceptual plan was prepared, called "ME policy in relation to the Nové Mlýny reservoir". The main target of the ME policy was to create a supra-regional bio corridor, whose axis would consist of a series of islands in the central and lower reservoirs, connected to floodplain forests along the rivers. The islands in the lower reservoir were to be connected to a vegetation strip along the southern shore, connecting the bio corridor under the reservoir with the complex of forests along the Dyje river.

The construction of the first island, with an area of 11.65 ha, was built between 1996 and 1997. Subsidies were provided from **LP and RSRP** in a total amount of **CZK 14 243.7 thousand** (€ 4 748 thousand) . The construction of the second island, with an area of 12.31 ha, was being completed between 1998 and 2000. Subsidies of **CZK 42 854.8 thousand** (€ 14 285 thousand) were provided from SEF for this construction.

The basic condition for safe functioning of the bio corridor was the requirement that the operational level be permanently reduced by 85 cm, i.e. from manipulation at an altitude of 170.35 m a.s.l. down to 169.60 m a.s.l.

SEF did not specify whether it was necessary to reduce the water level permanently or temporarily during construction - the agreement was unclear and ambiguous.

The height of the operating level in the middle reservoir is adjusted through decisions in legal force of District Authority and CEI, which are mutually contradictory. While the water management decision of the District Authority lay down the obligation for water management to manipulate the level in the middle and lower reservoirs at a level of 170.0 m a.s.l., the CEI decision directed that it avoid manipulations that would lead to an increase in the level above 169.5 m a.s.l.

**Since completion of the construction work, the level has been maintained at 170.0 m a.s.l., where the island is mostly submerged and thus the purpose of the construction is not fulfilled completely. For this reason, the subsidy was not definitively recognized and SEF did not pay CZK 4 285.6 thousand (€ 143 thousand) to water management.**

## **V. International cooperation in environmental protection – bilateral cooperation with the Republic of Austria**

### **In environmental protection**

The "Agreement on cooperation" was signed in 1987. Cooperation was implemented through exchange of experience, experts, information, publications, etc.

### **On border waters**

The "Agreement dealing with aspects of water management on border waters" was signed in 1967. The parties to the agreement agreed on mutual discussion of planned water management measures, on protection of border waters against pollution, on conditions for carrying out maintenance work, etc. A Government representative and deputy were appointed by each party to carry out tasks stemming from the agreement.

Czech-Austrian Commission for Boundary Waters is the umbrella organization for border waters. The work was usually carried out and financed by the party that had better conditions to provide for this. Financial settlement was carried out each year by December 31 through mutual calculation of actual expenditures. Experts from both parties monitor water quality of the Morava and Dyje Rivers.

**Cooperation** is bound to negotiations at the level of the Government representatives, which meet annually, and thus **is not sufficiently flexible**.

**The Government representative of the CR does not have a record of financial means expended in the framework of the related international agreement.**

### **In nature protection**

The "Declaration on cooperation of the Podyjí and Thayatal National Parks" established cross-border cooperation between the administrations of the Podyjí National Park and Thayatal



National Park in 1999. In 2002, the directors concluded the "Agreement on joint goals, fundamentals and principles of management of the Podyjí and Thayatal National Parks" in an attempt to ensure effective care for protected territories (in the same category) through implementing the same fundamentals and principles of protective management. The Czech-Austrian Commission for the Podyjí – Thayatal NP meets annually.

**A fundamental problem is the varying flow rate in the Dyje River** caused by the operation of the power plant in Vranov nad Dyjí. As zero flow-rates caused by peak operation of the hydroelectric plant are unnatural and have a very detrimental impact on nature, negotiations have been underway since 1994 on providing for an environmentally sound flow rate on the Dyje River.

## **VI. Summary and evaluation**

***The procedure of APLA and ME in releasing finances in the framework of the landscape programs and investors in their implementation was not in accordance with principles of economy.***

***ME did not provide for issuing a national list of Natura 2000 localities, did not implement regulations to the amendment to the Act on protection of nature and the landscape and a methodology for assessing the impacts of concepts and plans (projects) (SEA) in territories of the Natura 2000 network. The absence of these documents made it impossible to assess projects and subsequently withdraw financial means from the EU structural funds for their implementation. In addition, ME did not ensure sufficient public awareness of the importance of the Natura 2000 network.***

***The implementation of environmental projects and measures in the Dyje River Basin was detrimentally affected by lack of cooperation between the sectors of ME and MA. The fact that cooperation was not at a desirable level was reflected, e.g., in implementation of the supra-regional bio corridor in the territory of the Nové Mlýny Water Work where investments with a value of CZK 62 212 thousand (€ 2 074 thousand) were partially wasted. Two islands that were constructed in the middle reservoir from the means of the state budget and SEF are mostly submerged because of the higher water level and cannot thus completely fulfill the purpose for which they were constructed.***

***Coordination of the activities of MA and ME is necessary for effective use of the means of the state budget.***

### **B. FINANCIAL MEANS EXPENDED FOR THE RIVER SYSTEM RESTORATION PROGRAM**

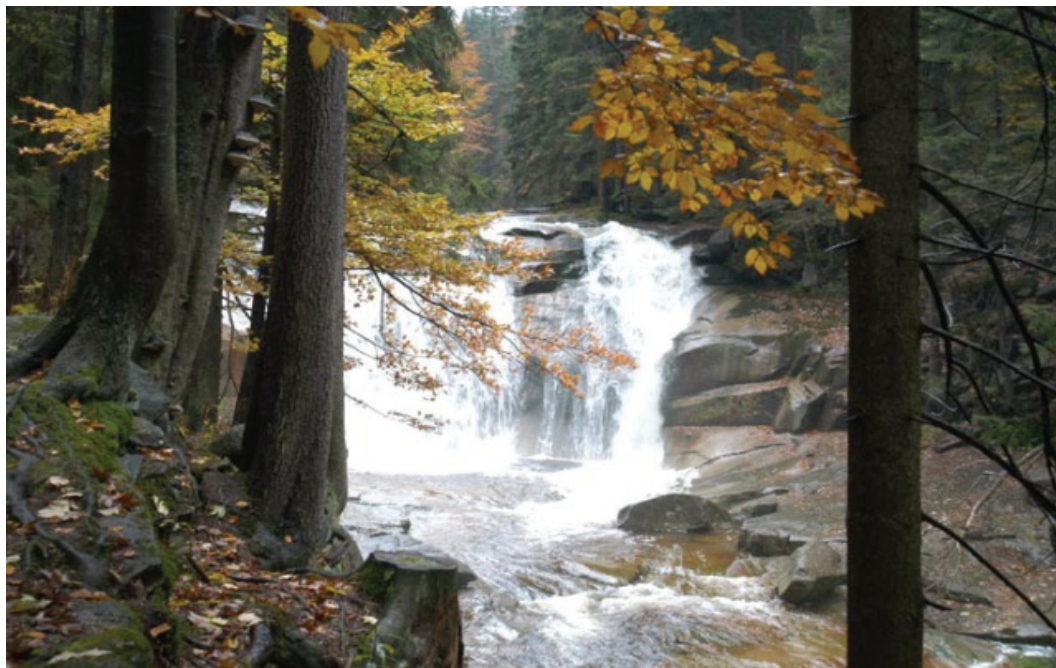
The purpose of the audit was to verify the management of financial means of the state budget earmarked for restoration of river systems.

Audited entities were: the Ministry of the Environment (ME) and the Nature Protection Administration (APLA) and recipients of financial means from the state budget.

#### **1. Introduction**

Audit was carried out on the management of financial means of the state budget in relation to the restoration work in the years 1999 - 2003 – on activities while implementing the River

System Restoration Program (Program). In the period under review, an amount of CZK 1 527 263 thousand (€ 50 909 thousand) was withdrawn from the state budget. This was allocated for the Program from the budgetary chapter of the Ministry of the Environment mostly as subsidies.



The Program was approved in Government Resolution. Its implementation was intended to ensure renewal of an optimal water regime in the landscape. Restoration of the landscape structure is expected to lead to renewal of natural ecosystems. Communities dependent on aquatic environment, including critically endangered species, depend on the development of these systems. The Program is included as one of the landscape programs in the "State Environmental Policy" and in the "State Program of Protection of Nature and the Landscape of the Czech Republic", i.e. in the initial strategic documents.

## **2. Program Targets**

Program targets were defined in the Program documentation intended for the years 2003-2007. The Ministry of Finance approved these in the regime of Decree on participation of the state budget in financing property reproduction programs.

If the volume of financial means required to achieve these targets and the planned expenditures for achievement of targets set forth in the Program documents are compared, it would require an unrealistically long period of time to reach these targets. The actual expenditures for this subprogram were much lower than planned in documentation. Similar disparity lies in parameters of the subprogram - documents state the necessary restoration of 45 000 km of water courses, while so far sections of the order of tens of km are restored annually.

The targets of the Program are thus set quite unrealistically from the standpoint of the planned amounts of funds from the state budget for its implementation, the expected absorption

capacity of the Program and the actual trends to date in withdrawing funds for the individual subprograms.

### 3. Program Assessment, Informing the Public

APLA carried out a detailed assessment of the Program from the standpoint of financial means used in the individual years. The evaluation for 1999 to 2003 explicitly contained all the projects for which the funds were employed, subsidy included. None of the evaluations contained an analysis of the effectiveness of the subsidies provided for the given years. Thus, over the five-year control period, no evaluation of the actual restoration effect of the invested funds was carried out at the level of APLA, or of the achieved benefit from the standpoint of the targets of the Program. The completed assessments did not evaluate the purposefulness, efficiency and economy of the completed restoration projects.

Similarly, in the Reports on the Environment prepared each year by ME, the implementation of the Program was mostly given only in terms of the number of projects carried out (commenced and on-going) and the amount of funds employed. Fulfilment of the actual targets of the Program was not evaluated even in these reports – therefore the reports did not justify the importance of the provision of the state funds when fulfilling these targets in a given period and their purposeful use. Similar assessment structure could be found in the State Environmental Policy and in passages on the Program in the Statistical Environmental Yearbooks.

Thus, none of the material prepared in the ME sector, either that intended for the public or that intended for internal use for the Program management, provided assessment of the results of completed projects or of the whole Program.

**Information given was mostly the amount of subsidies or trends in their withdrawal; materials did not focus on the purposefulness and economy when drawing state funds. It was not possible to assess the fulfilment of objectives (the degree of implementation of the given plans) – the actual targets because none of these materials contained quantitative data of that kind.**

### 4. Program priorities and the actual development of the Program

In the documents of the investment requirements of the subprograms and sources of their financing, ME planned financing of five subprograms for a period of five years. According to this document, the greatest emphasis was placed on the actual restoration of watercourses.

The planned financial requirements of the subprograms had dimensions that roughly correspond to the costs of achieving the target states of these subprograms, where the actual restoration of the watercourses would be the most expensive (ME states a sum of CZK 169 billion). Documents did not take into account the actual trends in withdrawing funds in the period prior to its preparation. **Over the entire period under review 1999 – 2003, the payment item "restoration of the retention ability of the landscape" (in other words reconstruction and construction of new fishponds and water reservoirs) had by far the greatest financial portion of total subsidies, equal to 60-70%.** Over CZK 958 million (€ 32 million) were employed for this item, while only CZK 226 million (€ 7,5 million) were employed for the actual restoration of watercourses.

The subprogram restoration of watercourses that was supposed to draw the highest amount of funds in reality drew significantly lower amounts than stated in documentation in the first year (about 21% when compared with the planned 33%). Even lower amounts were drawn for all the other subprograms. By far the greatest amount, more than three times the planned amount, was again employed for the subprogram "restoration of the retention ability of the landscape" (about 67% when compared with the planned 25%). It was obvious from documents used in this audit that APLA and ME had known about this state for a long time.

The reason for this disproportion was, amongst other things, that the Program is conceived on the basis of applications. There is practically no demand for the target "restoration of water courses", except for state organizations, whose requirements are limited by their capacity. Applicants other than state organizations seem to find attractive the potential of the utilization of newly created property - new and reconstructed fishponds and water reservoirs.

Discrepancies among specific purposes of the subprograms had been known for a long time but ME did not react to it. Documents of the ministry contained planning of financial distribution, which did not correspond with reality, and there was high probability that it would not correspond with the future development unless the way the Program is managed changes significantly.

## **5. The Aspect of Utilization of Restoration Studies**

The internal regulations of ME intended for management of the Program emphasized the importance of restoration studies from the point of complex approach to a certain territory. Studies were generally done by specialized private companies. The prepared restoration studies of the area should have been a key criterion in deliberating on submitted applications in regional consulting committees (RCC) and should have served as a basis for assessment.

APLA submitted a list of restoration studies paid by ME funds, which are at the disposal of its centers audited by SAI. The demonstrated level of use of the studies was low both for implemented and for prepared specific projects. On the basis of information from the centers, of the 142 studies that the centers had at their disposal, only 33 studies, i.e. about 23%, had been or would be used for preparation of specific projects or in deliberations thereon.

The restoration studies were used minimally for the specific work of the APLA centers when evaluating the individual projects because of the discrepancy in the presented plans in the applicant-oriented subsidy program. The studies mostly did not cover the same area as the specific applications of investors. Localized projects - fishponds and reservoirs - for which the most applications were submitted were not usually part of the restoration concept of the entire river basin. The concept was often prepared at a high professional level, at high costs. It was obvious that the conceptual approach to a larger area supported by a study was not successful also because of the RSRP requirements. **In this connection, it is true that the orientation of applicants other than state organization for subsidies was not in accordance with the priorities of the Program and thus also not in accordance with the studies which were based on these priorities.**

## **6. Program assessment from the point of ecosystem development – monitoring**

It follows from one of the definitions of the Program that its final result should be renewal and harmonic development of ecosystems connected to the aquatic environment. When creating project schemes and conceiving investment plans, the defence of the intended project was

frequently supported by formulations that were quite general. For example, there were often statements like: “the restoration project will improve the function of the local bio-corridor, that a state close to nature will be achieved, etc.” Statements of this kind are so non-binding and general that the exact and precise assessment of the restoration results, i.e. comparison of the actual achieved state and the desirable state, was very difficult and problematic. In these cases, there was no genuine criterion that would enable determination of whether the restoration project could be considered a successful one and whether the use of the state funds could be considered effective and purposeful.

No directive or rules or another binding ME regulation laid down the obligation for APLA or RCC to control the results of the restoration effect and to analyse the results of monitoring. Monitoring of a condition which investors have tendency to breach was not ensured – the use of reservoirs for extensive fish breeding. Some RCC and APNL carried out these checks on their own.

**ME did not prepare methodology for evaluation of the expected restoration effects or of the results achieved in implementing the project. It did not prepare the principles of monitoring, including responsibility for its execution. Subsequent checks of compliance with conditions after carrying out the project were not done consistently. No procedure was prepared for cases where inadequacies (reducing the effectiveness of the restoration) were found.**

## **7. Inadequacies on the part of Investors**

When auditing the recipients of the state funds –investors, number of inadequacies was found. The investors in the restoration projects had not resolved property ownership relations to the properties on which the restoration was carried out, not even long time after the project was accomplished. There was failure to comply with the Act on Public Procurement, failure to comply with the conditions of the Decision of the Ministry. When executing the subsidized project and following its completion they carried out work that reduced the restoration effect for which the project was included in the Program. In particular, owners frequently tried to find means of not complying with the conditions limiting economic use of the ponds. Checks of compliance with the conditions for operation of the work were not consistently ensured for most of the audited period.

A serious finding of the audit of investors consisted of the fact that activities such as tender procedures for suppliers, the provisions of contracts with suppliers and the actual implementation of the project, including invoicing, were not always carried out in a manner that would allow assessment and control of the purposefulness and economy of the use of the funds.

## **8. Summary**

The audit revealed inadequacies in the conceptual, management and control work which contributed to the fact that the funds from the state budget for the Program, in a total amount of more than CZK 1.5 billion (€ 50 million), were not always used effectively and in the most economical way.

The most serious finding seems to be the fact that ***funds from the state budget were not being used according to a “structure” that would ensure the best results from the point of view of nature and landscape protection. Most of the funds were used for projects that did not correspond with the Program priorities.***

## **LIFE - the Financial Instrument for the Environment (European Union)**

**Theme: Auditing Environment including Biological Diversity**

**Author: Armando do Jogo**

### **Introduction**

The European Court of Auditors examined the management of the Financial Instrument for the Environment (LIFE), which is managed directly by the Commission and is being implemented in phases. This audit followed the request by the European Parliament (1988 discharge resolution and request from COCOBU and the Environment Committee of February 2000) and it was included in the Court's work programme for 2001 and 2002. The audit lasted 1,5 years taking 180 auditor/weeks of resources. The results were useful for the reflection on the future of LIFE III with the upcoming financial perspectives (2007-2013) in mind.

### **Objectives of LIFE**

The global objective of LIFE is to contribute to the development and, if need be, implementation of Community policy and legislation in the environmental field. As such, it is very broad and has not been defined in sufficient detail. By contrast, with regard to the individual strands, LIFE-Nature was defined more precisely. Indeed, its actions depend on the implementation of two Directives concerning the conservation of natural habitats and of wild fauna and flora and the conservation of wild birds.

### **Programme Structure and other aid measures in the field of the environment**

The programme consists of three strands: LIFE-Nature, LIFE-Environment and LIFE-Third countries, plus accompanying measures. LIFE is the largest programme amongst the special measures under the 'Environment' title of the budget. The Community participation was allocated as follows:

- LIFE I: 1991-1995 - 400 million Euro
- LIFE II: 1996-1999 - 450 million Euro
- LIFE III: 2000-2004 - 640 million Euro

LIFE III was extended until 2006 with a financial allocation of 317 million Euro.

There are many forms of EU aid measures in the field of the environment and they are managed by a number of directorates general. which are responsible for the Structural Funds, the Cohesion Fund, Research, Agriculture, external programmes, the pre-accession instrument and special measures taken by the Directorate-General for the Environment. They account for an estimated annual average of 11 100 million euro, which includes 5 300 million euro financed from appropriations under the general budget and 5 800 million euro in the form of loans granted by the EIB. This Community expenditure is made within the framework of the environmental action programmes (EAPs) adopted by the European Parliament and the Council.

## **Audit field covered**

The audit focused in particular on the second phase (1996 to 1999, LIFE II). It covered the centralised management system at the Directorate-General for the Environment supported by a structure of technical and administrative assistance and the competent public authorities in the Member States. On-the-spot audits were carried out for a sample of 46 LIFE II projects from the "Nature" and "Environment" strands in eight Member States (Germany, Spain, France, Ireland, Italy, Portugal, Sweden and the United Kingdom).

## **Main observations**

The audit revealed imprecision of LIFE's objectives within the environmental action programmes, for which the role of the Directorate-General for the Environment in coordinating Community aid measures in the environmental field was insufficient.

The Commission evaluated proposals according to different criteria for each strand of the programme and only called on independent experts in the case of the 'Environment' and 'Third countries' strands. Some of the evaluation documents drawn up by these experts were not kept.

The Court identified numerous difficulties affecting the implementation of the second phase of LIFE (LIFE II). The main points revealed by the on-the-spot audit of a sample of projects were:

- (a) Staff expenditure was borne which had not been backed up by reliable records and which included the salaries of civil servants usually already covered by public budgets;
- (b) The complementarities of environmental projects financed by LIFE with those funded by other Community sources (Structural Funds, research) was still poor, and the interdepartmental consultation procedure did not wholly eliminate the risk of double-funding;
- (c) A large number of Commission payments were affected by substantial delays;
- (d) The financial arrangements for the projects suffered from deficiencies and the beneficiaries failed to keep sufficiently transparent and detailed accounts to allow the movements of funds to be retraced in their entirety. Further, the certifications of cost declarations by auditors often failed to meet the Commission's requirements;
- (e) The volume of expenditure on the purchase of land for actions under the 'Nature' strand was considerable and there were insufficient guarantees that this land would continue to be used for nature conservation purposes once the implementation period for the actions was over.
- (f) With regard to the monitoring and control of the projects, the Commission increased the number of on-the-spot visits and the findings revealed several types of errors at beneficiary level. The tasks of the technical assistance offices (TAOs), which act as external project-monitoring teams, were not well defined and the monitoring of the actions suffered as a result.



In view of the fact that LIFE finances, amongst other things, innovative and demonstration projects, dissemination of the results of these projects is crucial. In the absence of a clear strategy for dissemination laying down the objectives, the target groups, the methods and the media, there is a risk that dissemination will not be effective and this will limit the impact of such projects. With the exception of some “success stories” there has been no systematic follow-up of project results.

### **NATURA 2000 network**

Within the LIFE instrument, LIFE-Nature addresses biodiversity. LIFE-Nature should promote the establishment of the European network of protected areas (NATURA 2000) to implement two directives:

- Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds;
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

The designation of six biogeographical regions defined according to the characteristics of the species living there (i.e. Alpine, Atlantic, Boreal, Continental, Macaronesian and Mediterranean) suffered long delays, although a timely selection was essential for the protection of natural habitat types of Community interest. It took 9 years instead of six to approve the first biogeographical region (Macaronesian), which covers the archipelagos of the Azores, Madeira and the Canary Islands.

### **Recommendations**

The efforts made to reduce the shortcomings in the management of the LIFE programme should be kept up. To this end, the Court recommends that:

- (a) LIFE’s role should be explained in the context of the multiannual environmental action programmes and its objectives better defined and, if possible, quantified;
- (b) the Commission should examine whether it would be expedient to separate the management of the ‘Nature’ and ‘Environment’ strands;
- (c) the evaluation of project proposals should be carried out by outside experts for all the strands of the programme and these experts must be selected by a public call-for-proposals procedure;
- (d) the administrative provisions concerning implementation of the actions should be reviewed in order to achieve a better definition of eligible costs, in particular in respect of the accounting for the projects, staff expenditure, depreciation and purchases of land for ‘Nature’ projects;
- (e) the Commission’s on-the-spot checks should be stepped up, if need be by employing outside auditors;
- (f) the results of the projects should be disseminated.

## **Actions taken by the Commission**

There was a positive reception by the Commission of the Court's recommendations. Most of them have been addressed and taken into account by the Commission when planning the future "LIFE".

Some issues have still to be better defined like the programme's objectives and the design of a sound financial management system for the evaluation of the project results.

Note: The Special Report No 11/2003 concerning the Financial Instrument for the Environment (LIFE), together with the Commission's replies was published in the Official Journal of the European Union N° C 292 of 2 December 2003. It is available on the Court homepage ([www.eca.eu.int](http://www.eca.eu.int)).

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## **The place of the Republic of Macedonia in its efforts of keeping the biological diversity in the environmental area and contribution of State Audit Office of the Republic of Macedonia" (Republic of Macedonia)**

**Theme:** Auditing Biological Diversity

**Author:** State Audit Office of the Republic of Macedonia

### **I. Background**

#### **What was the issue or rationale for undertaking the audit?**

Global changes in the environmental field and consecutively in the biological diversity area, which happened during the last millennium, have influenced the activities on national and local level to be undertaken in order to prevent, decrease or stop the harmful influence on the biological diversity as a whole. The harmful influence is mostly visible in the continuous reduction or permanent loss of certain flora and fauna species as well as the natural heritage.

The basic values of the state are determined in the Constitution of the Republic of Macedonia. More precisely, it covers the human right to enjoy the healthy environment benefits but also, to protect, develop and take care of the environment, and the fact that the state should provide appropriate conditions. Thus, the Republic of Macedonia has incorporated the environmental protection in the most important document – the Constitution.

The Government of the Republic of Macedonia has adopted a Biodiversity Strategy and Action Plan to be applied in the forthcoming period. Because of the adoption of such important document as the Strategy on national level, its implementation has entailed involvement of relevant institutions, government representatives, the Government and the State Audit Office that are authorized up to a certain level to implement and monitor the activities, which should be implement in the determined period.

The above – mentioned is supported with the adoption of the following legislation in the Republic of Macedonia:

#### **Legislative Basis on Biodiversity Protection**

##### ***Basic laws***

Law on Protection of Natural Rarities  
Law on Protection of Ohrid, Prespa and Dojran Lakes  
Law on Protection of National Parks

##### ***Related laws***

Law on Regional and Urban Planning  
Law on Forests  
Law on Waters  
Law on Fishing  
Law on Hunting  
Law on Management and Use of Pastures and Abandoned Fields and Meadows

Law on Geological Investigations and Exploitation of Mineral Resources  
Law on Construction of Investment Objects

### **List of institutions for studying and monitoring the biodiversity states**

#### **Ministry of Environment, Skopje**

#### **Agency for Environment, Ministry of Environment, Skopje**

Drezdenska 52, Skopje, Macedonia  
tel. +389 91 366930, fax: +389 91 366931  
e-mail: [infoeko@moe.gov.mk](mailto:infoeko@moe.gov.mk)

#### ***Scientific Institutions***

#### **Macedonian Academy of Sciences and Arts, Skopje**

bul. Krste Misirkov tel. + 389 91 114 200

#### **Ss Cyril and Methodius University, Skopje**

bul. Krste Misirkov tel. + 389 91

#### **Faculty of Science, Institute of Biology, Skopje**

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#### **Faculty of Agriculture, Skopje**

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#### **Institute of Agriculture, Skopje**

bul. Aleksandar Makedonski bb tel. + 389 91 230 910

#### **Faculty of Forestry, Skopje**

bul. Aleksandar Makedonski bb tel. + 389 91 135 033

#### **Veterinary Faculty, Skopje**

Lazar Pop Trajanov 5 tel. + 389 91 115 125

#### **Macedonian Natural History Museum, Skopje**

bul. Ilindenska tel + 389 91 117 669 E-mail [svetozar@unet.com.mk](mailto:svetozar@unet.com.mk)

#### **Hydrobiological Institute, Ohrid**

Naum Ohridski 50 6000 Ohrid + 389 96 262 810 [zoranspi@rsc.com.mk](mailto:zoranspi@rsc.com.mk)

#### ***State Institutions***

#### ***Special Institutions***

#### **Macedonian Institute of Water Economy, Skopje**

#### **State Hydrometeorological Institute, Skopje**

#### ***Inspectorates***

#### **State Inspectorate for Environment, Skopje**

### ***Institutions for Protected Areas Protection***

**Main Office for National Parks and Hunting Reserves in the Republic of Macedonia, Skopje**

**Administration Office of the NP "Mavrovo", Gostivar**

**Administration Office of the NP "Pelister", Bitola**

**Administration Office of the NP "Galichica", Ohrid**

### ***Non-governmental Organizations***

#### ***Other Organizations***

#### **ZOO "Skopje", Skopje**

Botanical Garden, Faculty of Science, Skopje

The existence of such foundation of laws and regulations in this area as well as international ratifications, established and active institutions on the national and local level responsible for implementation of undertaken activities with national strategy and action plan as well as the concern for biological diversity and environment in general, were sufficient for the State Audit Office in its acts and in accordance with the legal mandate, from the very beginning of this institution from 1999 until nowadays, to plan, include and conduct certain number of audits in the area of environment and biological diversity.

#### **What type of audit is this (regularity audit or performance audit)**

Since the establishment of the State Audit Office in the Republic of Macedonia in 1999 and in accordance with the legal mandate and the level of trained staff employed in the SAO only regulatory audits or auditing of the financial statements have been conducted. SAO has started with such regulatory audits from the sphere of environment including biological diversity since 2002.

In the very beginning of 2005 changes were made to the organizational structure of SAO and new sector for performance auditing was established which, according to the Annual Working Program of SAO for 2005 has also included auditing of topics from the environmental area.

However, up to date SAO conducts only regulatory audits and issues the reports for following periods and institutions:

- **Final audit report on the 2001 Environmental Fund financial statements**, State Audit Office, 2002;
- **Final audit report on the 2002 Ministry of Environment an Physical Planning financial statements**, State Audit Office, 2003;
- **Final audit report on the 2002 Biodiversity Project financial statements**, State Audit Office, 2003, and
- **Final audit report on the 2003 Environmental Fund financial statements**, State Audit Office, 2004;

## II. Audit planning

The aims, scope and criteria for selection made with respect to the already completed audits, were made by SAO according to the adopted Strategy and Action Plan on national level for the period 2004-2008. The Biological Action Plan contains detailed components, like: description of the activities which should be undertaken for reaching the aims, time frames for action, planned budgets for conducting the activities and all the rest needed for performing the strategic components.

The conduction of preliminary research aimed at assessment of the existing risk in the Governmental environmental activities is of great importance for SAO, especially bearing in mind that:

The Environmental Protection is of national and international interest.

It was from great importance for SAO to conducting a preliminary risk assessment of the Governmental activities in the Biodiversity area bearing in mind the following:

- The protection of the Nature is of national and international interest;
- The BSAP is adopted by the Government as a national priority, and the Ministry of Environment and Physical Planning should be coordinator of the national activities;

The implementation of the BSAP is adequately funded<sup>1</sup>;

## III. Methodology

### What was the procedure for selecting the audited topics in the environmental area?

After conducting the preliminary research and collection of the relevant information, the auditors undertake the following:

SAO staff has reviewed different documents, as:

- Final reports of the previously conducted audits in the MOEPP;
- Environmental Performance Reviews, The Republic of Macedonia, Economic Committee on Environmental Policy, published 2002;
- Country Study for biodiversity of the Republic of Macedonia (First National Report, prepared and published by the MOEPP in 2003;
- Biodiversity Strategy and Action Plan of the Republic of Macedonia published within the GEF project this year.

The SAO staff also conducted an interview with an official from the MOEPP responsible for Biodiversity in order to discuss the issues like: the organization of the Government in implementing the BSAP, the organization of the MOEPP in the same area, the capacities of

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<sup>1</sup> According to the planned activities and the budget needed, more than 121 million US\$ should be allocated in the implementation of the strategy in the period of 4 years.

the MOEPP to perform the responsibilities (the number, the experience and training programmes) and the concerns in the financing of the activities of the BSAP.

Based on the preliminary risk assessment work, SAO identified the following as potential risk to achieving effective BSAP implementation by the Governmental bodies:

- Various Ministries involved in environmental activities may not have the capacity to carry out their responsibilities. That is, the ministries may not have enough staff, enough resources, and sufficient training;
- Some Ministries may lack the ability to operate and maintain expensive environmental monitoring equipment;
- The high level Government implementing body may not have sufficient authority to carry out its coordinating role. Also, there are questions as to how effective this body will be taking into consideration the involvement of a large number of senior level Government officials;
- The Government's budget resources are limited and may not be able to allocate sufficient resources to accomplish the specific activities and achieve the overall aim of the BSAP;
- There is too much reliance and dependence on international donor support. If donor support is not forthcoming in a particular area this could adversely effect the accomplishment of the BSAP;

The Government's Action Plan lacks interim target dates and milestones with which to measure progress towards accomplishing its environmental objectives.

#### **How was the audit conducted?**

The audits that have been conducted by the SAO auditors in the environmental area are performed by respecting, applying and in accordance with the Governmental Auditing Standards of the International Organization of the SAIs (INTOSAI), which are adopted as national regulation for conducting government audits in the Republic of Macedonia. The audit includes: investigation of evidence, evaluation of the accounting principles used; assessment of the important decisions made by the management of the audited bodies; expressing general opinion on the presentation of the financial transactions.

#### **Did you apply any creative techniques?**

The audit was conducted in accordance with applicable audit techniques and International Standards on Auditing.

### **IV. Findings and Recommendations**

#### **Which are your findings?**

The following are some of the major findings and conclusions of the conducted audits of the Environmental Fund, Ministry of Environment and Physical Planning and the GEF project.

## **Environmental Fund**

- The status of the Environment Fund is “illegal”, since the law specifying the Fund’s operations has not been adopted yet. The Fund is an organisational part of the MEPP and has no independence in terms of policy and programme drafting.
- The resources from the Fund are used based on a budget proposed by the Director of the Fund to the Government of the RM., which then recommends it for approval to the National Assembly of the Republic of Macedonia in accordance with the National Action Plan for the Protection of the Environment (NEAP). The National Action Plan is a long-term plan and does not allow for the preparation of an annual operational plan.
- Likewise, the audit confirmed that the Fund has not adopted a written policy on the techniques, procedures and criteria for the spending, and acts based on direct agreement with legal and physical entities that appear as contractors for the performance of a specific program or project, without publishing public tender.
- The Environmental Fund has not adopted measurement tools and indicators of the effects of the financed projects on the environment.
- In 2004, another financial audit has been performed in the Environmental Fund. We find that Environmental Fund undertook positive changes with respect to the established procedures on making decisions regarding the approval of the amounts concerning certain environmental projects as well as concrete activities on preparing special law, which will regulate the Environmental Fund activities and operations.

## **Ministry of Environment and Physical Planning**

- The creation of the MEPP, though it is seen as a milestone in the unification of environmental institutional arrangements, has not solved the fragmentation of responsibilities for environmental monitoring, the management of cross - sectorial issues and the setting of standards. To fulfil its obligations, the Ministry needs clear definitions of its responsibilities and its mandate regarding the environmental aspects of legislation, monitoring and data management.
- The organizational structure of the Ministry is created according to the national needs to fulfil the undertaken obligations within Stability and Association Agreement, signed and enforced bilateral and multilateral agreements, the National Environmental Action Plan, and the National Strategy for Sustainable Development. Unfortunately, as a result of the budgetary constraints, the Ministry is not adequately staffed and is not capable to respond to the needs.

## **GEF project for developing National Strategy and Action Plan of Biodiversity**

MEPP is a ministry that operates in compliance with the adopted strategic documents. During 2002, MEPP has managed 8 NEAP implementation projects.

- The audit of the financial statements of the GEF project for developing National Strategy and Action Plan of Biodiversity has detected that funds have been spent in accordance with the agreements signed with the foreign donors.



MEPP has fulfilled in a timely manner its obligation to coordinate and report on the achieved progress for each individual project, however this only refers to the project activities and not the effects of these activities. Furthermore, the NEAP, which is a strategic document, does not incorporate tools for monitoring the implementation of each of the projects and their effects on the environment.

The State Audit Office expressed its concerns and was assured by the Ministry that a new document NEAP 2 is being drafted which will include techniques for monitoring the effects of the activities on both national and local level.

### **What did you recommend?**

The results from the regulatory audits are sufficient information for the SAO of RM that the MEPP and the Macedonian Government in general have weaknesses in the process of conducting the policy on environmental protection and conclude that certain steps should be taken to overcome these problems.

### **Proposals and recommendations**

Taking into consideration the significance of the above- mentioned facts, the audits of the financial statements of the Environment Fund for the years 2001 and 2002 have the obligation to point out and give its own proposals and recommendations for eliminating certain weaknesses and irregularities with an objective to prevent further negative influences on its regular operations.

- The Government of the Republic of Macedonia should issue an act, a special law which will regulate the organisational chart and operations of the Fund;
- The Environmental Fund functions to be included in the mandate of the MEPP until the required legislation and regulations concerning the Environmental Fund are adopted.

## **V. Impacts and results**

### **What was the government response?**

Follow-up audits are planned in the future period. The aims of these follow-up audits are to determine the implementation of the issued recommendations and measures from the audit reports.

### **How has government changed?**

The Government is informed on the SAO future program tasks. SAO expects positive approach and appropriate treatment of the proposed initiatives.

### **Were recommendations accepted or rejected? Why?**

The auditee accepted the proposed recommendations.

## **Are there any measurable short-term, and long-term impacts and results you can share?**

Respecting measurable long-term impacts and results which were conducted in the biodiversity sphere, the Government of RM has realised the project which mitigates the actual problem of natural balance distortion in the area of Dojran Lake as a result of the interest from the public, audit and obligations undertaken by RM as a signatory of various conventions and agreements.

## **VI. Challenges faced in the audit**

### **What challenges did you face?**

The most challenges SAO of RM faced during the auditing were the following:

- The needs of conducting further more in-depth and detailed preliminary studies on each environmental audit and especially for biodiversity audits, which should be done in the future.
- The need of extension of the scope, details and criteria in conducting audit (the audit of financial statements provides an opinion only regarding the items in the balance of payments stated in the financial statements, but by conducting performance audits opinions or conclusions will be provided on the economic, efficient and effective implementation of strategic documents of the activities of the entities from the environmental area
- The limitations of number of auditors in the SAO;
- The need of further specialization of certain group of audit staff which will be specialized for conducting audits in the environment area;

The SAO of RM is in the middle of the process of analysing the available information to define concrete problem that would be audit subject in the further period.

During the planning process, the special attention will be paid on the following specific areas:

- Fresh water (drinking water, the water quality, rivers, lakes);
- Air pollution;
- Soil pollution;
- Ecosystems, changes of the climate and changes in the ozone shell;
- Managing of disasters and readiness for acting in such conditions and etc.

### **Were they overcome?**

The challenges that we faced during the audits mostly have an active role in direction of undertaking activities of in-depth preliminary studies as well as training of specialized group of auditors for conducting environmental and biodiversity audits.

### **Are there challenges that you need help with?**

Yes, of course. During our process of investigation and research for further information and gathering data, we often use and learn from the experience of other audit institutions. Constantly, we use information from official WEB sites of countries with higher level of public interest and consciousness on environmental and biodiversity protection and prevention that conduct biodiversity audits more frequently.

### **VII. Lessons learned**

#### **What would you do again or more of?**

The future plans of SAO of RM are aimed at audit extension especially on:

- Compliance of the government institutions operations with the general goals and strategies of the country for protection of the nature and
- Conducting the environment programs in economic, efficient and effective manner.

#### **What would you never do again?**

As basic lessons learned that have arisen from the previous environmental audits, we will take care of the following in the future: never again to repeat irrational waste of natural resources as water, forestry, rivers, especially waste of water of the Dojran Lake and consecutively the natural cycle of mutual connection between flora and fauna has to be preserved.

## **Special Protected Area Network and Effectiveness of Its Management (Mongolia)**

**Theme:** Auditing Biological Diversity

**Author:** Batbayar Badamdorj

### **Audit Topic**

- Special Protected Area Network and Effectiveness of Its Management

### **Main Message**

- The Special Protected Areas Are Not Specifically Protected

### **Audit Objectives**

The audit has the following two objectives:

- Is natural environment in the Protected Areas is adequately protected?
- Is the Protected Area management and organization adequate?

### **Audit Scope**

Protected Area Management Division (PAMD) of the Ministry of Nature and Environment and 15 Protected Area Administrations (PAAs) and some related entities were audited.

### **Audit Methodology**

- interviews, file review, reading of reports, on-site visits, observations, consultations with environmental experts

### **Audit Criteria**

Related provisions of

- the Law on Special Protected Areas (1994) and
- the Law on Buffer Zones of Special Protected Areas (1997)

### **Background Information**

- As of January 2004, 13.4 percent of Mongolian land or 20.9 million hectare land covering 54 areas is under a state special protection regime.

### **Categories of Protected Areas**

- Strictly Protected Area (SPA) - 10.4 million hectare,

- National Park (NP) - 8,4 million hectare,
- Natural Reserve (NR) - 1,9 million hectare,
- Natural Historical Land (NML) - 0,07 million hectare.

### Special Protected Areas of Mongolia



### Composition of Protected Areas by regions

Natural regions	Percent in the natural region	Percent in the total PA region
Mountains	14,0	12,7
Forest	6,5	12,5
Steppe	6,4	10,0
Seam-desert	18,6	26,5
Desert	23,5	38,5
Total:	13,4	100,0

- “National Program for Protected Area” has an objective to take up to 30 percent of total land of the country under the state special protection regime by 2030.
- Since the approval of the National Program in 1998 and till 2004, the NPs had been increased by 2.2 million hectare and NRs increased by 0.1 million hectare.

- The Protected Area Management Division (PAMD) at the Ministry of Nature and Environment is responsible for protected area issue.
- Under direct supervision of PAMD there are 16 Protected Area Administrations (PAAs).

### **Audit Findings**

- Auditors identified several cases that the mining activities had been conducted in the protected areas (Mining in the protected areas is prohibited by the Law on Special Protected Area).
- Due to lack of coordination and environment impact assessment by the Ministry of Nature and Environment and other related organizations, too many tourist camps and resorts were built in the protected areas causing ecological imbalance. Currently about 80 tourist camps are operating inside the protected areas. Although the development of tourism in the protected areas has certain positive impacts, there are also negative impacts of tourism including pollution, soil degradation, escape of wildlife from the habitat and loss of key plant species.
- There is no systematic assessment and monitoring work for the biological diversity of Mongolia. The regular assessment of wildlife and natural plant distribution and resources is not fully implemented. The common difficulties such as unavailability of biological resource database and other necessary information, underdeveloped monitoring methodology and lack of human resource capacity are still in existence throughout the whole system of the protected areas.
- Actions against illegal hunting and improper use of natural resources are not adequate.
- 3009 cases were resolved out of 3066 cases detected in 2003 in relation to forest. This constitutes 78.8 percent of detected cases by rangers but the wrongful actions still continue to happen.
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### Some animals registered in Red List of Mongolia

	1986	2003-2004
Wild mountain sheep	60000	15000
Khulan (wild donkey)	25000	20000
Snow Leopard	3000	700-1200

- Statistics show the serious decrease of deer in last two decades. In 2003-2004 only 8000-9000 deer were been counted while in 1986 there were about 130000 deer. In a word the number of deer decreased 16.3-14.4 times.
- The main reason for the reduction of deer population is illegal hunting. In 1998-2003 only 172 cases were detected and reported. This means illegal hunting is not detected fully.
- The marmot population is also noticeably reduced in the past two decades. The price for marmot skin had been constantly increasing which caused illegal hunting on marmot.
- The PAMD used to consist of Division Director and 4 specialists. However in March 2004 the Division Director and 3 specialists were released from their duties. And as of November 2004 a new Director was not been appointed and experienced specialists were not recruited yet which resulted in stagnant operation of the PAMD.
- The operating budget for the PAMD is not sufficient for carrying out its duties effectively. Moreover, no budget is allocated for the preventive measures against illegal activities.
- Staffing of PAAs is also not sufficient. There are 348 people working in the PAAs in total and 214 of them are rangers. According to normative approved by the Government Resolution No.41 of 1997 one ranger is responsible for 60.0-80.0 thousand hectare in mountains, 40.0-60.0 thousand hectare in forest-steppe region, 80.0-100.0 thousand hectare in steppe, 150.0-300.0 thousand hectare in desert. However, the PAAs are understaffed for 60-134 people against this normative.
- In the Uvs lake area one ranger is responsible for 110.0 thousand hectare and this is almost 3 times high than the normative. In Khan Hentii PAA one ranger is responsible for 90.0-435.0 thousand hectare and this is 6 times high than the normative. Therefore

the rangers could not cope with the coverage necessary to ensure safety of the protected area.

- The PAAs and their staff are not fully supplied with weapon, communication equipment, vehicle and horses as per standards.
- The rangers' knowledge and skills are not sufficient and human resource turnover is high. The salary of rangers is low and no additional bonuses and compensations are provided. Moreover, social issues for the rangers' families are not resolved as required. Therefore most rangers are people of above retirement age.

## **Conclusions**

- Violations such as poaching, mining, cutting of trees, improper use of natural resources in the protected areas are still occurring.
- The rangers can not cover the protected areas regularly as required because of insufficient human, material and financial resources. This makes chances of detecting and preventing violations low.
- No fundamental research and analysis had been done on plants and animals in the protected areas and monitoring and protection of species is not sufficient.
- The decrease of number of specialists and rangers of the PAAs negatively affects the protection of the areas.

## **Recommendations to the Minister of Nature and Environment:**

- To establish information database on biological diversity of the protected areas and improve regular monitoring.
- To take step-by-step measures to provide the PAAs with qualified staff, necessary equipment and resources.
- To enhance public awareness and promotional activities on protection of nature and ecology.
- To inspect licenses, certificates and payment of fees for use of land of all legal entities that are operating on the protected areas and evaluate general and detailed environment impact assessments and take necessary actions against violations detected.



**General Direction of Control of the Natural Resources and Environment/  
Dirección General de Control de los Recursos Naturales y Medio Ambiente  
(Paraguay)**

**Theme:** Auditing Biological Diversity

**Author:** General Controllershship of the Republic of Paraguay

Results of the performance audits to the Secretary of Environment, on the verification of fulfillment of the administrative procedures adopted for the grant and concession of permits and licenses related to use, storing, hunts, movement, possession, commercialization and other, of the wild fauna (Years 2002 and 2003).

### **Background**

The audits were carried out to the Secretary of Environment (SEAM in spanish) by civil denunciations and for request of the Public Ministry and the own Secretary of Environment.

They reviewed the administrative procedures carried out by the SEAM for use of wild fauna species in ranches, the grant of shares for capture of alive animals, hunts of wild animals, storing and commercialization of products derived of the wild fauna.

The Secretary of Environment, created by the Law N° 1561/00, is the authority of application of the Law N° 96/92 of Wild Life. This law stablish that the wild fauna is compound for vertebrate and spineless animals that in isolated or combined form, temporarily or permanently, has to the national territory as area of biogeografical distribution. It is declared of social interest and of public utility the protection, handling and conservation of the country wild life as well as its incorporation to the national economy. All the inhabitants have the duty of protecting the wild life of our country.

They were carried out three special exams of regularity, in whose was evaluated the administration of the Secretary of the Environment.

### **Audit planning**

The audits general objective was to evaluate the performance of the Secretary of Environment, as institution entrusted to administer the natural resources and especially those of the wild fauna, in the fulfillment of the administrative procedures settled down in the legal norms for the grant and concession of permits and licenses related to the use, storing, hunts, transfer, holding, commercialization and others, of the wild fauna corresponding to the years 2002 and 2003 in the Department of Alto Paraguay.

The approaches that base the conclusions and recommendations were mainly of legal character, as well as technical approaches defined with specialists of well known Non Government Organizations and others government entities.

Also, the works were developed according to the Norms of Audit of the International Organization of Supreme Audit Institutions (INTOSAI), as they were applicable.

## **Methodology**

The informations and documents were obtained through notes remitted to the entity audited and, in some cases, to other related institutions. They were also carried out interviews with authorities and taken charge officials.

For the fixation of approaches, were took basically the legal concepts and other technicians obtained in scientific documents and in consultation with specialists and NGO recognized in the means.

To assure the prospective results, was carried out a combined work with the Public Ministry.

## **Findings, Conclusions and Recommendations**

The analysis demonstrated that the resolutions emitted by the Secretary of Environment don't agree with that settled down in the Law N° 96/92 of Wild Life, therefore it is deduced that the sustainable use of the alive animals has not been made, and because of the falsehood of population's indexes for hectare, the use programs cannot be considered as rational or sustainable.

With authorization of the Secretary of Environment, and in breach to the Law 352/94 "Of Protected Wild Areas" and to the Law 96/92 "Of Wild Life", the proprietors carried out activities that probably altered the natural resources and the ecological balance of the protected reservation area.

The Secretary of Environment authorized the extraction of the wild fauna of the potential wild protected area (Reservation Area) "Inmákata Lagoon", fact that constitutes an act pasible of sanctions to those responsible for these irregularities, because it affects the balance of the ecosystems whose unique features are protected by law.

This situation not only affects to the Secretary of Environment officials, but also to the consultants biologists who elaborated the reports of populational estimates and that have ignored the reach of the Law N° 352/94 "Of Protected Wild Areas" and to the Law 96/92 "Of Wild Life", and normative regarding the commission of ecological crimes in restricted areas.

The Paraguayan State grants rights to the matters for the handling or use of the wild fauna, as a protected juridical good. However, the implementation is not given in efficient, effective and economic form, mainly because the control systems of that right, leaves to the beneficiary's will its exercise, for the lack of forecast of the Secretary of Environment, and for the wrong acting of officials' responsible for the control.

This audit understands that the Secretary of Environment cannot grant rights of use of juridical goods whose use is of public character and of social interest, without having the capacity to control and to protect effectively, guaranteeing the equality of opportunities of use of this resources at the same time.

The results of the three audits carried out to the performance of the Secretary of Environment reflect that the nonfulfillment of the legal and established procedures for the grant and concession of permits and licenses for use, storing, hunts, transfer, holding, commercialization and others, of the wild fauna, threatens the protection and conservation of the biodiversity, the sustainable development, the State of Right, the national economy and the social development; as well as they commit the State position regarding the commitments on international agreements regarding the environment protection.

### **Impacts and Results**

The reports were used by the Public Ministry to impute to the Secretary of Environment technical officials and people involved in the process (stokers, exporters and transporters), for the Law N° 716 "That Sanctions Crimes Against the Environment."

The Public Ministry used the penal figure of the "PREVARICATION" for officials of the Administration.

The authority of application of the Law suspended the hunt and use of the wild fauna for all the species.

It was also temporarily suspended the effects of the CITES agreement, related to the international trade of the wild fauna products, until all the laws about the wild life were regulated.

After 13 years of its promulgation, the Law of Wild Life Silvestre was regulated.

### **Challenges faced in the audit**

One of the main challenges was to obtain the requested informations and in opportune time, since the successive changes in the ownership of the Secretary of Environment and in the departments directions caused the loss of data, concealment of documents, substitution of normative, and others.

Equally, the presentation of the report in such a way that the Public Ministry could use it to the corresponding investigation, imputation and sanction.

### **Learned lessons**

Between the main lessons learned, we indicate the next things:

- In a environmental audit is very important the inspection in the field. The audits carried out could have better results if it had realized part of de work in the facts site.
- The knowledge of the environmental law is essential to an adequate environmental performance.
- The new vision of the environmental audit must include the social and economical impacts of the environmental performance.
- In a environmental audit, working in a multidisciplinary group is very important.

- The audit is an important tool for detecting risks and making the correspondent corrective actions, to incorporate improvement in the institutions performances.

## **Dirección General de Control de los Recursos Naturales y Medio Ambiente**

“Resultados de las auditorías de gestión a la Secretaría del Ambiente, sobre la verificación de cumplimiento de los procedimientos administrativos adoptados para el otorgamiento y concesión de permisos y licencias en cuanto a aprovechamiento, acopio, caza, traslado, tenencia, comercialización y otros, de la fauna silvestre” (Años 2002 y 2003).

### **Antecedentes**

Las auditorías fueron realizadas a la Secretaría del Ambiente (SEAM) y se iniciaron a raíz de denuncias ciudadanas y a pedido del Ministerio Público y la propia Secretaría del Ambiente.

Se solicitó la revisión de los procedimientos administrativos realizados por la SEAM para aprovechamiento de especies de fauna silvestre en estancias, el otorgamiento de cupos para captura de animales vivos, caza de animales silvestres, acopio y comercialización de los derivados de la fauna silvestre.

La Secretaría del Ambiente, creada por la Ley N° 1561/00, es autoridad de aplicación de la Ley N° 96/92 de Vida Silvestre. Por esta ley se entiende que la fauna silvestre es aquella compuesta por animales vertebrados e invertebrados que en forma aislada o conjunta, temporal o permanente, tiene al territorio nacional como área de distribución biogeográfica. Se declara de interés social y de utilidad pública la protección, manejo y conservación de la vida silvestre del país así como su incorporación a la economía nacional. Todos los habitantes tienen el deber de proteger la vida silvestre de nuestro país.

Se realizaron tres exámenes especiales de regularidad, en los cuales se evaluó la gestión de la SEAM.

### **Plan de auditoría**

El objetivo general de las auditorías fue evaluar la gestión de la Secretaría del Ambiente, como institución encargada de administrar los recursos naturales y en especial, los de la fauna silvestre, en el cumplimiento de los procedimientos administrativos establecidos en las normas legales para el otorgamiento y concesión de permisos y licencias en cuanto al aprovechamiento, acopio, caza, traslado, tenencia, comercialización y otros, de la fauna silvestre correspondientes a los años 2002 y 2003 en el Departamento Alto Paraguay.

Los criterios que fundamentan las conclusiones y recomendaciones fueron principalmente de carácter legal, así como criterios técnicos definidos con especialistas de ONGs y otros entes gubernamentales.

Asimismo, los trabajos fueron desarrollados conforme a las Normas de Auditoría de la Organización Internacional de Entidades Fiscalizadoras Superiores (INTOSAI), en cuanto fueran aplicables.

## **Metodología**

La obtención de las informaciones y documentos se realizó a través de notas remitidas al ente auditado y, en algunos casos, a otras instituciones relacionadas. También se realizaron entrevistas con autoridades y funcionarios encargados.

En cuanto a la fijación de criterios, se tomaron básicamente los conceptos legales y otros técnicos obtenidos en consulta con especialistas y ONGs reconocidas en el medio.

Para asegurar los resultados esperados, se realizó un trabajo conjunto con el Ministerio Público.

## **Hallazgos, Conclusiones y Recomendaciones**

El análisis demostró que las resoluciones emitidas por la SEAM no concuerdan con lo establecido en la Ley N° 96/92 de Vida Silvestre, por lo cual se deduce que el aprovechamiento sostenible de los animales vivos no se ha efectuado, y dada la falsedad de índices de población por hectárea, los programas de aprovechamiento no pueden ser considerados como racionales o sustentables.

Los propietarios, con autorización de la SEAM, y en contravención a la Ley 352/94 de Área Silvestres Protegidas y a la Ley 96/92 “De Vida Silvestre”, realizaron actividades que previsiblemente alteraron los recursos naturales y el equilibrio ecológico del área de reserva protegida.

La SEAM autorizó la extracción de ejemplares de la fauna silvestre del área silvestre protegida potencial (Área de reserva) “Laguna Inmákata”, hecho que constituye un acto pasible de sanciones a los responsables de dichas irregularidades, porque afecta el equilibrio de los ecosistemas cuyos rasgos únicos son protegidos por ley.

Esta situación afecta no solo a los funcionarios de la SEAM, sino también a los consultores biólogos, quienes elaboraron los informes de estimaciones poblacionales y que han desconocido el alcance de la Ley N° 96/92 de Vida Silvestre, Ley N° 352/94 de ÁREAS SILVESTRES PROTEGIDAS y normativas respecto a la comisión de delitos ecológicos en áreas restringidas.

El Estado Paraguayo otorga derechos a los particulares para el manejo o aprovechamiento de la fauna silvestre, como bien jurídico protegido. Sin embargo, la implementación no se da en forma eficiente, eficaz y económica, principalmente porque los sistemas de control de ese derecho, deja al arbitrio del beneficiado su ejercicio, por la falta de previsión de la Secretaría del Ambiente, y por mal desempeño de los funcionarios responsables del control.

Esta auditoría entiende que la SEAM, NO puede otorgar derechos de aprovechamiento de bienes jurídicos, cuyo uso es de carácter público y de interés social, sin tener la capacidad de controlar y de proteger efectivamente, garantizando al mismo tiempo la igualdad de oportunidades de aprovechamiento de dichos recursos.

Los resultados de las tres auditorías realizadas a la gestión de la secretaría del Ambiente, reflejan que el incumplimiento de los procedimientos legales y administrativos establecidos para el otorgamiento y concesión de permisos y licencias en cuanto a aprovechamiento, acopio, caza, traslado, tenencia, comercialización y otros, de la fauna silvestre amenazan la

protección y conservación de la biodiversidad, el desarrollo sostenible, el Estado de Derecho, la economía nacional y el desarrollo social; así como comprometen la posición del Estado respecto a los compromisos asumidos mediante acuerdos internacionales respecto a la protección del Medio Ambiente.

### **Impacto y Resultados**

Los informes de la CGR sirvieron al Ministerio Público para imputar a los funcionarios técnicos de la SEAM y a particulares involucrados en el proceso (acopiadores, exportadores y transportistas), por la Ley N° 716 “Que Sanciona Delitos Contra el Medio Ambiente”.

El Ministerio Público utilizó la figura penal del “PREVARICATO” para funcionarios de la Administración.

La autoridad de aplicación de la Ley suspendió la cacería y aprovechamiento de la fauna silvestre para todas las especies.

También se suspendió en forma temporal los efectos del convenio CITES relativos al comercio internacional de los productos de la fauna silvestre, hasta tanto se reglamenten todas las leyes a la vida silvestre.

Luego de 13 años de su promulgación, se reglamentó la Ley de Vida Silvestre.

### **Desafíos enfrentados en la auditoría**

Uno de los principales desafíos fue obtener las informaciones solicitadas y en tiempo oportuno, ya que los sucesivos cambios en la titularidad de la SEAM y en las direcciones de departamentos, causaron la pérdida de datos, ocultamiento de documentos, sustitución de normativas, y otros.

Igualmente, la presentación del informe de tal forma que el Ministerio Público pueda utilizarlo para la investigación de los hechos, imputación y sanción correspondiente.

### **Lecciones aprendidas**

Entre las principales lecciones aprendidas se señalan las siguientes:

- En una auditoría ambiental, la inspección de campo es muy importante. Estas auditorías podrían haber arrojado mayores resultados si se hubiera realizado el trabajo in situ, en el lugar de los hechos.
- El conocimiento del derecho ambiental es fundamental para una adecuada gestión ambiental.
- La nueva visión de la auditoría ambiental debe incluir el impacto socio-económico de la actividad y/o gestión ambiental.
- El trabajo en un equipo multidisciplinario es muy importante en una auditoría ambiental.

- La auditoría es una importante herramienta para detectar riesgos y tomar las acciones correctivas correspondientes, para incorporar mejoras en la gestión de las instituciones del Estado.



## Rio De Janeiro Convention on Biodiversity: Implementing Provisions (Poland)

**Theme:** Auditing Biological Diversity

**Author:** Tadeusz Bachleda-Curuś

The INTOSAI WGEA 2005-07 Work Plan, approved by the Budapest Congress in October 2004, listed biodiversity among the INTOSAI WGEA audit priorities. Audit studies of actions pursued by the authorities towards meeting commitments ensuing from the Convention on Biodiversity are expected to focus on the national legislation, monitoring program and management of protected areas

In the SCC audit practice issues related to biodiversity protection have been present for many years. They were studied with a focus on task performance by public administration, under the following audit topics:

- management of natural resources in protected areas (in 1994),
- animal protection (covering habitats of protected animal species *in situ*, and *ex situ* i.e., in zoological gardens), along with legality of trade in wild animals (in 2000),
- functioning of national parks (in 2000),
- functioning of landscape parks (in 2001).

Following the audit priorities agreed for 2003 – 5 by the EUROSAI Working Group on Environmental Auditing [WGEA], in 2003 the SCC looked at implementation of provisions of Rio de Janeiro Convention on Biodiversity. The aim of the audit was to study the authorities' activity towards meeting the obligations ensuing from the Convention, with the focus on the national legislation, monitoring program and management of protected areas. The audit covered 16 units selected from 4 levels, vested with different authorizations to take action towards protecting biodiversity. They included -

1. **decision-making, coordinating and funding units** (i.e., Ministry for Environment – responsible for all activity at the national level, Ministry for Agriculture and Rural Development – responsible for actions taken in rural areas, National Fund for Environment Protection and Water Resources Management – responsible for co-funding);
2. **units involved in research and development of theoretical papers** for Government or local Government organs (i.e., Institute for Environment Protection, Institute for Zootechnology, Institute for Plant Breeding and Acclimatization, National Foundation for Environment Protection);
3. **local administration units** responsible for actions taken at the local level – 3 Voivodship Offices, 1 Poviast Office and 3 Community Offices;
4. **units responsible for in situ protection** – Lower Silesian Complex of Landscape Parks and National Park on the Warta River Mouth.

The audit also offered an opportunity to analyze the existing and draft new legal regulations.

It led us to disclosing a number of irregularities described below. Removing them will be necessary for proper protection of biodiversity.

### **Main audit findings**

#### ***On the existing legal provisions and regulations - Convention Art. 6 and 11***

Although biodiversity protection and the principle of sustainable development occupy an important place in many legal acts (to begin with the Constitution of the Republic of Poland, the Nature Protection Act, the Environment Protection Act, the Physical Management Act, the Forest Act, the Ecological Agriculture Act, the Genetically Modified Organisms Act, the Hunting Act), as well as in Government documents (such as the Ecological Policy of the State, National Strategy for Protection of Biodiversity, Long -Term Strategy for Sustainable Development – Poland 2025, Program for Improving Forestation, National Strategy for Ecological Education, Local Level Programs for Environment Protection), certain omissions could still be indicated.

Legal regulations on protecting biodiversity in agriculture proved insufficient and ineffective.

- The system which assumed co-funding of genetic resources with funds allocated for biological progress in agriculture, created a situation where protection needs had to compete with production improvement and development needs. In consequence, the share of native varieties in the structure of national crops was reduced to tiny (in surface terms). Profitability of keeping whole populations of native protected breeds turned out very low, so diversity in farm animal species diminished;
- Functioning of the so-called [mixed] agricultural – environmental programs, designed to play an important role in protecting biodiversity in rural areas, had not been regulated;
- Regulations on breeding exotic species imported for economic purposes from geographically remote areas, proved inconsistent with nature protection regulations, thus threatening the preservation of native biodiversity. The mink could serve here as an example. In the vicinity of national parks minks tend to escape from breeding sites only to destroy nests and hunt young birds, whose protection was in fact the main reason for having the parks established.

#### ***On research, recognition and exchange of information on biodiversity - Convention Art. 7, 12 and 18***

- Works pursued under the State System of Monitoring of the Environment in many areas needed to be intensified. The existing documentation of the state of nature needed up-dating. The system of information exchange on biodiversity and related actions was not functioning properly. Documentation of the state of nature kept by the heads of Government administration at the province level failed to collect full data on occurrence of valuable natural formations, habitats, and even protected plant and animal species in the area;

- Scientific research towards identification, protection and sustainable use of biodiversity was limited because of financial constraints;
- For gene stocks of industrial plants it was disclosed that in the preceding period of 20 years approx. 50% of Poland's surface had been covered by stock-taking exercises (especially in the South and East of Poland, where, due to farming land commutation, areas richest in local industrial plant populations can be found). Taking into account the time that had elapsed since the beginning of the exercise, and its varied scope, repeating was necessary in some areas;
- The database named "*System for Information Exchange on Biological Diversity (CHK)*"<sup>11</sup>, set up in accordance with international agreements and provisions, was not being up-dated on a current basis. Ministry for Environment, responsible for system implementation, failed to supervise its functioning.

### ***On in situ protection under the National System of Protected Areas***

In consequence of legal amendments and funding constraints, certain tasks were never implemented. Cases of wasteful management were disclosed.

- Nature protection services were not furnished with sufficient financial and human resources to be able to meet their legal obligations in protected areas. Especially difficult situations were reported in landscape parks. In this context, limiting economic activity in landscape parks was viewed as an obstacle to regional development and met with protests from local authorities. Intensive economic growth, on the other hand, might lead to regions' losing all their natural advantages.
- Numerous irregularities and problems were disclosed in the process of selecting and establishing areas for the European protection network - *NATURA 2000*, which should play an essential role in protecting biodiversity in Europe in near future.
- Some of the initially proposed areas had not been covered by an up-date in stock-taking of natural resources, which was viewed by the SCC as unfair. The scope of protection to be granted under *NATURA 2000* was not defined in financial or organizational terms. The areas proposed for inclusion into the system were never precisely delineated, or in general consulted with local-Government authorities, land users or managers. The issue of possible compensations for imposing constraints on land use in areas covered by the system remained unsolved.

The number of irregularities disclosed clearly showed that in the period studied supervision and coordination of activities, which remained in the hands of the Minister for Environment, were insufficient.

Audit findings were summarized in an audit information material, circulated among all supreme organs of the state, and on 14 April, 2004, presented at the meeting of the Parliamentary Committee for Environment Protection, Natural Resources and Forestry.

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<sup>11</sup> Clearing House Mechanism – the formula applied in running the System of Information Exchange on Biodiversity

From among 40 recommendations presented to auditees and 14 systemic recommendations for decision-makers, many have already been implemented. The audit provided an opportunity to analyze the existing and draft new legal regulations. Legislative works aimed at drafting the new Nature Protection Act, for example, offered an opportunity to amend some problematic clauses to the SCC's satisfaction. In some areas the scope of support offered to mixed ecological and farming undertakings was broadened, and availability improved. In 2004 levels of allocation for plant collections and the Gene Bank were increased. Other recommendations are at present being implemented with a view to strengthening biodiversity protection in Poland.

To summarize the results achieved, the following important issues should be highlighted in biodiversity protection auditing:

- harmonization of the national legislation and strategic documents with the commitments to be met under international agreements signed, including the Rio Convention;
- correctness and effectiveness of protection in the areas covered by the NSPAs and the **NATURA 2000** network for Europe;
- the scope of actions taken up towards preserving biodiversity in lands used by agriculture;
- the scope of information on biodiversity collection and exchange;
- correctness and legality of decision-making processes in managing areas of value for their natural advantages;
- coordination of actions taken on national and Continental scales;
- correctness and effectiveness of using financial resources allocated to protect biodiversity.

We hope our audit findings and experience can prove helpful in preparing a guidance paper on how audits on biodiversity should be planned and performed, which remains in line with the INTOSAI WGEA goals set forth in the INTOSAI WGEA 2005-2007 Work Plan.

## **Audit of the Conservation of Biological Diversity (Russian Federation)**

**Theme:** Auditing Biological Diversity

**Author:** Ivan G. Dakhov

### **General**

Biological diversity includes natural resources of the vegetable and the animal world capable of self-reproduction. Those resources continuously produce biological products that ensure the existence of mice and men on Earth. The environmental doctrine of the Russian Federation emphasizes that protection of nature and the improvement of the environment are high-priority trends of the activity of the state and society.

The biological nature management in this country includes agriculture, forestry, fishery, hunt, recreation, and reserve management and studies. Problems concerning the use of biological natural resources lie in the foreground of the general state and economic policy.

Russia is a major forestry state. The area of its forest reserves is 1059.8 million hectares, or 22% of the forest resources of the planet; 62% of the country's territory is occupied by the forest reserves lands. As a critical component of the biosphere and a source of raw material resources, our country's forests have a global ecological, social and economic significance. Conservation area management uniting the whole biological diversity meets the world standards in many ways. By early 2004, there were 100 national natural parks occupying 1.56% of the country's territory, 35 national parks (0.4 %), lots of natural parks, wildlife reserves, and natural sanctuaries. They cover natural systems, unique landscapes, diverse species of plants and animals saved, and recognized scientific research and development works.

Russia is one of fishing states determining the strategy of world fishery.

The volume of stock of fish in seas available for the Russian fishery is estimated as about 16000 thousand tons. The permissible withdrawal is possible within the limit of about 4000 thousand tons.

The fishery reserves of inland water bodies make: 22.5 million hectares for lakes, 524 thousand kilometers for rivers, 142 thousand hectares for ponds. The Acipenseridae have always been the national wealth of Russia. They accounted for 90% of the world reserves. The catch of all species of fish in inland water bodies is about 200 thousand tons.

Russia's achievements in exploration and development of living marine resources are highly estimated by the global community. Presently, there are 32 international global and regional organizations relating to the fishing industry, Russia taking part in 13 of them. Out of all biological resources, an important role belongs to hunting animals and medicinal plants.

### **The structure of the federal public authorities coordinating biological nature management**

Within the period from 1991, drastic structural and functional changes happened in Russia in the system and organization of nature management.

The government of the Russian Federation encompasses the ministries of economic development and trade, natural resources, and agriculture, that coordinate the work of the appropriate services and agencies responsible for developing the public policy and legal control regulation, granting public services on administration of property, exercising control and supervision in the field of biological nature management. After numerous changes in the structure and functions of administrations working in the system of biological nature management, it can be noted that there is no unified functional system in the management of natural resources. The existing structures are dispersed among different levels, services and agencies not interconnected on an administrative level, the fishery and forestry are deprived of administrative independence, high level organizations for the management of hunt and reserve management and studies are not provided for in the management structure either.

### **Grounds for conducting audit measures**

The Accounts Chamber of the Russian Federation has continuously had in view the problems of conservation and accrual of natural diversity. The working plans of the Accounts Chamber annually stipulate the checking of the target-oriented and rational application of federal budget funds allocated for the protection and reproduction of water and forest biological resources, national sanctuaries, federal target programs, and the implementation of international conventions on environment protection. The plans also stipulate the audit of the use of the state-owned property and abundance by the acting legislation, joint audits with the audit institutions of the Russian Federation and adjoining states. Individual audits are conducted at the requests of the president of the Russian Federation, the State Duma and the Council of the Federation of the Federal Assembly. As a rule, outside financial control and efficiency audit are planned.

### **Methodology of conducting audit measures**

Audit measures are conducted by inspectors of the Accounts Chamber in accordance with the methodical and methodological directions worked out by specialists of the Accounts Chamber and approved by the Collegium of the Accounts Chamber.

The program of conducting the audit measures is preliminarily developed by the head of inspectorate in cooperation with the participants of the audit measures and is then approved by the Auditor of the appropriate activity direction. The program is adjusted with audit institutions of the subjects of the Russian Federation, as well as with audit institutions of other countries taking part in the audit. The grounds for the audit is given, the target is determined, as well as the subject and object of the audit, the list of participants and the terms of conducting the audit measure. The conducting of the audit measure is executed by a decree of the Chairman of the Accounts Chamber.

Before the start of an audit measure, as a rule, meetings between the audit participants and those being audited are organized, legal and normative acts are preliminarily studied, as well as other statistical and other financial figures characterizing the objects under audit. In case of visit directly to audit objects, inspectors study financial instruments reflecting the use of budgetary funds and their target-oriented and efficient allocation.

The audit outcomes are executed by acts which leaders of organizations under audit necessarily get acquainted with. Under the acts studied, the Auditor, in cooperation with the audit inspectors basing on the outcomes of the audit, works out a report, draft presentations,

instructions, and information letters that are submitted for consideration to the Collegium of the Accounts Chamber. After being approved by the Collegium, the documents are directed for implementation.

### **The outcomes of the audit measures and recommendations**

In accordance with the working plan of the Accounts Chamber, audit measures in the field of conservation of biological resources of land and water biological diversity are conducted on a regular basis.

When conducting audit measures, the efficiency of target-oriented and rational use of federal budget funds is checked that are allocated for the protection and reproduction of forest resources, organization and management of sanctuaries and national parks, and protection of forests from fire. The terms of communicating by the Ministry of Natural Resources of the Russian Federation of notifications on budgetary appropriations and limits of budgetary obligations to subordinate spending and receiving authorities for the funds of the federal budget are also checked.

Typical disadvantages in the field of conservation and reproduction of forest resources revealed in the course of audits:

- Volumes of fieldwork in the area of the forest reserves of the Russian Federation in accordance with the plan and state contract are not executed;
- The federal budget funds allocated are not used in full;
- Cases of application of the budgetary funds other than target-oriented;
- Legislation is violated when transferring forest lands to non-forest ones and in case of withdrawal of forest reserve lands;
- Expenses for financing reforestation and forest conservancy measures exceed the revenues gained from the use of the forest resources;
- Damage is growing inflicted by forest fires and illegal felling;
- Violation of the terms of communicating notifications of budgetary appropriations to the receivers;

At the same time, in the course of audits in experimental forest sectors, it was found out that the complex forestry works concerning the conservation and reproduction of forest biological resources executed at experimental sites are standards for conducting all silvicultural and forestry measures, a base for introducing new methods of forest growing. The analysis of the activity of experimental sectors confirms the high efficiency of the expenses made to ensure continuous reproduction of forest resources thanks to economically valuable species, the high ecological and recreational potential of the forest reserves, absence of forest fires and, accordingly, damage that could be inflicted by them. It is to be remembered that despite under-financing, Russian sanctuaries have entered the international arena and gained wide recognition all around the world, and have won a moral, financial and material support of foreign organizations.

An important trend in the work of the Accounts Chamber is audit of the reproduction and reservation of water biological resources.

In 2004, in parallel with the Accounts Chamber of the Republic of Azerbaijan, an audit of the use of property and financial resources was conducted that were allocated in 2002-2003 for the reproduction and conservation of the Acipenseridae of the Caspian Basin. The Caspian Basin is the richest water body in terms of the stocks of the Acipenseridae both in species composition and in number and cropping.

Before the start of the audit measure, a meeting with the representatives of the Accounts Chamber of the Republic of Azerbaijan was conducted to organize the audit, and a joint program was approved. The audit was conducted at 8 enterprises and organizations using 66.5% of the state property and 63% of the federal budget funds allocated in 2002-2003 for the reproduction of the Acipenseridae of the Caspian Basin.

More than 70% of the Acipenseridae are caught in the Caspian Basin. Acipenseridae fishery is implemented only in the rivers of Volga, Ural and Kura. Due to the hydraulic engineering works in the basin rivers, the Acipenseridae lost 80% of their spawning grounds in the Volga, as well as in the Kura, Terek. Their natural spawning in Iranian rivers was almost fully stopped. The construction of sturgeon fish hatcheries at the Volga, in the republic of Dagestan and in the Republic of Azerbaijan allowed conserve the stock and yields of valuable commercial fishes. Thanks to hatchery young fish, the stock of huso, about 60% of sturgeon and 40% of starred sturgeon is almost fully formed.

In spite of the state support of the works aimed at artificial reproduction of the Acipenseridae, the production capacity of sturgeons of hatcheries were used in 2000 to the extent of 54.7%, 75.5% in 2001, 89.1% in 2002, and only 62.3% in 2003. The sturgeon hatcheries used the pond areas to 81% in 2001-2002, and to 68.6% in 2003. In the recent 10 years, the average annual rate of release of young sturgeons to the sea by all the hatcheries of Caspian states was about 85 million items, among them, 64.5% by the Russian Federation, 20% by Iran, 11.4% by Azerbaijan and 4.1% by Kazakhstan. At the same time, the food resources of the Caspian Basin allows to bring the release of young fish to 150 million items.

One of the most complicated issues in the field of conservation of water biological resources of the Caspian basin is still the issue of protection of the Acipenseridae. In the internal market, the volume of poaching products of the Acipenseridae species exceeds their legal yield. Four administrations are responsible for fight against poaching – the Fishery Administration, border Service, ministry of internal affairs and ministry of natural resources. However, the dispersed effort of those administrations for the conservation of water biological resources bring little results.

The consequence of the disadvantages in the reproduction and protection of the Acipenseridae is a sharp reduction in their number, which impacts on the total allowable catches in the Caspian Sea.

Thus, the stock of the Acipenseridae in the Caspian basin has more than 4 times reduced in the recent 10 years. It was 2015 tons in 1995, and 453 tons in 2004. In the recent 15 years, starred sturgeon catches reduced 35.6 times, huso – 35.4 times and sturgeon – 58.4 times.

The final documents note that the resources of the Caspian Sea are used by five sovereign states (Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan), and there hasn't been any



unified document (agreement) on the conservation of the biological resources of the Caspian Sea and their management even up to the present moment.

The Collegium of the Accounts Chamber, in cooperation with the representatives of the Accounts Chamber of the Republic of Azerbaijan, has considered the outcomes of the audit.

Basing on the outcomes of that and other audit measures, the Accounts Chamber has made a proposal to take immediate measures at the federal and interstate level.

Such audits concerning the conservation of biological diversity were conducted in cooperation with audit institutions of the Republic of Korea and Japan in the Far-Eastern Fishing Area, and the fishery organizations of the Baltic and Northern Fishing Basins were audited with the audit institutions of the subjects of Russia.

### **The outcomes of the audit**

When speaking on the outcomes of the audit, it is to be noted that the main reasons for the faults in the field of biological nature management are the imperfections of the economic mechanism and the legislative base, under-financing, as well as the lack of a single functional system of managing biological natural resources.

As compared to the early 1990s, the volume of felling, harvesting of fish and other water biological resources has almost two times reduced, and the production of products from fresh water aquiculture, has more than three times reduced. The Water supply and water development facilities are highly worn-out. Within the fishing industry, the conditions of reproduction of water biological resources have become worse. The purchase of products of hunting other kinds of forest industry has been cut. The resources of hunting animals and the number of many species of animals and birds are reducing.

The main problems that, in our view, require being solved basing on the outcomes of audit in the field of the reproduction and conservation of forest resources, resources of the plant and animal world and fishery resources are the following:

- to improve the regulatory and legal framework;
- to establish efficient economic mechanisms;
- to ensure the reproduction, rational use and protection of biological resources;
- complex use of biological resources;
- to establish efficient instruments of control of diseases, poaching, extirpation of valuable and declining species of biological resources of the vegetable and animal world;
- forest fire control;
- to develop coastal fishing, aquiculture and large-scale resources development in the Russian seas and the World ocean;
- to carry out specialized scientific research and monitoring;

It is to be noted that all the proposals and recommendations submitted to the organizations, ministries, administrations, the Government, and legislative and representative regulatory bodies under audit are considered within the terms set by the legislation. Written answers are sent to the Accounts Chamber describing the measures taken. The outcomes of audits are considered by committees and Work Groups established for interaction with the Accounts Chamber at the Soviet of the Federation and the State Duma on a regular basis with engagement of representatives of the interested parties.

In the course of control, the Accounts Chamber systematically considers the process of implementation of presentations and instructions.

The problems of conservation of biological diversity are long-term and high-priority ones, they are included in the system of social and economic development of the country and will constantly be within the vision of the Accounts Chamber of the Russian Federation.

## **Audit of the Forest Resources Management Efficiency in the Carpathian Region of Ukraine (Ukraine)**

**Theme:** Auditing Biological Diversity

**Author:** Mariya Shulezhko

### **Audit background:**

- existence of problems in forests preservation and management dangerous for their negative impacts on the society;
- uncontrol by logging and violations of logging techniques by temporary users had a negative impact on the environment;
- along with natural character of floods initiation, scientists note some negative human interference into the forest fund on the deforestation stage that can facilitate accident consequences of these effects and impose extra budget expenditures.

### **Audit type:**

Performance audit.

### **Audit planning:**

Ukrainian forests perform mainly ecologic functions particularly water-protective, safety, recreational ones and have restricted operational meaning. One notes a high productivity level of the Carpathian forests that attracts an interest to a timber industry.

Group I forests performing water-protective, water-regulating and soil-protective meaning in the Carpathian Mts takes 45 percent of area. It proves importance of the Carpathian region within Ukraine's forest fund structure, as well as impact of forestry management in this region on climatic and ecologic conditions not only in the Carpathian Mts but also in the whole Ukraine.

National problem implies revival, development and provision of woodworking industry with timber since sales of only roundwood timber after its rough conversion leads to a region transformation into a raw materials-producing appendage. Excessive deforestations in after-war period caused increase of young forests number.

### **Audit objectives:**

Audit objective was to determine whether forestry management especially on deforestation stage is performed in such a way as to provide ecologically balanced forest utilization in this region. (Achieving maximum effect from mature deforestation and considering its ecologic impact at the same time).

### **Audit subjects:**

- forestry management procedure in Ukraine;

- State Budget funds utilization for the forestry management and funds trends;
- legislative acts, state and regional programs for the forestry management, as well as regulations and other administrative documents connected with the participants' activity while managing forestry.

### **Instruments:**

Basic Ukraine's Law on forests and forestry management is the Forestry Code of Ukraine. Legal aspects of forestry production and utilization of the forestry fund are stipulated by the Land Code of Ukraine. Ukraine's Law "On environment protection" regulates relevant procedures regarding forest conservation and reforestation.

### **Methods:**

- analysis of legal and statutory acts;
- analysis of auditee accounting;
- check and inspection;
- study of statistical data;
- comparison;
- questioning.

### **Audit objects:**

specially authorized public forestry body, its territorial offices, regional state administrations.

### **Audit findings:**

1. According to the Forestry Code permanent forest explorers are empowered with forestry management, forests protection and reforestation. A forest guard provides forests protection. Economic stimulation of forest explorers to follow requirements regarding forests protection, rational utilization and reforestation is performed at the expense of the State Budget.
2. State Budget financing of national, regional and local programs for the forestry management is made by means of purposefully fund allocation via public forestry bodies.
3. Current planning and financing order of the actions for the forest resources protection and reforestation doesn't provide economical and rational budget funds utilization allocated for mentioned actions implementation. This happens because of imperfect legal acts. Also current planning and financing order doesn't provide fund transparency that makes it impossible to control over implementation of the State Budget expenditures.

4. Forests are of the state ownership. Expenditures for their growing (seeds collection, growing seeding, timber transplanting, fight against pests, fire protection etc) are carried out by the State in the form of the State Budget financing and means allocation from forestry economic activity. By this process forests are factually given to the commercial structures, i.e. creating prerequisites for their surplus profit obtaining.
5. Every year there exists a growing number of voluntary deforestation without lawbreakers being identified. It leads to a mass timber stealing and doesn't give a chance to call the particular persons to material, administrative and criminal responsibilities.
6. Insufficiency and inefficiency of the control from specially authorized public forestry bodies over forests state and their preservation that are under these bodies' management.
7. There is absent an effective system of intergovernmental control causing serious violations and loses from the State Budget.

**Revealed negative impact factors on the audit subject:**

**1. Factors of legal character:**

- unsettlement of the ownership issue regarding forest fund lands, absence of the mechanism for lands segregation according to the ownership forms and their transformation from one form into another;
- issues unsettlement of the State Budget financing and fund utilization allocated for forests protection and deforestation;
- unsettlement of the issues connected with requirements to temporary forestry explorers and their responsibility in case of rules and standards violations.

**2. Factors of organizational-and-management character:**

- restriction of powers and functions of the specially authorized public body regarding management, organization and coordination of the other permanent forest explorers' actions regarding the forestry management;
- interference of regional state administrations into an economic activity of the forestry enterprises;
- imperfection of the mechanism for distributing a wood-cutting fund, access of numerous economic agents, who are not permanent forest explorers and don't have appropriate logging techniques, to logging via mature deforestation;
- absence of appropriate powers in the state forest guard;
- existence of a spontaneous timber market.

### **3. Factors of economic-and-social character:**

- nonprovision of all actions financing from the State Budget stipulated by the National Program “Forests of Ukraine”;
- inconsistency between charge level for special forest exploitation and actual prices on round-wood and factual expenses for timber growing;
- lose of opportunity by public forestry enterprises to obtain extra profits from providing temporary explorers with cutting area for mature deforestation;
- absence of privileged crediting and insurance fund of the forests;
- a tax system doesn't provide privileges to the enterprises dealing with forestation;
- absence of the program for creating additional working places and social guarantees for the employees engaged in the forestry.

#### **Revealed effects:**

##### **Ecological-and-forest:**

- productivity decrease of the Carpathian forests;
- woodlands degradation of the former collective agricultural enterprises;
- lose of protective functions by forest belts.

##### **Economic:**

- State expenditures increase for forest growing and profit flow-out received from mature deforestation into the private sector;
- increase of financial load on the State Budget.

##### **Social:**

- sharpening of an employment problem;
- decrease of life duration in mountainous area.

#### **Conclusions:**

1. Existent system of the Carpathian forest resources management is imperfect and needs revision (lack of unified forest policy, 1/3 of forestry actions amounting to 30 million hryvnia is not carried out). Such a situation leads to the forest productivity loss and facilitates problem sharpening since it imposes their solution on a future generation.

2. One doesn't provide implementation of the National Program "Forests of Ukraine", as well as an efficient, rational and ecologically balanced utilization of the Carpathian forest resources.
3. There is absent an efficient institutional management structure in the system of the Carpathian forestry.
4. Legal provision of the issues of forest relations is imperfect. Private owner's liabilities regarding reforestation, their care and protection are not determined. There is absent the mechanism of a state control over compliance with forest and environment protection legislation by forest explorers of all ownership forms.
5. There is not performed a state control over forestry utilization and in the field of the forestry activity.
6. There exists an imperfect charge mechanism for special exploration of the forest resources. It is very unprofitable for the state since the charge level doesn't correspond to the actual value of this resource.
7. The question of forest products pricing is not regulated on the state level and forest market is spontaneous.

### **Recommendations:**

The Government was recommended to eliminate revealed violations and proposed to consider the necessity of:

- comprehensive forestry management (forest planting, care, protection and mature deforestation);
- sales of procured timber at the state auction;
- creating a state fund-in-trust of the forestry management;
- establishing external ecologic control and full responsibility of the state forestry on its management.

# **AUDITING CLIMATE CHANGE**

## **Audit of the Administrative Efficiency and Effectiveness of programs designed to reduce Greenhouse Gasses (Australia)**

**Theme:** Auditing Climate Change

**Author:** David Crossley

### **Performance Audit The Administration of Major Programs Australian Greenhouse Office**

In 1997, and subsequently in 1999, the Government introduced two major spending packages with a value of almost AUD\$1 billion.

These packages were designed to address the challenges posed by the issue of climate change and to meet Australia's domestic and international climate change commitments.

#### **Audit objective and scope**

- The AGO has been responsible since 1998 for the implementation of these two major packages.
- To examine and report in the administrative efficiency and effectiveness of significant programs administered through the AGO.

#### **Discussion**

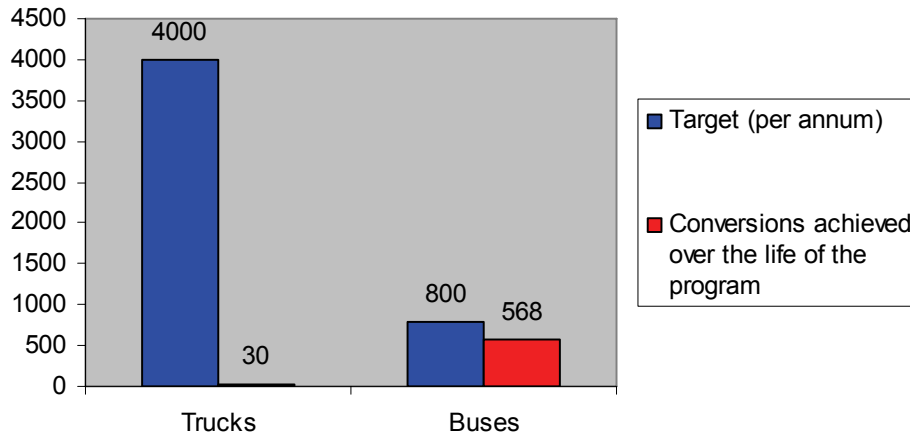
- Planning is the cornerstone of an economic, efficient, and effective program.
- There are significant technical challenges in implementing programs designed to address greenhouse gas abatement and/or support renewable energy technologies.
  - Uncertainty as to whether a new technology or approach will actually achieve program objectives
  - Long lead times for result

#### **Case Study**

##### **Alternative Fuels Conversion Program**

- Lack of commercial viability for trucks operating with compressed natural gas in Australia due to absence of refuelling infrastructure.
- Low demand for program funds.





### Discussion

- In relation to grant programs, an essential criterion is that assistance provided by the Government will add value by achieving something worthwhile that would not occur without grant assistance.
- The need for rigorous appraisal mechanisms (guided by standard templates that are explicitly linked to program objectives and criteria).

### Audit recommendation

- In order to improve the rigour and transparency of the appraisal and selection process, the ANAO recommended that the AGO seek Ministerial approval to apply, where appropriate, across competitive programs:
  - a) an order of merit rating scheme; and
  - b) recommendations on selection that highlight projects that are most likely to achieve program objectives.

### Discussion

- ANAO considers that formal agreements are a key component in the effective management of grants.
- Agreements should be supported by controls that link payments to identified milestones and which include adequate monitoring of payments and performance.

- It is crucial that there is adequate follow-up to determine whether projects and programs are on track and that there is early warning of emerging risks (if any) to the achievement of specified objectives.

### **Audit findings**

- That the AGO has a consistent and rigorous approach to managing funding assistance through formal agreements with grant recipients.
- These agreements reflect input from legal advisers, and provide a rigorous mechanism for managing ongoing risks.

### **Discussion**

- Periodic evaluation of programs is recognised as good practice to demonstrate that value for money has been obtained and as a source of any lessons learned.
- Results of evaluations, in conjunction with information on the actual performance of agencies, forecasts of future needs, and lessons learned, should be included in annual reports.
- This is important as annual reports are the primary accountability document from the agency to the Parliament.

### **Audit findings**

- The ANAO found that the AGO has implemented good practice in demonstrating a strong and consistent focus on evaluation across all programs. While noting the sensitivities involved, there is the opportunity to better inform stakeholders of the findings of evaluations.
- There is also scope to use the findings of evaluations to shape the direction of the Australian Government's Climate Change Forward Strategy that aims to position Australia's climate change response within a 20–30 year timeframe.

### **Audit recommendation**

- In order to enhance public reporting through the use of performance information to improve the quality and consistency of reports, the ANAO recommended that AGO annual reports include:
  - a) consistent reporting against performance targets for programs;
  - b) analysis of significant trends and changes over time; and
  - c) analysis of identified challenges, risks and priorities.

## **AGO Response to audit**

- Alternative Fuels Conversion Program—Redesign of the program
- Greenhouse Gas Abatement Program—AGO recognition of the inability of future projects delivering greenhouse gas reductions in the Kyoto period of 2008-12.

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## **Performance Audits on Climate Change in Canada (Canada)**

**Theme:** Auditing Climate Change

**Author:** Bob Pelland

This paper describes the work of Canada's Commissioner of the Environment and Sustainable Development (CESD) in its

- initial performance audit on climate change—Responding to Climate Change—Time to Rethink Canada's Implementation Strategy, 1998 Report of the CESD, Chapter 3; and
- its follow-up audit—Climate Change and Energy Efficiency: A Progress Report, 2001 Report of the CESD, Chapter 6.

It also outlines the work for the CESD's 2006 report; the central theme of its four audits will be climate change.

### **Background**

Climate change is perhaps the most daunting of a new generation of environmental problems that are testing governments around the world. It is a long-term problem that is inherently international in scope. Complex models, based on a variety of assumptions, are used to predict the future climate—and the resulting environmental and economic impacts—all of which involve some degree of uncertainty.

To a large extent, climate change involves questions about how energy is produced and consumed. Canada is an energy-exporting country, with an economy that is heavily dependent on fossil fuel consumption. So, its response to climate change raises questions that go to the heart of how Canadians live and make their living. The economics and the complexities and uncertainties of climate change science, lead to vigorous debates on how Canada should respond to the threat of climate change.

Despite the scientific and economic uncertainties, almost all participants in the climate change debate accept that there are risks to be managed. In a federation such as Canada, the federal government cannot unilaterally respond fully to the risks and challenges of climate change. All levels of government need to co-operate, with strong support from industry, non-governmental organizations, and individual Canadians.

### **Audit Planning**

Our 1998 audit examined Canada's domestic policy commitment and the National Action Program on Climate Change (NAPCC), which set out strategic directions for Canada's stabilization goal. Given the domestic and federal focus of our audit, our work involved mainly the federal environment and energy departments, Environment Canada and Natural Resources Canada (NRCan), although we recognize that climate change concerns all federal departments, agencies, and other federal entities.

In 1998, our audit objective was to assess the adequacy of the federal government's management of Canada's domestic policy commitment on climate change, that is, to stabilize

greenhouse gas emissions at 1990 levels by the year 2000 (commonly referred to as Canada's stabilization goal). We

- determined whether accountability arrangements exist;
- determined whether the roles and responsibilities of all NAPCC parties had been clearly identified, understood, and agreed to;
- assessed the adequacy of federal efforts to implement and monitor the strategic direction of the NAPCC;
- assessed reporting to Parliament on climate change; and
- assessed the adequacy of federal activities in developing a national public awareness and education program for climate change, as prescribed by the NAPCC.

Our 2001 follow-up audit objective was to determine whether the federal government had made substantial progress on rethinking its climate change implementation strategy.

Our 2006 Report containing four audits on climate change will examine

- federal management of climate change;
- the impacts of climate change on Canada and Canadians;
- measures being taken to adapt to significant impacts, and
- selected federal government programs for reducing greenhouse gas emissions, during energy production and consumption.

## **Methodology**

During the planning phase of our 1998 climate change audit, we held a climate change symposium, attended by about 50 people, to help the Office gain a basic understanding of climate change issues. We also interviewed over 70 stakeholders across Canada, representing a broad range of interests and many differing viewpoints, for their perspectives on climate change and their views on the federal government's role in addressing it. As a result of this and of other audit work, a number of potential climate change issues were identified, not all of which could be dealt with in this first audit.

In carrying out our audit, we followed standard performance audit methods, which included reviewing departmental files and other documentation, analyzing data, making enquiries, and interviewing appropriate departmental officials and other key stakeholders.

## **Findings and recommendations**

Overall, we found that the federal government had not applied sound management principles to implement Canada's domestic policy commitment on climate change. For example, the roles of the federal, provincial and territorial governments and other players in responding to climate change were poorly defined or not defined at all. A key component, a national public awareness program, had not been delivered. There was no implementation plan, limited

provision for regular, results-based monitoring of progress, and no consolidated summary-level reporting to Parliament.

The failure to translate policy direction into effective action resulted in an implementation gap and in Canada's performance falling far short of its long-standing domestic policy commitment. The federal government's leadership role on climate change was not clearly defined, and appeared to be mainly passive. We felt that the federal government's failure to meet Canada's climate change commitments was mainly the result of poor planning and ineffective management. We suggested that it was time to rethink Canada's implementation strategy.

We stated that, in our opinion, for Canada to meet its climate change commitments, strong federal leadership is required to build upon the strategic direction of the NAPCC. The federal government has a responsibility to lead the nation in developing a realistic, broad-based, and cost-effective response to climate change that minimizes negative impact and maximizes positive impact on Canada's economy and international competitiveness.

We made a number of recommendations in our 1998 chapter based on our examination of Canada's attempts to reach its stabilization goal. We indicated that these recommendations are relevant to new climate change commitments that Canada may set and can serve as lessons learned. The recommendations dealt with the need to meet Canada's climate change commitments by

- clarifying federal roles and responsibilities;
- developing an effective management structure to ensure a co-ordinated effort, with clear accountability reporting that spells out respective authorities and responsibilities for actions, as well as for results achieved;
- setting up a partnering arrangement between the federal and provincial/territorial governments on roles, responsibilities, and contributions;
- developing and implementing a national public awareness and education program;
- understanding the costs and benefits of inaction, and possible measures to address issues;
- developing a federal portfolio of measures;
- agreeing on a national portfolio of measures;
- developing a formal, results-based implementation plan with performance expectations; and
- enhancing reporting to Parliament through a consolidated, summary-level report on a periodic basis.

## **Impacts and Results**

In our 2001 follow-up audit, we found that the federal government had made some important progress in rethinking its implementation strategy on climate change, and in changing its

management structure for dealing with climate change, by establishing a national climate change process. It had increased funding to address climate change and had launched the Government of Canada Action Plan 2000 on Climate Change, which was intended to take Canada a third of the way toward its Kyoto target, a commitment to reduce its emissions of certain greenhouse gases to six percent below 1990 levels from 2008–12.

Despite the progress made, we felt that the federal government still needed to do a great deal of work to engage partners to take action on climate change. In our 1998 audit, we noted that total Canadian greenhouse gas emissions in 1995 (the most recent year for which data was available) were about nine percent higher than in 1990. During our follow-up audit, federal officials informed us that total emissions of all greenhouse gases in 1999 (the most recent year for which data was available) were 15 percent above 1990 levels.

The Government of Canada has adopted or announced several new domestic and other measures to address climate change and other air issues and to promote energy efficiency in Canada.

- In November 2002, the Government of Canada issued its Climate Change Plan for Canada, which was intended to bring Canada three quarters of the way to its Kyoto target.
- In April 2005, it launched its Project Green—Moving Forward on Climate Change: A Plan for Honouring our Kyoto Commitment, which reported that Canada's emissions in 2003 were about 24 percent above 1990 levels.
- Since 1998, the Government of Canada has committed over \$5 billion in supplemental funding for climate change.

Project Green recognizes that additional investments would be required that could bring the total federal investment to nearly \$10 billion through 2012.

### **Challenges Faced in the Audit**

Under the *Constitution Act* of 1867, there is no explicit mention of the environment in the division of powers between the federal and provincial governments, although each level of government has powers that impact the environment. As a result, jurisdiction in environmental matters and responsibility for taking action and developing public policies to address climate change are shared. For example,

- the federal government has jurisdiction over air pollution that crosses international boundaries;
- the provinces have jurisdiction over their natural resources, including energy production and use and local emissions; and
- municipal governments have important policy instruments for the governance of the local infrastructure, including urban planning, transportation, and building codes.

As federal legislative auditors, it was important to keep these diverse mandates in mind to avoid crossing the line into non-federal jurisdiction.

Another challenge was trying to understand the federal roles and responsibilities for dealing with climate change. Two federal departments—Environment Canada and NRCan—shared responsibility for championing or leading Canada's response to climate change. However, when we reviewed departmental documents, submitted to Parliament by Environment Canada and NRCan, we found that they did not make clear their leadership role and responsibilities for implementing the NAPCC. These two departments have limited authority and capability to ensure that action is taken by other federal entities, other jurisdictions, industry, non-governmental organizations, or individuals. Significant audit effort was required to establish that the federal government had failed to devise acceptable means to be held accountable for its leadership in climate change and its participation in the NAPCC.

## **Lessons Learned**

A key success factor was our interviews with over 70 stakeholders which enabled us to choose excellent advisors, to gain credibility, and to understand the issues. Before meeting most of the stakeholders, we did our homework by reviewing documents and talking to the departmental officials, so we were able to ask intelligent questions. One well-informed interviewee stated that we were the most knowledgeable civil servants he had ever talked to about climate change.

Because climate change is complex, new, and risky, with many facets and different stakeholder positions, the symposium was invaluable to bring all advisors (both internal and external) up-to-speed quickly and gain senior management support/buy-in for the audit. The departments appreciated the effort we demonstrated publicly to understand all the angles. As a result, we gained additional credibility at the early stages of the audit.

We also learned a lesson in that we cannot address all issues in the one audit. So limiting the audit to management issues was key, even though our advisors wanted management of the science and adaptation to be addressed, and a Member of Parliament wanted us to look at whether there was a level playing field between renewable energy and non-renewable energy. The level playing field issue was addressed in a subsequent study conducted by our Office—2000 Report of the CESD, Chapter 3, Government Support for Energy Investments—and adaptation issues are being examined in the 2006 CESD Report.

Even though the central theme of the CESD's 2006 Report and its four audits will be climate change, this last lesson still applies. Due to time and resource constraints, we will scope out all federal activities related to supporting other, primarily developing, countries in their impact and adaptation activities. We have also excluded federal house-in-order issues such as those related to assessing the impact of climate change on federal government buildings and other infrastructure and possible adaptation measures. In addition, we excluded climate change impacts and adaptation on the international front such as on foreign policy and tourism.



## **Exploitation of Peat Resources (Estonia)**

**Theme: Auditing Climate Change**

**Author: Estonia**

### **Summary**

The State Audit Office (hereinafter SAO) audited the activities of the State in planning the use of peat resources and managing their extraction. The objective was to assess whether the State ensures a sustainable use of peat reserves. The use of peat reserves is coordinated by the Ministry of Environment. Today, according to the extraction permits issued by the Ministry, peat can be extracted in an area of 19,500 ha.

Peatlands are an important reservoir of clean water and an indispensable living environment for many species of flora and fauna. Peat extraction in and the draining of areas result in the disappearance of natural life in peatlands and the change of the water regime in the surroundings.

Peat is the second most important strategic energy source in Estonia after oilshale. The highly decomposed peat deposited in the lowest layers of a peatland can be used for heating and the production of electricity. In recent years, the extraction of low- decomposed peat from the upper layers of a peatland, which is used in horticulture, has been more dominant. Estonia holds the 3rd to 4th place in the world's export of horticultural peat.

In the course of the audit a questionnaire was sent to the county environmental departments in order to analyse the organisation of the environmental impact assessment of peat extraction and the rehabilitation of harvested areas. The peat extraction permits issued in five counties, -viz. Ida-Viru, Jõgeva, Pärnu, Saare and Tartu, - were examined more closely. Experts were asked for an opinion about the arrangement of environmental impact assessment and taxation of the mineral right.

### **Essential findings**

#### **The use of peat reserves has not been organised in a sustainable way**

Enacted by the Government the annual rate of use of peat resources is 2,780,000 tons. According to the research made by the Institute of Ecology of Tallinn University in March 2005, all natural peatlands together generate only 400,000 to 500,000 tons of peat annually. Comparing these preliminary estimates of the scientists with the Government-permitted rate of use, it appears that the rate of use of peat exceeds its annual increment more than five times. Although the actual extraction rate of peat, due to the existing weather conditions has been lower than the permitted rate, it has still exceeded the increment two or three times.

So far the Government has treated peat as a renewable natural resource, whose use , according to the principles of sustainable development, must not increase increment. As the extraction volumes of peat exceed the increment, the use of peat reserves is not sustainable. At the same time, peat has to be treated as a non-renewable energy source pursuant to the Directive of the European Parliament and of the Council on the Promotion of Electricity Produced from Renewable Energy Sources in the Internal Electricity Market (2001/77/EC),

and the Long-term Public Fuel and Energy Sector Development Plan approved by the Estonian Parliament. The treatment of peat as a non-renewable resource assumes a decision to be taken on how long peat deposits suitable for extraction should last. Such a decision has neither been taken nor has the purpose of the limited reserve been assessed. Despite of the decision whether to consider peat as a renewable or non-renewable natural resource, the State has to review the estimates of scientists and the permitted rates of use, to further research where appropriate, and decide whether and with which intensity peat resources may be used in the future.

The taxation of the mineral right is one of the possibilities to regulate the use of natural resources. The existing rates of charge for the mineral right are established without having investigated the impact of taxation on the environment, economy and social sphere. The State uses the charge for the mineral right as a tool neither for regulating the extraction volumes nor for directing extraction activities to certain regions.

### **Insufficient attention has been paid on the environmental impact assessment when granting peat extraction permits**

Peat extraction causes an irreversible damage to the environment. Thus, it is necessary to assess the environmental impact of the planned activities before the decision on issuing an extraction permit and a permit for a special use of water is taken. In Estonia, the requirement for the environmental impact assessment has been in force since 1 January 2001.

The environmental impact assessment of the planned extraction activities is obligatory when the surface of the harvesting area exceeds 150 ha, but as the audit established this requirement has not always been satisfied. In case of an area smaller than 150 ha, the Ministry of Environment and the county environmental departments had to decide each time on the need for the environmental impact assessment. Until today environmental impact assessment has never been required in case of an area smaller than 150 ha.

The SAO is of the opinion that the limit of 150 ha is not reasoned with respect to the environmental impact assessment requirement, because the draining of a peat quarry, no matter how small, always influences the environment and water regime of a larger area. Without carrying out the environmental impact assessment the extraction in valuable natural sites is not avoided. In the process of environmental impact assessment the opinion of local inhabitants about the planned extraction activities will also become clearer. In case the extraction permit will still be issued, more concrete measures can be taken on the basis of the results of environmental impact assessment in order to reduce the impact of extraction on the environment.

Regardless of the size of the production area every peat company should have a permit for a special use of water in addition to the extraction permit. The permit for the special use of water establishes more exact conditions for the draining of a peatland and the directing of the drainage water into natural watercourses. The permit also lays down requirements for monitoring the quality of the drainage water.

The audit showed that only a few peat production companies possessed a permit for the special use of water. If the drainable area is bigger than 100 ha, the environmental impact assessment has to be carried out in the process of issuing permits for the special use of water as well. Until today this requirement has been followed only in 50% of cases.

## **Extraction permits do not lay down requirements for ensuring environmental safety**

As the impact of peat extraction is significant, it is important that specific environmental requirements are conditioned in the extraction permits. The audit established that in most permits issued in the five counties examined neither environmental conditions nor the purpose of the further use of land damaged as a result of extraction have been laid down. As in most cases the environmental impact assessment had not been carried out before issuing the permits, peat companies had been set no requirements for reducing the environmental impact of extraction or monitoring it.

## **Degraded peatlands not rehabilitated**

In Estonia, there are approximately 8,000 to 15,000 ha of abandoned areas that were earlier used for peat extraction, but which were not rehabilitated after harvesting. In general, peat moss does not begin to grow spontaneously in drained and extracted areas and therefore no increment of peat takes place there. The degraded peatlands are a source of permanent environmental pollution and represent a great fire risk. Most of the abandoned harvesting areas are owned by the State. Although the landowner must rehabilitate the abandoned areas, the State does not have an overview of the residual supply of peat in these areas and of environmental impact - whether these areas have to be re-extracted or rehabilitated. The State has not assigned finances to rehabilitate abandoned areas.

As the abandoned areas have been drained, the remaining peat starts to decompose. During the first 10 years after draining about 15 to 20 tons of peat per ha will be decomposed annually. At the same time, CO<sub>2</sub>, which is a significant factor of global climate warming, will be emitted into the atmosphere. In Estonia, the amount of CO<sub>2</sub> originating from the drained peatlands exceeds, for example, the amount of CO<sub>2</sub> from the traffic approximately nine times.

Upon approving the Long-term Public Fuel and Energy Sector Development Plan the Parliament decided that the draining of new peatlands should be stopped until 2025 and only the peat of already drained harvesting areas should be used until that date. But this position has not been fixed in laws and preparations for taking new peatlands into use have not been stopped.

## **Main proposals to the Minister of Environment**

- To consider the benefits and drawbacks of defining peat as a renewable or non-renewable natural resource. Thereafter to take a clear position on whether to treat peat as a renewable or non-renewable natural resource and, pursuant to the decision made, to initiate necessary amendments to the legal acts. Based on the amendments further reassess the critical and usable reserves of peat and its annual rates of use, and, where appropriate, carry out further scientific research to assess the increment of peat. On the basis of the outcome and the decisions taken, to initiate amendments to the legal acts in order to change the size of reserves and annual rates of use.
- To work out principles of charging for extraction. For this purpose, to conduct a research of the impact of charging for extraction and analyse the expediency of distribution and utilization of income, taking into account other taxes, external costs of

utilization of peat, etc. With reference to the above, to initiate the alteration of the charge for extraction and the distribution of revenue (between the State and local).

- In case of the mechanized extraction of peat, always to demand the environmental impact assessment before issuing a new extraction permit, regardless of the size of the harvesting area. To initiate accordingly amendments to the Environmental Impact Assessment and Environmental Management System Act.
- To require all peat producers the availability of permits for the special use of water as well as a regular monitoring of the quality of drainage water.
- To initiate amendments to the Earth's Crust Act to provide authorities issuing extraction permits with a right to change terms in the permits, i.e. to re-establish the procedure that was in force in the Earth's Crust Act until 31 March 2005. Thereafter to ensure the establishment of environmental requirements and the purpose of rehabilitation of degraded peatlands in all peat extraction permits.
- In order to direct peat extraction to abandoned, non-exhausted production areas, to suspend, until 2025, issuing new extraction permits in case of peatlands and parts of peatlands, which have not been affected by extraction also on the basis of the objectives set up in the Long-term Public Fuel and Energy Sector Development Plan. To initiate necessary amendments to legal acts, including the Earth's Crust Act, in order to attain objectives of the development plan.
- To initiate rehabilitation of these degraded State-owned peatlands whose re-exploitation is not feasible.
- To develop a financing scheme to cover costs of rehabilitation in case a company becomes insolvent, e.g. by establishing a state guarantee fund or a sub-fund under some financial institution or requiring rehabilitation of the deposit from a company before issuing an extraction permit.

## Replies of Ministers

The draft audit report was submitted for reply to the Minister of Environment, as well as to the Minister of Economic Affairs and Communications and to the Minister of Finance for information and for receiving comments concerning their domain.

The Minister of Environment concurred in his reply with most proposals made by the SAO. The Minister promised to initiate amendments to the relevant acts in order to abolish the limit of 150 ha established on the environmental impact assessment requirement, i.e. environmental impact has to be assessed before issuing new permits to extract peat. The Minister informed that it is planned to convert peat reserves in the quarries located in Natura 2000 sites from active reserve to passive. Guidelines for preparing a programme and report on an environmental impact assessment, including environmental impact assessment of peat extraction areas, are under preparation. The Minister also agreed to the proposal to initiate an amendment to the Earth's Crust Act so that the considerable environmental impact resulting from extraction should be a sufficient legal basis for refusal to grant an extraction permit. He also agreed that there is a need to review the extraction permits issued until today because of the need to specify environmental and rehabilitation conditions provided in the permits. Preparations for rehabilitation of abandoned peat harvesting areas have been initiated.

According to the Minister of Environment one of the most essential shortcomings of the audit was that the SAO had based its proposal to change the rate of use of peat on the data about the increment of peat published by the Ecology Institute, Tallinn University, in March 2005. The SAO agrees that the data can not be treated as incontestable, marking at the same time that it is the only work in Estonia which has been completed concerning assessment of increment (accumulation) of peat mass and that the authors' competence in the study of wetlands is generally recognised. At the moment there are no more reliable data available on this field. The SAO finds it necessary to emphasize that if peat is treated as a renewable natural resource, the rate of use established by the State shall be based on data on the increment of peat and not merely on the estimated size of total reserve. In his reply, the Minister of Environment consented to launch supplementary studies to assess the increment of peat and decide on the need to alter the rates and reserves after the outcome of the studies, as well as to harmonize the conditions of extraction permits with new rates.

The Minister of Environment is of the opinion that peat producers need not hold permits for the special use of water to drain bogs and direct the drainage water into watercourses as this does not concern waste water and draining, in general, does not cause the sinking of the ground water level either. The SAO notes that county environmental departments under the Ministry have issued permits for the special use of water already in case of 14 peat harvesting areas (i.e. ca one tenth of all areas) and that it is obligatory to assess environmental impact already today when draining areas bigger than 100 ha. The SAO is of the opinion that these measures have ensured an effective control over water pollution accompanying extraction activities.

The Minister of Environment is of the opinion that the SAO has not provided sufficient arguments why the Ministry should suspend, until 2025, the issue of extraction permits in case of peatlands and parts of peatlands that have not been affected by extraction.

In this connection the SAO considers it necessary to repeat what was stated in the draft audit report that the corresponding decision was taken by the Parliament in the end of 2004 by approving the Long-term Public Fuel and Energy Sector Development Plan. By stopping the issuing of permits concerning peatlands and parts of peatlands, not subject to extraction yet, in order to save peat resource as well as natural wetlands, the extraction will be directed to numerous abandoned areas with reserve not exhausted.

The Minister of Environment was of the opinion that it is reasonable to treat peat as a renewable natural resource and this treatment should not be harmonized with the treatment of peat as a non-renewable energy source. The SAO agrees with the Minister that the decision on defining peat as a renewable or non-renewable natural resource will not be sufficient in order to preserve peat as a natural resource and to ensure its sustainable use. At the same time, the content of other decisions to be taken on planning the utilization of peat will depend on this particular decision. The actuality of this question is demonstrated also by the Minister of Environment by stating that in the perspective of 20-30 years peat is undoubtedly a non-renewable natural resource (as it is treated in other parts of Europe).

The Minister of Economic Affairs and Communications had no supplementary proposals to the draft audit report, however, he emphasized that peat has to be treated as a non-renewable energy source pursuant to the legislation of the European Union. The Minister informed that the taxation issues concerning peat extraction would be discussed in the course of preparation of the ecological tax reform.

The Minister of Finance supported the proposal of the SAO to carry out environmental impact assessment in all cases, including the extraction of peat in areas smaller than 150 ha. In his reply the Minister emphasized the necessity for the re-exploitation or rehabilitation of abandoned harvesting areas. The Minister was of the opinion that no separate financial units need to be established in order to finance the rehabilitation of peat harvesting areas, but instead, the finances of the Earth's Crust sub-programmes of the Environmental Investment Centre should be used. The Minister considered it necessary to increase the charge for extraction considerably in order to cover the administrative costs of the State arising from planning of utilization of peat reserves as well as damages caused to the environment.

## **Climate Change Audits by the Netherlands Court of Audit (Netherlands)**

**Theme:** Auditing Climate Change

**Author:** Netherlands Court of Audit

This document contains the abstracts of three performance audits of the Netherlands Court of Audit. These audits questioned environmental policies regarding climate change measures and renewable energy. Other abstracts of (environmental) audits or full length reports (in dutch) can be downloaded from [www.rekenkamer.nl](http://www.rekenkamer.nl).

### **1 Abatement of greenhouse gases**

Summary, audit published 21 march 2002

The Netherlands Court of Audit conducted an investigation between December 2000 and October 2001 into Dutch policy on the abatement of greenhouse gases over the period 1989-2001.

#### *1.1 Background information*

Since 1990, Dutch greenhouse gases emissions have increased by about 3%. In 2000, 80% consisted of CO<sub>2</sub> and 20% of other greenhouse gases such as methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).

Since the publication of the first National Environmental Policy Plan (NEPP) in 1989, policy to cut greenhouse gases has featured more prominently on the domestic policy agenda. An important element of this policy is energy conservation. In 1990 an overall objective was set of cutting CO<sub>2</sub> emissions by 3% by 2000.

In 1997 an international agreement was signed within the framework of the 1992 Climate Convention: the Kyoto Protocol. As a result of this and other developments, a commitment was included in the coalition agreement of the second Kok government that greenhouse gas emissions would be reduced by 6% relative to the 1990 level by 2008-2012. Half of this reduction would be achieved in the Netherlands and the other half in other countries. It was agreed within the EU that member states would be allowed to achieve up to 50% of their reduction through flexible instruments in other countries.

#### *1.2 The audit*

The Court of Audit has considered whether the objectives of greenhouse gas policy were well-defined and verifiable, and whether there is sufficient good-quality information on the preparation and implementation of policy, on implementation performance and the effects of policy, and on how policy was coordinated.

The investigation was carried out by reference to the main socio-economic sectors affected by the policy: industry, energy, transport, agriculture and households. A number of policy measures in each sector were analysed. The general fiscal instruments used to implement climate policy were also examined. The investigation considered all policy for the period up until the Dutch commitment under the Kyoto Protocol (1997) had been worked out, and the domestic part only since then.

The ministries involved in the policy to abate domestic greenhouse gas emissions are those of Housing, Spatial Planning and the Environment (VROM), Economic Affairs (EZ), Transport, Public Works and Water Management (V&W), Agriculture, Nature Management and Fisheries (LNV) and Finance. The Ministry of Foreign Affairs (BuiZa) is involved in the implementation of measures to abate greenhouse gases in other countries. Implementation organisations such as Novem and Senter were also involved in the Court of Audit investigation.

Concurrently with this investigation the Court of Audit began its own analysis, in association with the Agricultural Economics Institute, of the effectiveness of energy conservation policy in the glasshouse horticulture sector. This study will be published in due course.

### *1.3 Formulation of objectives*

As the issue of greenhouse gas reduction has taken on a higher political profile, its objectives have become less precise. Since 1995 the overall objective has no longer been clearly disaggregated sectorally. Since 1999 there have no longer been sectoral objectives for greenhouse gas reduction for which the Ministers concerned (EZ, LNV and V&W) can be held accountable, and the emphasis has been on objectives for (relative) energy efficiency. The objectives have since been weakened. The domestic objective for 2000 was to achieve a 3% cut in domestic CO<sub>2</sub> emissions relative to 1990. The new national objective for 2008-2012 relates to all greenhouse gases together, and half the target reduction may be implemented in other countries.

Furthermore, the objectives for the measures studied are not always well formulated. The objectives for the energy, transport, agriculture and household sectors are generally better formulated (SMART: specific, measurable, attainable, relevant, time-related) than those for the industry sector or for the cross-sectoral fiscal instruments.

### *1.4 Policy preparation*

The preparation of greenhouse gas abatement policy has exhibited weaknesses across the board. The relevant policy documents are insufficiently underpinned with problem analyses, ex ante evaluations and cost-effectiveness analyses for the different sectors, etc. And many policy measures have little by way of supporting analysis. The few analyses carried out for the industry and transport sectors are of poorer quality than for the other sectors.

### *1.5 Policy implementation*

Implementation of the measures to reduce domestic greenhouse gas emissions is behind schedule. Consider, for example the ambitious CO<sub>2</sub> reduction plan: of the €425 million earmarked for this policy from 1997, only €197.3 million had been committed by mid-2001, and only €21 million had actually been disbursed.

The information on implementation is adequate at all levels, and is of reasonable quality.

### *1.6 Implementation performance and effects*

The objective for 2000 of a 3% cut in CO<sub>2</sub> emissions relative to 1990 was not achieved. In fact these emissions rose by 8%. The main sectoral objective was only met by the industry sector. The feasibility of the domestic emissions objective for 2008-2012 is regarded by the Court of Audit as uncertain. Within the overall objective, the individual objectives for the industry and agriculture sectors may well be feasible. There is relatively little information about the implementation performance and effects of policy in the agriculture and household sectors. Of



the information available, that for the energy, transport and agriculture sectors is of good quality.

### *1.7 Main conclusions*

In September 2001 the National Institute of Public Health and the Environment (RIVM) published its Milieubalans 2001. This showed that CO<sub>2</sub> emissions were 8% higher in 2000 than in 1990. The Netherlands therefore failed to meet its objective of cutting emissions by 3% over this period. The Court of Audit investigation shows that on the basis of present policy it is not certain that the objective for domestic emissions for the period 2008-2012 will be met either. Present policy is characterised by a lack of coherence and deficiencies in policy preparation. Measures are also being taken which are not properly enforceable and which lack sanctions, and from which large-scale energy users are partly spared. The Minister of VROM, responsible for coordinating policy, has few instruments or powers to impose emission reduction measures on other ministries.

Policy also depends on external factors such as economic growth, international energy prices and other policy such as the liberalisation of energy markets. This can create uncertainty for industry, which may diminish investment in energy conservation.

The second main conclusion is that even if the domestic objective for 2008-2012 is met, it will not be possible to say whether this was a consequence of the policy adopted. There is no system for aggregating the results of domestic measures to give an overall result.

### *1.8 Recommendations*

Because the feasibility of the domestic emissions objective for 2010 is uncertain, the Court of Audit considers it important that the government should define its climate policy and assign tasks, including coordination and enforcement, in greater detail in the near future. The coherence and consistency of policy should be strengthened, for example by halting the proliferation of different schemes and ensuring that the various policy objectives are expressed in the same units. This is also important in relation to the 'From policy budgets to policy accountability' exercise, in which great importance is attached to well-defined policy objectives.

Attention should be paid to a proper underpinning of policy and to the effects of policy. The influence of external factors and other (related) policies could also be explicitly looked at.

The quality of policy preparation could be improved in all the ministries concerned, particularly in regard to ex ante evaluations and cost-effectiveness analyses.

The Court of Audit also recommends that a system be developed for determining the impact of domestic policy on greenhouse gas emissions.

Finally, the Court recommends that the Minister responsible for coordination of climate policy be given more incisive instruments and powers so that he can take proper charge and can formulate a national emissions guideline based on the domestic objective, which can be extrapolated to the various sectors and ministries.

The Court of Audit also has a number of specific recommendations based on individual elements of the investigation.

It recommends, for example, that the Minister of Finance initiates, with the other relevant ministers, a study into the contribution made by various tax incentives schemes to reducing greenhouse gas emissions. The Ministers of EZ and VROM should establish a more direct relationship between energy conservation policy in industry, especially the benchmarking covenant, and climate policy.

As far as the energy sector is concerned, the Court recommends that the Minister of EZ credits the reduction in CO<sub>2</sub> emissions as a result of reduced electricity consumption to the sectors where this reduction was made. The Minister should also review the objectives for renewable energy.

The Minister of V&W should indicate, in the case of policy for which one of the aims is to reduce greenhouse gases, what the explicit effects will be in terms of reductions in greenhouse gas emissions. Reductions in the transport sector should target not only road traffic but also inland waterway vessels and mobile machinery.

It is also suggested that the Minister of LNV might evaluate any negative impact that delays in restructuring the glasshouse horticulture sector and the liberalisation of energy markets are having on the energy conservation measures specified in the glasshouse horticulture and the environment covenant. If there are such negative effects, the Ministry might consider taking other measures.

As far as the household sector is concerned, the Ministers responsible (VROM, EZ and Finance) should justify the payments being made to energy distribution companies for the (very high) costs of operating the energy premium scheme with calculations based on actual costs. The Court of Audit also recommends that the Minister of Finance asks the energy companies to give him access to the data on the regulatory energy tax (ecotax) collected, and to clarify how the proceeds of this tax are recycled back to households.

## **2 Effectiveness of Energy Saving Policy in Greenhouse Horticulture**

Summary, audit published 6 february 2003

Between December 2000 and June 2002 the Netherlands Court of Audit, with the assistance of the LEI, investigated the effectiveness of the policy designed to foster energy conservation in the glasshouse horticulture industry.

The investigation examined the effect of energy conservation measures on energy consumption per unit product in the glasshouse horticulture industry (period investigated: 1994-2000), and the contribution made by government policy (period investigated: 1997-1999). 'Energy consumption per unit product' is the quotient of primary fuel consumption and turnover, in guilders, corrected for inflation. Since the effectiveness of this aspect of climate policy had never been investigated before, one of the aims of this investigation was to provide an example for future investigation of the effectiveness of energy conservation.

### **2.1 Introduction**

#### ***Policy***

The glasshouse horticulture industry is very important to the Dutch economy. The industry employs around 40,000 people, excluding suppliers. Over three-quarters of its product is

exported. There are more than 12,000 horticultural businesses, occupying just over 10,000 hectares of land. The sector earns around EUR 3.2 billion a year.

In 2000 the agricultural sector emitted some 24 Mtons of greenhouse gases (8 Mtons of CO<sub>2</sub>, 8.7 Mtons of methane, 7.4 Mtons of nitrous oxide), over 10% of total greenhouse gas emissions in the Netherlands.

The government hopes to reduce CO<sub>2</sub> emissions from the glasshouse horticulture industry, which is the biggest energy consumer in the agricultural sector, accounting for 80% of its CO<sub>2</sub> emissions. Grants and tax incentives are being used to encourage enterprises in this sector to install energy-saving technologies. The government is also encouraging the use of residual heat and modernisation of glazing as part of the restructuring of the industry. Some EUR 280 million has been earmarked for the restructuring and energy conservation measures, excluding loss of revenue as a result of tax incentives, for the period 1997-2010.

Four ministries are involved in the implementation of the energy conservation policy in the glasshouse horticulture industry: the Ministry of Agriculture, Nature Management & Fisheries, the Ministry of Economic Affairs, the Ministry of Housing, Spatial Planning & the Environment and the Ministry of Finance.

The main policy measures geared towards energy conservation in the glasshouse horticulture industry ensue from the Multi-year Agreement on Energy agreed with the sector in 1993, and the Horticulture and Environment Covenant (known by the acronym Glami, from 1997). Policy includes general fiscal measures for environmental purposes, such as the scheme for accelerated depreciation of environmental investments (Vamil) launched in 1991 and the energy investment allowance (EIA, introduced in 1997). All the schemes aim to encourage investment in energy-saving technologies, with the implicit goal of achieving energy savings, which should lead to a reduction in CO<sub>2</sub> emissions.

The policy also includes education, information, research and demonstration projects which aim to develop new energy-saving alternatives, behaviours and management systems. Since 1 April 2002 regulations (with targets for individual companies) have been in place to encourage horticultural enterprises to switch to energy-saving technologies.

#### *Effect of energy-saving technologies*

A wide range of energy-saving technologies are used in the glasshouse horticulture industry to reduce energy consumption. This investigation covered climate computers, condensers, heat buffers, combined heat and power, use of residual heat (a byproduct of electricity production and industrial processes), movable screens and facade insulation. A number of measures designed to raise production (heating, lighting, CO<sub>2</sub> fertilisation and steam disinfection of the soil) were also covered, as they can affect fuel consumption. Some characteristics of individual enterprises (such as size, area and age of glazing, type of enterprise, age of owner), the type of crop being grown, the year and data relating to the restructuring policy were also included in the analysis.

#### *Investigation*

The investigation of the effect of energy-saving technologies revealed the following:

- Only the use of residual heat has a demonstrable effect in reducing the amount of energy used. Consumption per unit product fell by around 4%. Use of this technique is

being encouraged as part of the restructuring policy in setting up new horticultural areas.

- The other energy-saving alternatives have no demonstrable effect. This could be because horticultural enterprises are not using them to their full potential.

The analyses also showed the following:

- Enterprises with more modern glazing clearly consume less energy (7%) per unit product. The modernisation of glazing is being stimulated under the restructuring policy.
- Heating to raise production leads, on balance, to an increase in energy consumption per unit product.
- The type of crop being grown has a major effect on energy consumption per unit product. Growing tomatoes and roses takes a particularly large amount of energy.

## 2.2 *Impact of policy*

To gain an impression of the impact of government policy, the Court of Audit and LEI conducted a written survey among 220 horticultural enterprises in spring 2001. They were asked whether they had participated in the government's information activities, whether they had invested in energy conservation measures and whether they had used the tax breaks and grants put in place for such investments.

The survey revealed that over 70% of the enterprises had received information on energy-saving technologies. Of those enterprises, 33% said it had prompted them to invest in the technologies. Over half the enterprises had also invested in one or more of the five specified technologies between 1997 and 2000, with 72% using a government scheme, particularly EIA and Vamil. Reasons why enterprises had not applied for these schemes included the fact that they were unaware of them, that they did not meet the conditions or that they felt it involved too much paperwork. The majority of respondents who had applied for EIA and/or Vamil said they would not have made the investment without the tax incentive.

Grants had been used to such a limited extent that it was not possible to properly assess their impact on energy consumption.

Although horticultural enterprises do take advantage of policy measures designed to encourage energy conservation, such as EIA and Vamil, this led to a clear drop in energy consumption per unit product in only one case - the use of Vamil for purchasing facade insulation.

Companies that had received information about energy conservation were not found to have demonstrably lower consumption per unit product than those that had not received information.

## 2.3 *Conclusions*

Of all the energy-saving alternatives installed by horticultural enterprises, only the use of residual heat produces a clear reduction in energy consumption per unit product. The fiscal policy instruments EIA and Vamil, which are often used for investment in energy-saving technologies, led in only one instance to a clear fall in energy consumption per unit product.

Other factors not directly linked to energy conservation policy were found to have an important effect on energy consumption in the glasshouse horticulture industry. For instance, reglazing under the restructuring policy for the industry lowers energy consumption, while the use of technologies designed to raise production and the growing of certain crops lead to higher energy consumption.

Possible explanations for the energy-saving alternatives' lack of effect include:

- the enterprises are not using them to their full potential once installed;
- the impact of energy conservation measures is fairly marginal compared with a number of other factors that determine energy consumption.

#### 2.4 Recommendations

The Court of Audit makes the following recommendations:

- Government policy on energy conservation should not focus exclusively on investment in energy-saving measures. It should also target horticulturalists' behaviour and attempt to ensure that the technologies are actually used once installed.
- Use of residual heat should be encouraged by accelerating the establishment of new horticultural areas.
- When companies modernise, there should be more emphasis on using modern glazing. This could also be done in association with an intensification of the restructuring policy.
- In view of the 'From Policy Budgets to Policy Accountability' process, the ministers concerned should launch a further study of:
  - the impact of other factors on energy consumption per unit product in the glasshouse horticulture industry, such as business practices and management styles; and the effect of research and information, and the recently introduced order in council under the Glami covenant, which imposes energy-saving targets on individual enterprises. Only then will it be possible to conduct a more comprehensive quantitative analysis of energy conservation policy in the glasshouse horticulture industry in 2005-2006.
- Research could also be carried out into the effectiveness of energy conservation policy in other areas of climate policy, such as in the built environment.

### 3 Renewable electricity

Summary, audit published 9 June 2004

The Court of Audit has investigated the policy pursued in the Netherlands since mid-1999 of encouraging the use of "renewable electricity" (electricity generated by water, biomass, the wind, or the sun) and changes introduced to the policy since the start of 2003. The policy investigated will have cost some €2.7 billion - partly through grants, partly through tax incentives - from 1999 to 2007.

### 3.1 Findings

The government wants a greater proportion of the electricity used in the Netherlands to be generated sustainably. The targets set for achieving this goal seem to meet Court of Audit standards: they are "time-linked", "agreed", and "specific". But they are also mutually inconsistent, since they are worded in different terms, which makes them difficult to assess. The Ministry of Economic Affairs has set a consumption target for 2005 (by when "6% of the electricity used in the Netherlands must be generated sustainably") and a generation target for 2020 (by when "17% of the electricity generated in the Netherlands must be generated sustainably"). What is more, it is sometimes unclear whether a target refers to consumption or generation ("by 2010, 9% of the electricity in the Netherlands must be generated sustainably").

This inconsistency means that it will soon be impossible to assess whether the targets have been met. Imported renewable electricity may be included in assessing compliance with a consumption target, but not with a generation target.

The Court of Audit has also found that it is far from certain whether these targets for 2005, 2010 or 2020 will be met, however they are interpreted. The EU directive on renewable electricity requires the Netherlands to meet the 2010 target.

The uncertainty about whether the 2005, 2010, and 2020 targets will be met is due in part to the government's decision to scrap the renewable electricity tax incentive, which may make demand for renewable electricity stagnate or contract.

It is also uncertain how much additional domestic capacity for generating renewable electricity will be yielded by the new Environmental Quality Electricity Generation (MEP) grants scheme, which came into force on 1 July 2003, replacing the tax incentive for the consumption of renewable electricity. The scheme is intended to offset the unprofitable investment necessary for generating renewable electricity in the Netherlands.

The Minister of Economic Affairs expects the MEP scheme to lead to growth in domestic supply over the next few years, but no one knows how fast it will grow and whether it will grow fast enough to meet the policy targets. In a report commissioned by the Ministry of Economic Affairs, the Energy Research Centre of the Netherlands (ECN) estimated in 2003 that scrapping the tax incentive meant that the targets would not be met without additional policy measures.

Finally, no steps have been taken to stop electricity suppliers from selling "guarantees of origin" (certificates guaranteeing the "renewableness" of sustainably generated electricity) abroad. Renewable electricity generated with an MEP grant may then possibly not be counted as a contribution to meeting the Dutch policy targets.

The Court of Audit investigation shows that the MEP scheme closes a large gap in the efficiency of renewable electricity policy (that is the subsidisation of foreign generation capacity with Dutch taxpayers' money). But potential gaps in efficiency remain.

It is not entirely certain whether MEP grants for biomass generation are higher than necessary to cover the difference between its cost price and that of electricity generated by conventional, non-renewable methods.

It is impossible to apply for an MEP grant for electricity generated, perhaps more efficiently, abroad and supplied to the Netherlands under arrangements such as long-term contracts.

Up to now, no one has investigated whether the MEP scheme could be made more efficient by binding producers, suppliers, or consumers to renewable electricity quotas - a step that some other EU member states are likely to take between now and 2010.

Finally, the Court of Audit finds that supervision and accountability in the renewable electricity market have improved greatly in the past 12 months. But electricity suppliers can and must be more accountable to their customers.

### 3.2 *Conclusions*

The Court of Audit concludes that renewable electricity policy needs to be further improved if its targets are to be met. What is more, the new policy fails to close potential gaps in efficiency. The consumers are also still insufficiently informed about the renewable electricity bought and sold by their suppliers. The policy changes introduced since the start of 2003 have led to improvements and continue to do so, but room for substantial improvement remains.

### 3.3 *Recommendations*

Following its investigation, the Court of Audit made a number of recommendations to the Minister of Economic Affairs:

- As soon as possible, make clear agreements with the other EU member states about how the targets of renewable electricity policy are to be assessed in all EU member states. In addition, harmonise the gathering of information on the generation, sale, and consumption of renewable electricity in the Netherlands, so that performance can be accounted for in line with the "From policy budgets to policy accountability" system.
- Find out what additional measures can and should be taken to guarantee that policy targets for renewable electricity are met in 2005 and 2010. Given the government's ambition for the further Europeanisation of energy policy, the Court of Audit advises the Minister of Economic Affairs to examine the scope for aligning Dutch renewable electricity policy with that of other EU member states.
- As far as possible, close the remaining gaps in efficiency in renewable electricity policy caused by (a) the amount of MEP grants and (b) the scope for exporting guarantees of origin.
- Examine whether foreign generation capacity specifically intended for the Dutch market is eligible for MEP grants and whether the MEP scheme can be made more efficient by introducing an element of compulsion. Part of the reason for doing so is the likely doubling between now and 2010 of the number of EU member states imposing renewable electricity quotas on producers, suppliers, or consumers.
- Ensure that the forthcoming secondary legislation (ministerial orders or orders in council) governing electricity labelling obliges suppliers to tell their customers not only what proportion of their electricity supply is renewable, but also what may be marketed as renewable electricity, how much of each type (solar, wind, hydroelectric, or biomass) is being supplied, and where it comes from (the Netherlands, other EU member states, or elsewhere). Since the consumers have no way of verifying the

reliability of such information, it should be attested, for instance by means of an auditor's certificate.

The Court of Audit also suggests three improvements in response to more general observations made during the investigation:

- give the choice of policy variations a more solid foundation;
- pay greater heed to the European context of renewable electricity policy;
- in preparing policy, pay more attention to its implementation and supervision.



## **Helping the U.S. Congress Oversee Climate Change Policy (United States)**

**Theme:        Auditing Climate Change**

**Author:       Robert A. Robinson**

In recent years, global climate change has proven to be one the most controversial and widely debated environmental issues before the U.S. Congress. While there is widespread acknowledgment that the climate is warming, there is no such agreement about whether and how the U.S. Government should respond. Many in the Congress and elsewhere believe that the Government should impose mandatory reductions in greenhouse gas emissions, which are linked to climate change. Others, including the President and his administration, believe that more study is needed and that less drastic means may be sufficient.

This debate has led to frequent requests from the U.S. Congress to have the U.S. Government Accountability Office collect and analyze key factual information relating to two major issues: (1) the effects of climate change so far on certain areas and the its expected future effects on various areas and (2) the adequacy of current U.S. Government policies and programs aimed at reduce greenhouse gas emissions. For this paper, I have highlighted selected aspects of our recent studies. Full citations for all of the issued products cited in this paper are provided on the last page.

### **The Effects of Climate Change**

I would like to summarize for you two recent reports, one ongoing project, and a recently requested project where we were asked to analyze the effects of climate change or government studies of such effects.

#### Warming Threatens Alaska Native Villages

In December 2003, we reported that flooding and erosion, exacerbated by warming, threaten Alaska's native villages. Alaska has 6,600 miles of coastline and 12,000 rivers, and nearly all of Alaska's more than 200 native villages are located along the coastline and riverbanks. Moreover, over 80 percent of the state is covered by permafrost (permanently frozen subsoil). Although the earth has warmed about 1 degree Fahrenheit over the last century, the warming trend has been particularly pronounced in Alaska. For example, over a period of 3 decades (far less than a century), Barrow experienced an average temperature increase of about 4 degrees and Bethel experienced an increase of about 3 degrees.

We were asked to study how Alaska Native villages are affected by flooding and erosion, determine how nine villages are responding to the flooding and erosion, and identify ways to better provide financial assistance to these villages. In doing our work, we interviewed officials from federal and state agencies, the Denali Commission (established by Congress to meet infrastructure needs in rural Alaska communities), and native villages, and reviewed numerous studies. We also visited four of the nine villages we were directed to review.

Although data on remote areas were scarce, we found that flooding and erosion have, to some extent, affected 86 percent of the Alaska Native villages (184 of 213). While flooding and erosion have been documented in Alaska for decades, the coastal villages seem to be becoming more susceptible for two reasons related to warming. First, because of rising

temperatures, shore ice—which can protect the villages against storms—forms later in the year, leaving villages vulnerable to fall storms. Second, extensive melting of glaciers, thawing of permafrost, and reduction of sea ice may be contributing to the flooding and erosion problems of coastal villages. Of the nine villages we reviewed, four are in imminent danger from flooding and erosion and are making plans to relocate. The relocation estimates are extremely high. For example, relocating one village (Kivalina) could cost an estimated \$100 million or more. This equates to over \$250,000 for each of the village's fewer than 400 people. The other five villages are taking various actions to deal with these problems. We found that many of these small and remote Alaska Native villages do not qualify for assistance from the key federal programs for constructing flooding and erosion control projects, largely because of agency requirements that the expected costs of a project not exceed its benefits.

Our work has already improved the delivery of services to Alaska Native villages in two ways. First, we suggested that the Congress direct federal agencies to assess the feasibility of various alternatives for responding to flooding and erosion. In December 2004, the Congress implemented one of these alternatives—waiving the requirement that villages share the costs of flooding and erosion projects. Second, we recommended that the Denali Commission adopt a policy to guide future infrastructure investments in villages affected by flooding and erosion. In April 2004, the Commission adopted an investment policy that will ensure federal funds are expended effectively and efficiently and that will explicitly consider environmental threats in determining the allocation of funds.

#### Administration Did Not Prepare Required Report on Effects of Climate Change

In April 2005, we reported that the administration did not report, as required by law, on the effects of climate change. The Global Change Research Act of 1990 requires the administration to prepare a scientific assessment, at least every 4 years that, among other things, analyzes the effects of global change on eight specified areas, including the natural environment, human health and welfare, and energy systems. The first scientific assessment under the act was completed in November 2000. In July 2003, the Climate Change Science Program (CCSP), the coordinating group that is now responsible for reporting under the 1990 act, outlined a schedule for preparing the second assessment by issuing a series of 21 reports.

We were asked to evaluate the extent to which the CCSP's planned reports met the act's requirements regarding the timing and content of the required assessment. First, we found that CCSP did not submit a scientific assessment in November 2004, 4 years after the previous assessment, as required by the act. Instead, CCSP's July 2003 schedule called for issuing 21 shorter reports between 2005 and 2007. Thus, by the time the last of these reports is published, about 7 years will have elapsed since the publication of the 2000 report, nearly twice the interval specified in the act. Second, we found that CCSP had no explicit plan for assessing the effects of global change on the eight areas enumerated in the act. We concluded that, without a well-developed plan for how it will address the eight assessment areas and because the currently planned reports were planned to be issued over a 3-year period, the Congress and other users will not know when all eight issues will be addressed. We recommended that CCSP develop plans to prepare the next assessment within the prescribed timeframe or, if 4 years are insufficient to complete the assessment, request an extension from the Congress. We also recommended that CCSP develop a plan to address all eight assessment areas which would provide assurance to the Congress and others on when all eight areas will be covered.

In commenting on our draft report, CCSP agreed with all of our recommendations and in July 2005, 3 months after the report was issued, CCSP's Director provided a status report on the response. He said that, due to the increasing complexity of climate science and related information, he would ask the Congress for more time between reports. He suggested that a 7-year cycle, which is used by the Intergovernmental Panel on Climate Change, would be appropriate. He also said that CCSP had modified the scope of the 21 planned assessments to incorporate coverage of all eight assessment areas identified in the 1990 act. This action should help assure that the Congress receive the information it requested on the effects of climate change.

### What Are the Potential Effects of Climate Change on Federal Lands?

Two U.S. Senators have asked us to assess the potential effects of climate change on federal lands. About 30 percent of the land mass of the United States (more than 600 million acres) is under public management to preserve it for current and future public benefit.

Our project is still at an early stage. Among the challenges we will face are the following:

- There are hundreds of federal land units throughout the United States. They include national parks, national forests, and wildlife refuges, among others. They range in size from a national memorial in Pennsylvania that covers less than an acre to a national park and preserve in Alaska that covers 13.2 million acres. They are managed by the Department of Agriculture's Forest Service, the Department of the Interior's National Park Service, and other agencies. We clearly cannot review all of them, but picking a representative sample will not be simple.
- This study will require projections not only of how the climate is expected to change in the lands we select, but also how such changes will affect those lands—their plants and animals, glaciation, sea level, and so forth. We will need to find reputable studies that are sufficiently detailed. We are considering involving the National Academies of Science in this part of the study.

### How Does Climate Change Affect Federal Disaster Costs?

We have also been asked by members of the U.S. Senate to determine the extent to which the federal government and private insurance and reinsurance companies are either directly or indirectly exposed financially as a result of the consequences of global warming. They are also interested in determining which federal government departments and agencies incur weather-related losses and distribute aid to individuals and entities that incur weather-related property losses. Ironically, we received this request about a month before Hurricane Katrina struck New Orleans, Louisiana, and nearby areas, causing extensive loss of life and property damage. We expect to begin this engagement in the near future.

### **Efforts to Reduce Greenhouse Gas Emissions**

I would now like to summarize for you two recent reports and one ongoing project where we were asked to assess the administration's efforts to reduce greenhouse gas emissions.

## Reported Federal Funding for Climate Change Has Increased but the Extent Is Not Clear

In August 2005, we reported on trends in federal funding for climate change. We were asked to determine how total funding and funding by category, as reported by the Office of Management and Budget (OMB), changed between 1993 and 2004 and whether the funding data were comparable over time.

We found that total funding, as reported by OMB, increased substantially between 1993 and 2004, but changes in reporting methods limit the comparability of funding data over time, and therefore it is unclear whether funding increased as much as reported. We found that total funding increased from \$2.35 billion to \$5.09 billion (116 percent) before adjusting for inflation, or from \$3.28 billion to \$5.09 billion (55 percent) after adjusting for inflation. OMB reports funding by category, as follows:

- Funding for technology (research, development, and deployment of technologies to reduce greenhouse gas emissions or increase energy efficiency) increased from \$1.18 billion to \$2.87 billion in inflation-adjusted dollars (a 143-percent increase). The share of total funding devoted to technology increased from 36 to 56 percent.
- Funding for science (research to better understand climate change) increased from \$1.82 billion to \$1.98 billion in inflation-adjusted dollars (a 9-percent increase). However, the share of the total devoted to science decreased from 56 percent to 39 percent.
- Funding for international assistance (such as providing funds for energy efficiency programs in developing countries) decreased from \$280 million to \$252 million in inflation-adjusted dollars (a 10-percent decrease). Moreover, the share of the total devoted to international assistance decreased from 9 percent to 5 percent.

However, as we noted, there were various changes over the years in reporting. For example, OMB reported that it expanded the definitions of some accounts to include more activities, but it did not specify how it changed the definitions.

We noted that the lack of comparable data does not allow the Congress and the public to consistently track federal climate change funding over time. As a result, we recommended that OMB explain any changes in future reports' content or format. OMB agreed with all of our recommendations on the content and format of its reports. These changes, if properly implemented, should improve the quality of the funding data available to the Congress and the public.

## Administration Did Not Plan to Track Progress of Its 2002 Climate Change Initiative

In October 2003, we testified before a Senate committee about President's February 2002 Global Climate Change Initiative. According to the administration, the initiative's general goal was to reduce the growth rate of U.S. greenhouse gas emissions, but not total emissions, between 2002 and 2012. Its specific goal was to reduce the emissions intensity of the U.S. economy—that is, the amount of emissions generated per unit of economic output—18 percent between 2002 and 2012. The U.S. economy, like other nations' economies, has been improving its emissions intensity for many years, and the initiative's goal is to improve emissions intensity 4 percentage points more than the 14-percent reduction that was otherwise expected to occur. This reduction is expected to translate into a 100 million ton

reduction in carbon emissions in 2012, relative to what would be expected in the absence of the initiative. The initiative is composed of 30 elements, including voluntary partnerships with industry and tax credits, designed to achieve the reduction in emissions intensity. Because we had only a week to prepare our testimony, we limited our work to reviewing publicly available administration documents.

First, we stated that, in our review of the administration's documents, we found that the administration provided a general basis for its climate goal, but did not provide a detailed rationale for the emissions intensity target that it established. Second, we stated that the administration identified 30 elements that it expected would reduce U.S. emissions and contribute to meeting its 18-percent reduction goal by 2012, including regulations, research and development, tax incentives, and voluntary activities. We found that the administration provided estimates of the reductions expected from 11 of the 30 elements, but not from the remaining 19 elements. Furthermore, of these 11 elements, we found that the estimates for 8 elements represented past or current reductions or related to activities that were already underway before the initiative was announced, while the estimates for the other 3 elements represented future emissions reductions related to activities that occurred after the initiative was announced. For example, of the eight elements, in five cases, an estimate was provided for current or recent reductions, but no information was provided about the expected additional savings to be achieved by 2012, the end of the initiative, and in two other cases, the elements were expected to yield savings over many years, but it was not clear what reductions would be achieved by 2012.

Finally, we stated that the administration did not plan to assess the initiative's progress towards meeting the goal until 2012, the end of the period covered. We observed that, if the administration did not conduct one or more interim assessments, it would not be in a position to determine, until a decade after announcing the initiative, whether its efforts were having the intended effect or whether additional efforts may be warranted. Due to the limited scope of our work, we did not make any recommendations.

### How Effective Are Two New Voluntary Climate Change Programs?

At the request of two Senators, we are currently examining the effectiveness of two new voluntary climate change programs that are part of the 2002 Global Climate Change Initiative. Both programs encourage participating entities to reduce their greenhouse gas emissions. Although the U.S. Government has sponsored programs for over a decade that encourage businesses and organizations to voluntarily reduce their greenhouse gas emissions, these two programs are the first to request that participants commit to specific reductions in their greenhouse gas emissions. These reductions can be measured in actual terms (absolute emissions) or in relative terms (for example, emissions per unit of economic output).

The Climate Leaders Program, which was established in 2002 and is managed by the Environmental Protection Agency (EPA), focuses on individual firms. As of August 2005, 70 firms were participating; according to EPA, these firms account for at least 8 percent of U.S. greenhouse gas emissions. The Climate VISION (Voluntary Innovative Sector Initiatives: Opportunities Now) Program, which was introduced in 2003 and is coordinated by the Department of Energy in cooperation with EPA and other agencies, focuses on groups from various industries, which in turn have dozens to hundreds of members each. As of August 2005, 14 such groups were participating; according to the Department, the firms that comprise these groups account for 40 percent or more of U.S. greenhouse gas emissions.

We are analyzing three key issues: (1) how do the federal agencies work with participants to make commitments to achieve reductions in emissions and what commitments have been made, (2) what milestones have the agencies established for participants to complete key program steps (such as making commitments) and how do the agencies track participants' progress in completing these steps, and (3) what are the agencies' estimates of the programs' current impact (in terms of emissions reduced) and future impact, and how do the agencies ensure the reliability of data on reported reductions? We expect to report on these issues this fall.

## Bibliography

The GAO products cited in this paper are listed below, in reverse chronological order. They are available at no cost from GAO's web site, [www.gao.gov](http://www.gao.gov).

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*Climate Change Assessment: Administration Did Not Meet Reporting Deadline*, GAO-05-338R, April 14, 2005.

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# **INCREASING THE IMPACT OF ENVIRONMENTAL AUDITS**

## **Increasing the Impact of Environmental Auditing – Indian Experience – Methods & Strategies: An Analysis (India)**

**Theme:** Increasing the Impact of Environmental Audits

**Author:** Parag Prakash

### **Preamble**

Period of gradual and continuous improvement: (1972-2002):

In India the Environmental Action formally started with the participation of the late Smt. Indira Gandhi the then Prime Minister in the UN Conference on human Environment in Stockholm in 1972. The National Committee on Environmental Planning and coordination was established to be the apex body in the Department of Science and Technology. The term environment figured for the first time in the IV<sup>th</sup> Five Year Plan (1969-74) which recorded that harmonious development is possible only on the basis of comprehensive appraisal of environmental issues. The Department of Environment came into being in 1980 with the Ministry of Science & Technology under the charge of the then Prime Minister. In 1989, the subjects of wild life and forestry were added to the list. Since its inception the Ministry has issued various guidelines and instructions to different state governments and project agencies. Government has been forming the backbone of Environmental Management through continuous legislation. Environmental Impact Assessment (EIA) was used as a tool to achieve objectives.

At the same time Comptroller and Auditor General of India also took stock of the situation and in early 90's a chapter on Environmental Auditing (EA) was added in its Audit Manual, the Manual of Standing Orders. Supreme Audit Institution (SAI) of India appreciated the need of the day and envisaged a comprehensive plan. The introduction to EA in the form of having a trained manpower was also started in the department. That was the period when guidelines were issued by the top management in SAI and different field units began its activities. To name a few, audit of Ganga Action Plan, audit of Biomedical waste, Delhi, audit of Dal Lake, Kashmir, and audit of Taj Mahal- air pollution in U.P. was taken up in right earnest there from. Then we commenced to correlate our experiences of field audit and a post of Director Environment Audit was also created. Simultaneously, we kept on concentrating on imparting training to our different field units who were associated with Environmental Audits. RTI (Mumbai) was designated as the Nodal Training institute for Environmental Auditing (EA) and since then this institute has not only trained many officials on this subject on all India level but also constantly engaged in improving this training methodology. This institute was awarded ISO 9001:2000 certification in March 2004. A course for Training for Trainers on Environmental Auditing was inaugurated by Shri V.N. Kaul, the Comptroller & Auditor General of India in June 2004. As regards empowering office for conducting EA, we have trained about 25 IA&AS Officers and 300 cutting edge level officers on EA. Thus, it can be said that during the last three decades we have made rapid strides in Environmental Auditing. A baby was born in 1980, which has now become adult as regards Environmental Audit is concerned. The challenges are many but the scope in front of us is abounding. On one hand the growing industrialization and new concepts of developments are causing strain to environment and on the other hand we have to share our concern by pointing it to the government that it ensures a



friendly environment to us and future generations. In that sense, the concept of EA has totally changed and does not confine to Environmental Impact Assessments (EIAs). This is the spirit behind SAI India and it wants that EA should be strengthened as quickly as possible and to the best of standards. With this brief historical background it can be said that period of awakening in the field of EA is awaiting. For, SAI India a new phase has been opened and we are striving towards excellence. Now the methods and strategies for increasing the impact of EA will be discussed.

## **Introduction**

Environmental Auditing (EA) is conducted by SAI as per the audit mandate. Audit mandate is secured in the Constitution. Though its provisions or through legislation by the Parliament, audit is being carried out by C&AG and IAAD. Unlike other spheres of audit, Environmental Auditing is specialized in nature. The methodologies for conducting EA can be related to the existing audit methods being adopted by SAI. As environmental issues are addressed by the executive on the basis of legislation enacted in tune with the International Environmental Accords as well as the specific concerns of the individual nations, the audit methodology also will be unique to each SAI

The extent of methodology and audit criteria for EA largely depends on the mandate available to the SAI. The audit and results of audit are directly proportional to the environmental concerns the executive has. The world concerns of environmental issues are reflected by the various accords signed by member nations for mitigating the ill effects of pollutions of various nature. Member countries are in union to set right the damages of the nature already occurred by Green house gas emissions, deforestation, marine pollution, climate change etc. SAI's responsibility will be to ensure compliance of provisions of accords and the provisions of the legislations passed by the Parliament. EA therefore, encompasses compliance audit, financial audit, performance audit and information technology audit of major schemes or projects of environmental programmes undertaken by the country to abate or annul adverse environmental effects. This is the essence of our efforts.

## **Methodologies of EA**

Environmental auditing is a methodical examination of environmental information about an organization, a facility, or a site, to verify whether, or to what extent, they conform to specified audit criteria. Environmental improvement has been a major concern for world nations as much damage had already been done to the clean environment. Stricter and stricter policies and programmes have been decided by the nations to ensure that the cleaner environment exists. Environmental legislations of the nations increase by the passage of time as newer and newer challenges in the environment keep coming. Therefore, to ensure that, Environmental Auditing is being continuously refined, at this point of time

EA can be conducted as:

- Compliance audit
- Financial audit
- Performance audit
- Information Technology audit

## **Compliance audit**

It is the type of audit that most directly assess compliance against criteria derived from laws and regulations, applicable standards, permits and concessions, or guidelines from organizations such as the world bank. This sort of audit essentially requires the help of regulatory mechanisms to oversee the provisions of laws and regulations and to implement them. With the sprouting of numerous Environmental legislations on various subjects, an agency to overview the implementation of the acts became necessary to fix responsibility for keeping the pollution under the specified criteria. SAI can then audit the regulators for assessing the extent of compliance effected by them in the various areas. Other points of audit are Governmental programmes of environmental nature and other programmes which give environmental impacts. Public sector undertakings also are focal points for compliance audit.

Compliance audit consists of:

- Compliance of pollution standards and limits prescribed
- Submissions of prescribed returns to verify the levels of environmental damage
- Generation of other required data for compilation of country status
- Compliance of provisions of accords
- Compliance of payment of cess or other levies of environmental nature
- Compliance of air/water quality
- Compilation of data regarding extent of non compliance and penalty thereof
- Compilation of data regarding civil/criminal suits for violations of rules
- Compilation of data regarding activities undertaken to disseminate information

The above methodology not only entails expenditure audit but also receipts audit. SAI India has mandate for both types of audit. All the applicable audit criteria as well as environmental criteria with reference to applicable laws on environment will form the basis of this type of audit.

## **Procedure for compliance audit**

Information on environmental issues forms the basis of compliance audit. The extent of non compliance of environmental criteria adopted by the country or the province will be known only if proper documents or data are kept for this purpose. Most of the information are technical in nature and service of the experts are required to analyse the data vis -a-vis criteria. In such areas of audit the help of experts can be availed and audit conclusions drawn. Selection of experts will be done after careful study so that the inputs given by the experts for the audit purpose are credible and can be relied upon for effectively drawing audit conclusions. The help of international standards and standards drawn by experts in the field are to be adopted in this type of audits. Criteria as laid down by the rules and regulations formulated by the regulators also form the basis of compliance audits. For compliance audit a thorough

understanding of the environmental issues is necessary. When the issues are dealt with in a proper way by the regulators then it becomes the criterion (what should be) on which audit condition (what is) is compared and the difference identified to focus on audit conclusions.

### **Financial Audit**

Financial audit primarily intended to give reasonable assurance to the Parliament that the outlays are adequate and expenditure conforms to financial rules and there are no wastes or losses. The financial statements of a programme on environment are accurate, and prepared from basic accounting records in accordance with accounting standards and they reflect true and fair view of the financial state of affairs of the entity or the programme. Environmental financial audit is conducted on financial statements drawn up with environmental accounting focus. Environmental accounting calls for an understanding of the salient features of the environmental costs/liabilities. They are: **Environmental Accounting**.

This will form part of financial audit in a way but looking to its importance this is being dealt separately. It also enables companies to prepare financial reports for use by investors, lenders, and others. Public companies report information on their financial condition and performance through annual reports governed by rules set by Government and regulatory authorities with technical pronouncement from the empowered institutes. It therefore, refers to the accounting of environmental costs, assets and liabilities.

In Management accounting environmental information is identified, collected and analysed for internal use. This facilitates the management to arrive at the environmental costs, E assets and E liabilities. The top management uses the information for:

- Planning and directing management attention
- Informing decisions such as purchasing, capital investment product costing and pricing, risk management, process/ product design and compliance strategies and
- Controlling and motivating behavior to improve business results

E-Accounting increases the amount of relevance on information. It incorporates information in the corporate accounting. The needs are:

- The accounts should reflect the attitude of the firm towards environment
- The accounts should include the environmental costs
- Investors need information on the environmental performance and expenditure
- E accounts are key to sustainable development
- Firms with E accounts have an edge over others which do not have E accounts

### **Environmental Accounting procedure**

E-accounts comprise E costs, E assets, and E liability. Firms tend to or strive to be eco friendly. This encompasses costs as environmental expenditure being incurred forms a major ingredient in the over all costs of the business. Some prefer not to exhibit it as such. Some do

the other way to demonstrate their intention of being eco friendly. E cost i.e. costs incurred for being green in their approach, process, procedure etc. It includes both upfront and back end costs. Firms demonstrating E costs in their accounts demonstrate their eco friendly approach which has better adoptability and edge over others who do not demonstrate. Inclusion of E costs in the accounts give management the following benefits:

- Many E costs can be reduced
- Costs can be offset by sale of bye products
- Eco friendly products are preferred by customers
- Better management of EMS

E-costs can be classified under:

- i. conventional costs
- ii. potentially hidden costs
- iii. contingent costs
- iv. corporate image costs

To better focus attention on E costs for management decisions, the authoritative technical pronouncements such as Environmental Protection Agency (EPA) Pollution Prevention Benefits Manual by EPA of US and Global Environmental Management Initiatives (GEMI) can be consulted.

This envisages audit of environmental accounts to give assurance as to its correctness, material error and attendant risk. It consists of national income accounting, financial accounting and management accounting according to the Environmental accounting, reporting and auditing brought out by the Institute of Chartered Accountants of India. National accounting is a macro economic measure. Gross Domestic Product is an example. The GDP in the normal way refers to the flow of goods and services to the society through economy. When the concept of environment is included in the GDP it metamorphoses into Green GDP. Natural resources are ingredients to the concept of national accounting of resources. It comprises both renewable and non renewable. Effect of utilization of natural resources and their measurements for development and welfare measures form the basis of accounting. Norms for national accounting methods are in the process of becoming popular. The extent of natural resources used in terms of monetary or physical parameters for nation's developmental activities and welfare measures when worked out scientifically only will the complex subject of national accounting procedures be understood. It can be said that this area is complex but at the same time is not that difficult to be broached upon. We will have to work on this area.

### **Procedures of Auditing of financial statements**

It is an independent examination of financial information of any entity, whether profit oriented or not, and irrespective of its size or legal form, when such an examination is conducted with a view to expressing an opinion thereon. All the audit checks that are required as per the

Auditing and Assurance Standards and Accounting Standards including the Standard regarding disclosure of accounting policies brought by the standard setting body of the country will be applicable for EA also. Although no standards have been brought out by the standard setting body of the Country for EA, standards applicable for other disciplines can be used for EA also to:

- Give the required assurance
- Arrive at materiality
- Consider and adopt acceptable audit risk
- Finalise and adopt audit criteria
- Finalise audit plan
- Execute audit plan
- Gather authentic and reliable audit evidence
- Conduct audit test programmes
- Communicate results of audit.

So the audit of environmental cost, environment assets and environmental liabilities including contingent liabilities is crucial. It is different from the technical Environmental Review (ER) and environmental Impact Assessment (EIA) both of which are carried out to assess the extent of environmental degradation and to ascertain environmental impact. These help the organizations to find out the ways and means of measuring the level of pollution or degradation and to arrive at safer parameters to abate or avoid pollution of air, water, land etc so there is a major difference in the two i.e. Environmental Audit and Environmental Impact Assessment though both may be dealing with the same subject ultimately. Another area – Natural Resources Accounting is to be understood carefully and that should be treated differently from Environmental Accounting. For the purposes of definition it may be clarified that we are referring to Environmental Accounting only and not Environmental Impact Assessment (EIA) or Natural Resource Accounting.

### **Performance Audit (PA)**

It encompasses major audit of:

- Projects /programmes in the environmental area
- Audit of the environmental impacts of other programmes
- Audit of Government monitoring of compliance with Environmental Laws
- Audit of Environmental Management System
- Evaluation of proposed policies and programmes.

Environmental audit can be conducted after following the Performance Audit standards brought out by the SAIs. Major steps in PA include:

- Strategic planning of the audit
- Knowing the entity or the programme/project
- Deciding the scope of audit
- Finalizing the audit objective
- Finalizing the audit criteria
- Gathering audit evidence
- Conducting audit test programmes
- Drafting the Report
- Discussing the Report
- Finalizing the Report
- Follow up audit

### **Procedure of Performance Audit**

Performance audit covers a wide range of audit activities that go a long way in enhancing the impact of audit. The processes involved in the PA ensure that the auditee units take the audit seriously and render all the required assistance in finalizing a purposeful audit. PA is conducted after a careful strategic planning, which ensures that the units' activities are ripe for financial analysis and critical review of performance of various activities. In doing so, one undertakes to understand the entity or the project as a whole, then scoping the issue for audit.

Once it is done, audit objective based on the understanding of the entity is carved out for a genuine audit. Audit comments are drawn by comparing the audit criteria and audit conditions. As a measure of adequate precaution audit evidences are gathered to strengthen the audit comments. Audit test programmes involve audit methodologies such as System based audit (SBA), Direct substantive testing (DST) and in certain cases, such as financial ratio analysis, Analytical review (AR).

Gathering audit evidences involves compilation of data and preparing of working papers. Quality of the reports depends up on the quality of the evidences including the working papers that go for supporting the audit conclusions. Evidences are compiled from primary sources as well as secondary sources. Evidences are prepared by interviews, photographs, dialog if primary evidences are not available. They should be complete, reliable and competent. Minutes of the meetings of the authorities of the auditee units form evidence. The reports are prepared after thorough analysis, get them discussed and then final draft reports are prepared. Such reports are again discussed for any inaccuracies and omissions. As the auditee is involved and engaged at various stages of the audit, the conclusions are valid and

non challengeable subsequently. This helps to enhance the impact of audit. Therefore, environmental auditing done in the PA mode enhances the impact.

### **Co-relation between PA, EA and IT audit**

At this stage it may be mentioned that IT Audit is also being used worldwide. By using Financial Audit and Performance Audit the picture that emerges can be effectively crystallized by using IT audit. Though use of IT in EA is rather less in the SAI but seeing the future it can be taken up.

After assimilating these three wings mainly, the Reports are issued, follow up of the Reports for its ultimate use by the Parliament is regularly done to effect the desired impact of audit.

After the Reports are issued, follow up of the Reports for its ultimate use by the Parliament is regularly done to effect the desired impact of audit. SAI renders help in vetting the memorandum prepared by the Legislative wing of the Parliament and to conduct meeting of the Parliamentary Committee. SAI also assists the Committee to frame questionnaire for the meeting thereby making the Audit Report material useful for drawing out valuable recommendations for the executive Government to respond and remedy the errors.

### **Effective media coverage**

Reports of SAI get media coverage as soon as they are placed before the houses of Parliament. SAI causes its reports to be published in the media by giving highlights of major findings in the reports to the media. This increases the impact of audit; Audit of Ganga Action plan was done and the findings brought before the Parliament. The Committee discussed the report and took action for abating the pollution level of the Ganga water and improving the pH value. The Committee held various sittings for discussing the report and every time SAI assisted it to finalize Committees' recommendations to have better impact of its efforts in projecting the environmental issues. Taj Mahal – Air Pollution, Dal Lake – J&K reports received media attention. In fact awareness exists because of these efforts in SAI.

### **SAI India's experience in conducting audit of water – a case study**

As a model we are giving the example of a review published in our reports and action taken there from is also noted.

The Water (Prevention and control of pollution) Act, 1974 was enacted to:

- Address the water pollution issues
- Create appropriate regulatory mechanism
- Arrive at the quality of water for different uses
- Regulate quality of water
- Identify polluting industries that discharge pollutants in the water system

SAI India's audit (2001) of the implementation of the Act ibid revealed that:

- Regulatory bodies set up by 9 provinces did not identify polluting units
- Most of the industrial units functioned without the consent of the regulators
- Non monitoring by the regulators of the industrial units resulted in discharge of untreated effluents to the water system
- There were considerable shortfall of inspection of the units by the regulators
- Even drinking water parameters were not adhered to
- Not only industrial units, but also local Government bodies discharged untreated water into the system
- The local bodies could not even control discharge of domestic wastes into the water system
- Due to failure of formulating policies and programmes for pollution control the regulators in the 9 provinces could not utilize rupees 1450 million
- Many provinces were found wanting in carrying out adequate surveys for identification of polluting units
- Regulators have to monitor and control pollution by Government local bodies, despite this, substantial number of local bodies such as Municipal councils and Municipal corporations did not obtain statutory consent from regulators for their operations
- Lackadaisical approach of the regulators affected water in the rivers, lakes and even ground water thereby creating hazards for health of human beings, flora/fauna.

Government took note of the report and initiated action for correction, corrective action and preventive action to improve the environmental conditions where found necessary as a response to the report. As per Government communication (2005) they include:

- 24 defaulting industries have initiated action for commissioning of ETPs
- 238 defaulting industries which did not install ETP were closed
- Action to contain the problem of sewage going into the river is taken by identifying the rivers to be brought under National River conservation Plan of Indian Government
- Initiating prosecution of defaulting units for polluting water
- Initiating master plan to cover other areas which have been left out for pollution control
- Water Policy 2002 brought out



## **Services of SMEs**

The methodology used in the audit was both compliance and performance audits. Information/data available at the offices and branches of the regulators were used to arrive at audit conclusions. Data are compiled by the regulators themselves such as test reports, survey reports, inspection reports, consents, Laboratory reports, scheme reports, project reports funding pattern etc. Doing the audit on the basis of records of the auditee entails laying too much reliance on the records. Help of Subject matter experts (SMEs) can be availed to counter check the data and to establish the validity of the information data especially in matters regarding technical parameters. This will help SAI to strengthen its findings. SAI India has not so far independently involved SMEs for its EA on a regular basis. The expertise available in the Department had been used to comment on various aspects of environment to focus its findings.

While roping in the SMEs care has to be taken to ensure that they have the required proficiency and knowledge in the matters requiring expertise. Not only the qualifications of the SMEs are seen in such cases but the stand in the field also is seen to ensure that the audit conclusions drawn are worth reporting. This will increase the impact of audit. Auditing technical parameters requires updated skills, which in the normal course are not abundantly available in the SAI. When acquiring the necessary skills it should be seen that the skills acquired are useful for the assignment. Then it should be seen that roping in SMEs for specific items of audit will be beneficial than acquiring the skills by the SAI itself. This is the moot question and this has been the lesson emerging out of all the audits we have carried out, so to say, a conscious decision is needed.

## **Impacts of Audit**

Having adopted the methodologies and procedures of EA, the endeavor of SAI is to increase the impact of audit. Impact of audit is achieved if:

- Ways and means are found out to abate or avoid pollution
- Awareness is spread among the regulators, stake holders, Government
- Corrective actions are taken to avoid errors committed
- Preventive actions are taken to avoid recurrence of errors
- Recommendations are considered and remedial action taken
- Standards are reviewed and new standards set
- Revenue is collected where the collection was omitted
- Necessary pollution control measures are undertaken
- Pollution control devices are installed to arrest pollution
- Additional cess or levies are collected by the regulators
- Environmental policies are framed or are modified in case of existence of one

- Acts/Rules are modified to cope up with the latest development

### **Increasing the impact of audit**

- **Making effective recommendations:**

Audit reports of the SAI are dealt with by the Parliamentary Committee Viz. Public Accounts Committee. It studies the reports, convenes meetings for evidence gathering from the auditee and finalizes the Public Accounts Committee (PAC) reports containing recommendations to the Government. At every stage SAI is involved in the Committees' activities and the strength of the recommendations depends on the quality of the SAI reports and the assistance rendered by the SAI.

Impact of the audit conducted was effective as many irregularities were pointed out for correction, corrective action and preventive action. The over all impact of the audit point out ineffective management of pollution control thereby damaging the environment, be it be in the area of water, land air and health. The extent of inefficiency of the regulators affected even the ground water also which has much more ramification as correcting the damage caused entails lot of resources and time. The more effective the audit reports the more will be the impact. In audit parlance it has been our experience that in order to have everlasting impact, the effective recommendations play a major role.

### **Using experts**

SAIs are not adequately equipped to handle matters of high techniques. Therefore, they have to:

- Either infuse skills and innovations in the staff by imparting training of strategic skills
- Adopt technical data available with auditee
- Audit the data with the available expertise
- Get the data audited through SMEs
- Appoint SMEs for specific project
- Compare similar data produced by NGOs/authorities of different field
- Compare international data to the extent applicable

EA is a technical audit. Well established theories form certain criteria in EA. In certain cases analysis involving technical expertise is required where SAI has to adopt any of the options mentioned above to tide over the situation. Experts are selected carefully so that the audit opinion arising after the analysis bears credence. As mentioned earlier quality of the expertise has to be ascertained before reporting the conclusions based the expert opinion of experts. Well-established theories have been used in the audit of water. Good expert opinion challenging the data and opinion of the auditee if used it will enhance the credibility of the audit report.

## **Formulating right audit queries**

Audit queries are used to elicit data and response from the auditee. Pointed questions will give pointed answers and open questions are not sometimes, answered at all. They will require time for compiling data. Such questions should always be asked to get detailed version of the issue, which entails time. Care should be taken to ensure that the auditee gets time to respond effectively. Questions should be such as to reveal the audit point when the response comes from the auditee. Following sectors have been taken, as they are primary in affecting the environment. Similarly, secondary sector industries can be mentioned.

For getting apt response developing audit area and audit criteria are important. Audit areas and possible lines of audit queries are as follows:

### **Energy Sector**

- Electrostatic precipitators in Thermal power stations-its effective use
- Suspended particulate matters (SPMs) air purification, air quality
- Ash slurry, land use and land decay
- Quality of coal-less quality higher quantity, wastage of non renewable energy
- Afforestation in power stations to contain Co2 and other green house gases (GHGs)
- Deforestation for laying of HT lines through forests, felling of trees, increase of GHGs
- Line losses-conservation of energy and energy audit
- Cross subsidization in tariff, effective use of energy for various purposes
- Generation methods-thermal most eco unfriendly, hydel eco friendly
- Audit of internal use of generated power in power stations
- Use of non conventional energy to preserve non renewable resources

### **Transport sector**

- Use lead less oil for transport sector, lead emission hazardous
- Life of the vehicles on road, phasing out of old vehicles consuming more oil
- Generation of metal scrap and its utilization, sale of scrap to augment revenue
- Road quality, rough road leads to increase in oil consumption
- Traffic jams and generation of excess GHGs
- Use of ingredients for increasing the oil efficiency

- Control of noise by fixing silencers
- A forestation in the work shop sites to contain GHGs
- Control of oil spill on land to preserve land use value
- Generation of rubber wastes , hazardous
- Use of aerosol, control for CFCs

### **Industries sector**

- Oil spill from the Oil Industries causes hazards to marine life
- It also affects ship movements adversely
- Rig operations, abandoning of rigs and the financial implications
- Creation of separate funds to take care of the cost of abandoning etc. in financial audit to be considered
- Oil filling industries to have measures to contain pollution
- They have also to take care of generation of waste-to resort to SOP-start of the pipe concept for waste reduction
- Other type of industries such chemical industries to observe and comply with the regulations and statute provisions
- While auditing the industries in general, see that industrial policy is conducive to environmental policy of the country
- Industrial zoning i.e. chemical and hazardous industries in separate areas
- Safety measures as relates hazardous chemicals, substances, noise, other pollution etc. to be seen and commented
- Trading of banned substances thereby causing environmental problems
- Ship breaking industries and their environmental impacts to be seen, ships carrying hazardous substances and the parts when broken contributing to environmental damage
- Industries dealing in biodiversity to follow regulations in that regard
- Industries dealing with forests to follow Forests (conservation) Act

## **Choosing the right scope of the issues**

In Environmental Audit, selection of the right scope of audit plays a major role in strengthening audit conclusions. Issues of environment may be wide but within the available resources, the scope has to be decided to have better impacts. For this the following criteria should be seen:

- Out of the issues the most important issue is selected
- Issue having major financial implications on the subject is selected on priority
- Other issues selected as per turn so that all the issues are covered without losing topicality
- While selecting the issue on priority the topicality is to be seen; the relevance
- The issue should be such that actionable response would be the result of audit
- Issue should also be on sustainable development concept striking a trade off between social /economic perspective and environmental theme
- If right issue is scoped, the result would have adequate impact and environmental improvement
- The result of audit will have credibility if the scope of audit selected meets with the overall concern of not only the executive but the public at large.

## **Communicating audit results**

Audit results are drawn up after careful audit test programme, collection of reliable, competent, complete and sufficient audit evidence. In the case of financial audit, the effort of SAI would be to ensure that the financial statements do depict a true and fair view of the state of affairs of the entity, and that the figures are drawn up from the original records as per the accounting standards set by the Standard Setting Body of the country. In respect of compliance audit, SAI undertakes a review to see that the entity complies with provisions of all acts, rules and regulations, International treaties etc. in the case of compliance audit, it can be conducted at piecemeal intervals so that the entire compliance issue is dealt with in audit within a suitable time frame without losing the importance. As regards Performance audit, it being a time consuming task due to large volume of transactions involved, it is taken up either in total or in sectoral basis. All the steps as explained earlier are carried out to finalize PA. After doing all these together audit conclusions are drawn up for EA. All the net results are to be based upon evidence and that is the reason of success of Audit in the country.

## **Issue of Reports**

Reports are issued to the auditee at suitable levels to invite attention of the most concerned. Minimum time should be taken for communicating the report so drafted so that the report does not lose relevance. Timely communication of the audit reports helps the Executive to correct the damage and to respond to the Parliament/Legislature.

- SAI India finalizes the Audit Reports on a regular time frame. Every year on an average 85-90 reports covering transactions of provinces and the Centre are brought

out. These are completed and printed and forwarded to the Parliament and the Legislatures as per Constitutional provisions.

- Parliamentary Committee, Committee of the provincial Legislatures take up these reports for action and prepare their own Reports containing suitable recommendations for correction/remedial action
- The executive then, responds with their Action Taken Reports indicating therein the corrective/preventive actions taken by them as per the recommendations of the Parliamentary Committee
- Similar processes go on till a matter is finally settled by the Committee
- At all the stages SAI supports the Parliamentary Committee, gives necessary technical advice and guidance
- Impact of the Reports the SAI prepares is strongly established in this way

### **Inference**

SAI India's Audit Reports create interest not only in the Parliamentary Committee but also in the general public through media coverage. The methodology and strategies are directed towards evincing impact of the findings the SAI generates through its Central/Provincial reports under various categories. Besides, the conventional Audit Reports, SAI India prepares Separate Audit Reports covering the comments on accounts of various statutory corporations of the Central/Provincial Governments. All the reports therefore, have their impacts in as much as the Government initiates action to address the issues raised therein. The initiatives are communicated through Action Taken Notes (ATNs), which will be dealt with by the Parliamentary committees assisted by the SAI. Reports serve to promote financial discipline and public accountability in the executive Governments on the basis of the issues raised therein-including matters of environmental interest. With the help of strategies we look forward in enhancing the impact of EA and communicating our viewpoint so that the Government understands the correct perspective.

In the total analysis of methods being followed by SAI and strategies to be adopted in the years to come it is apparent that in the Indian context or zonal contest the challenges are many. But the needs for separate standards to be evolved have to be such that all the SAIs can strive for excellence through joint audits so that local or regional issues can be effectively tackled. To share the concerns with respective governments it is expected that the overall aim to make environment congenial and supporting should remain at the forefront. In doing so we anticipate a number of impediments. Therefore, it would be a good idea to evolve regional or zonal standard on Environmental Auditing. The role of Natural Resource Accounting and Information Technology are such areas where SAI India is looking forward for cooperation. These are the areas where some of the SAIs have done a lot of work and we would be grateful if they are shared. Thereafter regional issues can be better firmed up and joint audits could be started to have better impact of EA.

### **Possible contribution of WGEA - Support to SAI**

WGEA has contributed substantially towards mainstreaming environmental concerns in SAI audits by exchange of INTOSAI experience and expertise. INTOSAI Standards and

guidelines on EA have helped in increasing the effectiveness of EA and its impact on sustainable development. WGEA continues to have a prominent role in achieving this objective. Some of the areas where consensus will be required are as follows:

- In order to keep this region/zone environmental friendly we have to evolve certain auditing standards on Environment Audit specific to that region. In that regard this Conference will play pivotal role in shaping the methods and strategies being adopted by SAIs, of different countries of the region. We look forward to mutual exchange of experience and learning from each other to evolve uniform practices thereby bringing out the required standards.
- Bringing environmental perspective in all INTOSAI audits as environment plays a definite role be it direct or indirect, in every audit. Impact of EA will then be substantially elevated. Consensus on these lines appears to be focal point. This is a major area for debate and discussion but will be useful for point of views of helping mankind.
- SAI India has been involved in environmental audit of various projects and our audits have shown the impact on executive functions. In order to integrate efforts this platform can give guidelines on conservation, prevention and abatement of pollution to the region/zone as a whole as the biological boundaries overlap. This helps to resolve strategies for joint audits.
- Natural Resources Accounting is a key area with reference to development plans of the economy. GDP of a nation is incomplete without taking count of this crucial factor. The actual impact of environment audit will increase manifold when significant headway is made towards natural resource accounting. WGEA is ideal platform to discuss this vital issue so that the members can share the expertise being pooled by WGEA in this area.
- SAI, India has always believed in enhancing its efforts towards building capacity for training purposes. Knowledge imparting through seminars and workshops have consistently remained our forte for human resources development. We would strive for enhancing it further. WGEA may consider organising a training programme in the region on these lines.

## Environmental Audit on the Water Quality Improvement Projects: Four Major Rivers of Korea (Korea)

**Theme:** Increasing the Impact of Environmental Audits

**Author:** Korea

### Background

Since the First Clean Water Supply Plan, Korea's first comprehensive water quality management plan, was announced in 1989, the Korea government has been making great efforts to improve the water quality of four major rivers

1 in Korea. The plan was followed by the Second Clean Water Supply Plan in 1993 and Comprehensive Water Management Plan in 1996, and approximately USD 15 billion was spent for the implementation of these plans from 1993 to 2000.

However, the water quality of the four rivers had not shown any significant improvement. On the contrary, in February 1998, the BOD level of Lake *Paldang*, the primary source of drinking water for the *Seoul* Metropolitan region, rose to as high as 1.5 ml/L, forcing the Korean government to develop new water quality management plans with different approaches independently customized for each of the four major rivers. For this, the Water-management Policy Coordination Commission headed by the Prime Minister was newly established. In November 1998, it came up with the Special Measures for Water Management in Han River Basin as its first work, followed by the Special Measures for *Nakdong* River Basin in 1999 and the Special Measures for *Yeongsan & Guem* River Basin in 20002.

A series of these special measures were noteworthy in that not only they were developed separately in accordance with each river's different characteristics but also first introduced many preventative measures against water pollution in addition to the post-contamination ones of the past.

The followings were the key points of the new water quality management plans - i.e. the special measures for the four major rivers:

- Water quality management policies: designation of River Basin Area, Total Pollutant Volume Regulation System, construction of additional sewage treatment plants, installation of buffer zone around rivers/lakes, regular river-cleaning operations.
- Financial sources: levy of the water-use charge, establishment of the River Basin Management Fund.
- Organizational improvement: establishment of the Basin Management Committee and regional River Basin Environmental Offices – subsidiary bodies under the Ministry of Environment.

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<sup>1</sup> The four major rivers: Han River, Nakdong River, Guem River and Yeongsan River.

<sup>2</sup> Meanwhile, some special acts for each of four major rivers, the legal basis of the newly developed special measures, were enacted in February 1992.



## Outline of the Audit

The Board of Audit and Inspection (BAI) examined the special measures for the four major rivers from February to October in 2001. The objectives of the audit were to find out the reasons why the water qualities of the rivers had not been improved as planned and to suggest the possible solutions.

This audit focused on the following points:

- Investment management for water quality improvement projects
- Appropriateness of relevant laws and regulations
- Location regulation of contamination sources – i.e. polluters
- Construction and operation of sewage treatment plants
- Processing of livestock-sewage

## Methodology

This audit was planned as a performance audit. After collecting relevant qualitative and quantitative data from a variety of sources such as document review, field visit and interviews with many stakeholders, the audit team analyzed them from diverse angles.

Also, to maintain the professionalism of the audit, an environmental engineering specialist with a Ph. D degree was hired by contract, and two experts were seconded from the Ministry of Environment and the Environmental Management Corporation<sup>3</sup>. In addition, a special advisory group was formed with seven environmental experts from the private sector including three in the field of water quality management so that the audit team could benefit from their advice and opinions through the whole processes of audit from planning to reporting.

## Audit findings and recommendations

### Investment management for the water quality improvement projects

According to the special measures for the four major rivers, from 1996 to 2000, local governments were supposed to spend USD 11,185 million in total – USD 9,999 million transferred from the central government plus USD 1,186 million from their own purse - in the four rivers' water quality improvement projects such as construction of sewage treatment plants. Yet, some local governments turned out not to make planned investment on the pretext of the lack of funds, resulting in an actual investment of only USD 8,297 million (74.2% of the expected amounts). Furthermore, 9.9% of the spending, that is approximately USD 829 million, was used for other purposes like road building rather than water quality improvement.

Nevertheless, the Ministry of Environment (MOE), which is responsible for the management of investments on water quality improvement projects, could not take any sanctions against those local governments. It was mainly because MOE did not have any policy tools for

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<sup>3</sup> A non-profit public organization specialized in pollution control and environmental improvement.

ensuring the accountability of local governments such as post-project examination or feedback review.

### *Recommendations*

BAI recommended that MOE adopt a post-project examination and feedback review system where local governments regularly report their own investment and the progress of the projects to MOE. The results of MOE's examination of the reports were to be reflected in the budget process for the next year's projects.

### Designation of the Tap Water Source Conservation Zone (TWSCZ)

The TWSCZ was introduced for the purpose of securing clean tap water by conserving the source area. In accordance with the Tap Water Act, an area, where a tap water intake facility is installed or will be installed, is to be designated as a TWSCZ.

In the TWSCZ, any behaviors that could be a potential threat to preserving clean water are strictly prohibited. For example, the construction/reconstruction of certain kinds of buildings such as factories, livestock-sewage treatment facilities, restaurants and some residential buildings like multi-family houses is not allowed.

However, the Tap Water Act provided only where to designate the TWSCZ - i.e. the area where a tap water intake facility is installed or will be installed - without stipulating when to designate it -i.e. the timing of designation. As a result, out of 229 tap water intake facilities nationwide, the surrounding areas of 32 tap water intake facilities<sup>4</sup> had not yet been declared as TWSCZs although they had been in operation for one month to 34 years.

Also, even for 173 tap water intake facilities which were already designated as TWSCZs, designation was made one month to 61 years after the facilities had started their operation. It followed that more polluters could be constructed in the TWSCZs for that period, eventually worsening the water quality in those areas.

### *Recommendation*

BAI recommended that MOE revise the related regulations to specify when to designate the TWSCZ.

### Location Regulation of Polluters in the TWSCZs

Regarding the regulation of polluters in the TWSCZ, a few loopholes were found in the special measures for the four rivers. Specifically, in the TWSCZs, it was not allowed to newly locate a restaurant or lodging facility, whose gross floor area was wider than 400㎡. It was, however, possible to change an existing building wider than 400㎡ into a restaurant or an accommodation, being used to circumvent the restriction. Also, while the occupation of water surface for water leisure business was not allowed, the land occupation for affiliated facilities such as a parking lot was.

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<sup>4</sup> 83 intake facilities, which do not need to be designated as TWSCZs because they intake underground water, were excluded.

### *Recommendation*

BAI recommended that MOE take necessary measures to ban the aforementioned change of building use and land occupation

### Construction and Operation of Sewage Treatment Plants

In regard to the construction and operation of sewage treatment plants, two problems were pointed out.

The first was inefficient execution of the construction budget. By applying exaggerated population growth rates when calculating the capacity of sewage treatment plants to be constructed, some local governments were pursuing to construct excessively over-sized ones. On the other hand, other local governments did not install any sewage treatment facilities in 20 riverside-towns due to the lack of budget even after recognizing the need. As a result, sewage from those towns flowed directly into the rivers without any processing.

The second problem was improper application of the water quality standards to the sewage treatment plants in design or construction phase. They were not designed in accordance with the new water quality standards which were supposed to be reinforced in 2004 but with the then one – i.e. 2001 standards, hence additional reinforcement works were expected to be unavoidable in the near future.

### *Recommendation*

BAI recommended that relevant local governments adjust the size of the sewage treatment plants which were being constructed excessively big and revise the design of those to which the old standards were applied.

### Livestock-sewage Treatment

The BOD level of livestock sewage is so high - 100 times as high as normal sewage - that it has a great influence on water quality. To process livestock sewage, the Korean government built public livestock-sewage treatment facilities. However, unlike normal sewage which is carried through the sewer to the treatment facilities, livestock-sewage must be transported to the treatment facilities. So, the treatment facilities for livestock-sewage are hard to expect to be fully utilized.

In fact, out of 29 livestock-sewage treatment facilities nationwide, the operation rates of the 20 facilities were turned out to be below 50%. In addition, as the Ministry of Agriculture and Fishery had been encouraging recycling livestock-sewage as organic fertilizer and offering financial assistance for that, many farmers were increasingly turning to recycling. Thus, the demand for the public livestock sewerage system was likely to keep declining.

Moreover, from an economic and environmental viewpoint, recycling is more desirable since the installation and operation cost for the recycling facilities is less<sup>5</sup> than that of public livestock-sewerage facilities. Further, it reduces use of chemical fertilizer as well.

Nonetheless, some cases were found that several local governments were put forward with building new public livestock sewerage facilities with the purpose of getting financial support from the central government.

### *Recommendation*

BAI recommended that MOE gradually shift the policy for livestock-sewage from processing by public treatment facilities to recycling for the production of organic fertilizer.

### **Follow-ups on the BAI's Recommendations**

Taking the BAI's recommendations, the Ministry of Environment prepared and carried out the following measures.

First, as for managing investment for water quality improvement, MOE adopted the post-project examination and feedback system as BAI suggested. To do that, MOE set up "Guidelines for the Execution of Transferred Funds" as a ministerial decree. The decree institutionalized MOE's regular examination of local governments' investments; reflection of the examination results in the next year's projects. It also made sure that if a local government does not invest its own budget or use the transferred funds for other purpose than water quality improvement, MOE would cut off financial support for that local government.

Also, MOE decided to rectify the unreasonable legal provisions on TWSCZ designation and polluter regulation in the TWSCZs. In addition, it would rearrange the size and priority of sewage treatment facilities which were then under construction or scheduled to be constructed.

Second, as for the construction of public livestock-sewage treatment facilities, MOE decided to let professional researchers elaborate short/long term plans and would re-examine the validity of the ongoing construction after on-site inspection.

### **Lessons Learned**

The key principles of water quality improvement are to 1) locate less polluters, 2) let the existing polluters produce less sewage and 3) process the sewage before discharging. Yet, most of the funds for the water quality improvement have been spent on 3) so far. In other words, priority has been given to constructing and operating environmental infrastructure such as sewage treatment plants.

However, it is sewer system that is often neglected even though it is as important as end processing facilities. In this regard, it is regretful that we did not fully examine the pipes

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<sup>5</sup> Whereas installation and operation cost of recycling was 15,000 \$/m<sup>2</sup> and 15 \$/m<sup>2</sup>, respectively, that of public treatment facilities was 72,000 \$/m<sup>2</sup> and 25 \$/m<sup>2</sup>.

connecting polluters and end processing facilities since most of them were installed underground, thereby requiring a lot of time and money for the investigation.

Another thing we had learned from this audit is the importance of public involvement in formulating a water quality management plan. We found that it is one of the most critical factors for a successful environment plan to collect extensive opinions from the stakeholders and advices from environment experts from the early stage. Of course, it would be very hard to draw up a plan satisfying all the stakeholders with different interests, but that would be still better than not being able to carry out the plan at all due to the objection of some stakeholders – typically, the residents in the waterside -, or finding out any crucial defects during the execution.

Lastly, we'd like to say that the water quality of Korea's four major rivers has been steadily improving thanks to the efforts

## **The impact of environmental audits in Norway – lessons learned (Norway)**

**Theme:** Increasing the Impact of Environmental Audits

**Author:** SAI Norway

### **Introduction**

In this paper we seek to address the topic of “Increasing the Impact of Environmental Audits” by exploring the lessons learned from the Office of the Auditor General of Norway’s (OAG) environmental performance audits published over the past five years. The question we raise is: How do the ministries perceive our audit report and conclusions, and what kind of improvements have they triggered?

To be able to discuss this, we have examined the eight most recent environmental performance audits conducted by OAGi. We have reviewed our eight audits, the public documents from the Parliament’s debates of the audits, and the three-year follow-up reports from five of the audits. As part of the three-year follow-up, the ministries are asked to show evidence of improvements in the audited area. Additionally, we have conducted a separate survey to the involved ministries, and asked how the audits have been perceived and used by the national authorities; what distinct actions and initiatives the audits have generated; and how the ministries find the environmental audits in general, both the auditing process and outcome of the audit. All involved ministries responded to the survey: the Ministry of Environment, the Ministry of Foreign Affairs, the Ministry of Agriculture and Food, and the Ministry of Fisheries and Coastal Affairs.

In the next section we will describe the institutional setting in which the OAG operates. In section three, we will look at some improvements that the environmental audits have contributed towards, pursuing the ministries point of view on elements that make audits particularly valuable. This discussion is also supplemented by examples from the audits. In section four, we will address key factors that are important for acknowledgement from the audited body. Finally, we will share some efforts that our OAG department has taken to further ensure that the environmental performance audits have impact on practice within key policy areas.

### **Institutional setting**

The OAG of Norway does not make recommendations – we provide assessments, observations and statements. These are often given a quite soft form and are descriptions of problematic areas or practices rather than suggestions for preferable actions. Our work is presented in what we call a “Document” prepared for the Parliament consisting of:

1. A summary of the detailed performance audit report, including assessments
2. Comments on the report and assessments from the appropriate Ministry
3. The OAG’s observations, including remarks on the Ministry’s comments
4. A response by the appropriate Ministry
5. A statement from OAG

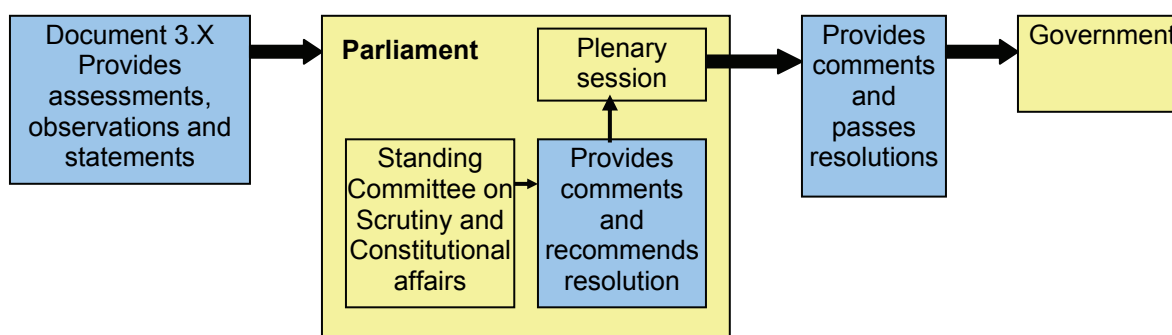
Appendix 1. The detailed performance audit report

Once the Document is sent to the Parliament, the OAG does no longer play any role in the process. The Parliament submits the document to the Standing Committee on Scrutiny and

Constitutional Affairs for consideration. The Committee has no power to make decisions; it submits recommendations to the Parliament. The recommendations conclude with a proposal for resolution by the Parliament. Both the OAG's Document and the recommendations from the Committee are debated in the Parliament in a plenary session resulting in a resolution in addition to the verbatim minutes of the debate. The Parliament's resolution and the recommendations from the Committee do seldom contain direct instructions to the Minister on what to do in the coming period. More often the message will be that these areas are important and that they need improvements.

After three years the OAG assess' the ministry's follow-up of the audit results, the resolution from the Parliament and the outcome of the parliamentary debates (blue/dark boxes in fig.1).

Figure 1: Decision process after the Document is sent to the Parliament



This then leads us to ask: What impacts have the OAG's environmental performance audits had over the past five years?

### Improvements as result of the audits

Clearly, the governmental administration takes both the signals, premises and resolutions from the Parliament's debates, and the OAG documents in itself, very seriously, and that they improve their efforts and practices as a consequence of the audits. The five three-year follow-ups carried out on the environmental performance audits discussed in this paper, have all been concluded closed. By closing an audit, the OAG signals that the ministry has made sufficient efforts to meet the requirements from the audit and the following parliamentary process.

It is also important to register that in the majority of the audits, the ministries confirm that the audits have benefited their management. We see that changes in practices are made directly in line with the findings of the audits. For example, in our audit on the authorities' monitoring and control of hazardous substances the Norwegian Pollution Control Authority and the regional control bodies made changes to the system used for selecting entities for control, now integrating a more risk oriented approach. Monitoring and control is now directed towards businesses where the likelihood for violation of legislation is greatest and the consequences of a spill would be most severe.

In general there seems to be three factors that make audits particularly valuable from the ministries point of view:

- New knowledge about an area
- Increased focus on an important, but possibly neglected, area

- Guidance on improved management by objectives and reporting

### **Audits that add new knowledge are well received**

There are several different ways that audits can increase the knowledge base for the ministries. Several of our studies have provided empirical data in a more thorough way than previous studies, and thereby created a fuller understanding in the ministries about the matters they are managing. Other studies have cast light on causal chains that the management have been unaware of. Some studies also contain assessments of different policy instruments and how well they are functioning under the current management.

#### *Example 1*

In a recent audit that has been presented at several international gatherings already, we focused on the sustainability of today's management of fishery resources. The study provided knowledge and perspectives on the development of the technical capacity of the deep-sea fishing fleet that neither the Ministry of Fisheries and Coastal Affairs or other relevant governmental authorities had. An applied research institution (SINTEF) was given the task to calculate the capacity of the deep-sea fleet. This way it was possible to include more specific analyses of the effects and impacts of the existing policy regime and also include perspectives on the future development within this sector. The Standing Committee of Scrutiny and Constitutional Affairs stated that the report on the management of fish resources has been a useful review of the area and has brought new knowledge to the fisheries management, the Parliament and the fishing industry.

This audit also shed light on weaknesses in policy instruments. The fishery management's risk assessments within the resource control have rarely been systematic and documented in writing. This makes it difficult to document and assess whether the resource control is effective and whether the resources are actually being distributed in accordance with the results of the risk assessments. In respond to this, the Ministry has initiated a project to document the risk assessments. Furthermore, new systems for risk assessment within the fishery sector, at both strategic and operative levels, have been developed.

#### *Example 2*

Another example is the audit of the building activities in the 100-meter belt along the shoreline. Since 1965 there has been a general ban against setting up new buildings in the coastal zone. The coastal zone is popular for public recreation and important for biological diversity. Buildings have, despite the ban, been constructed close to the shore. The audit documented surprisingly high numbers of new buildings in the coastal zone. This was to some extent caused by undesirable practices in the municipalities who have the power to approve building applications. Parts of this practice stemmed from misinterpretations of the legislation by the municipalities. An empirical study to the government representatives at regional level (county governors) revealed a need for a clearer mandate for reactions towards the municipalities when their practice was undesirable. Furthermore, the regional level was in need for more support from the Ministry of Environment on their decisions. Through the empirical studies into this area, substantial flaws in the databases were also discovered. The Ministry emphasizes that the new knowledge gained from this audit has been useful in the further work in this area and in the communication of the national policy for the coastal zone development. The report indicated where improvements were needed.



### *Example 3*

In our recent audit of the management of reindeer grazing resources in Finnmark County a survey was carried out. This provided the basis for assessments of different policy instruments and how well they function under the current management regime. The audit focus was to see how well the different policy instruments were working together, as well as separately. We found that:

- The restrictions on reindeer husbandry in the Reindeer Herding Act were not used in accordance with the potential in the law.
- The economic policy instruments to regulate the number of reindeer had not led to the desired reduction in the reindeer population

According to the recommendations from the Parliament it seems like this knowledge led to a fairly strong statement: The Parliament expect the Ministry of Agriculture and Food to look closely at the practice of the law and the whole policy instrument system as well as to suggest a new law to the Parliament. The Ministry has confirmed that they have started the work as suggested.

### **Increased focus on important areas**

The most common outcome of auditing is increased focus on the audited area. Some of our audits have been front-page news. In general the media is interested in our audits, and publicity attracts both the public and the political attention to the environmental areas audited. Traditionally in audit work, attention on poorly functioning areas can well be a source of embarrassment for the ministry. While this may be true in some environmental audits, other cases indicate that the ministries appreciate our help in shedding light on areas difficult to master with scarce resources. This also applies to areas where different ministries have conflicting interests.

### *Example 4*

In our audit on the management of reindeer grazing resources, the Parliament and The Minister of Agriculture and Food emphasize the important light the OAG has shed on a difficult and controversial area where the results have failed to materialize even though the problems have been recognized for 20 years. Both the Ministry of Agriculture and Food and the Ministry of Environment specifies increased focus as the most important impact this audit has had. Furthermore, this focus has led the Parliament to declare that the ecological sustainability of the grazing resources must come before economic gain.

### *Example 5*

Another example on positively received extra focus is the above-mentioned audit of the building practices in the coastal zone. The policy instruments accessible for the Ministry of Environment in this area are mainly of a soft nature. Discussions in the public domain, an extraordinary hearing by the Standing Committee on Scrutiny and Constitutional Affairs, the debate in the Parliament with emphasis on the national importance of these areas and large press coverage, all helped the Ministry to get the message across to a wide audience. The Ministry also stress in its reply to the OAG that they refer to the audit report in their own policy documents.

### *Example 6*

An example of extra focus that did not go down well with the ministries is our audit related to the OSPAR convention. The Ministry of Environment has perceived the audit as unwarranted pressure for actions. Although satisfied with the Norwegian legislation's compliance with the convention, the OAG was not satisfied with the level of control and monitoring activities by the Norwegian Pollution Control Authority. Furthermore, the authority's use of severe sanctions was not at a sufficient level. The three-year follow-up indicated that the authority had increased the number of controls and met the violation stricter than earlier, so there is little doubt that the audit did have some impact. Nevertheless, the Ministry of Environment states that the audit from their point of view had a wrong focus. They claim that a better dialogue between the OAG and them selves would have resulted in a better-targeted scope for the audit and more value for the ministry.

### **Guidance on improved management by objectives and reporting**

The third type of input from our audits that ministries find valuable is the guidance our audits represent when we discover deficient management practise and reporting and indicate better routines.

### *Example 7 and 8*

Two environmental audits towards the Ministry of Foreign Affairs have analysed the Ministry's project management systems: i) in the area of environmental development assistance; and ii) as part of the implementation of the Plan of Action for Nuclear Safety Issues. In both audits, OAG's overall observations and statements were targeting the aspects of management by objectives and reporting within these areas based on in depth studies of a selection of projects. On-site interviews and document collection provided detailed insight into project management routines and practices beyond the standard procedures.

In both cases, the Ministry emphasises that the audits have been of key importance for a comprehensive restructuring and reorganization of management systems and reporting structures. In the case of environmental development projects, the Ministry has formulated new guidelines for environmental assessments of projects, and the routines for reporting to the Parliament has been changed to more systematically ensure the reflection of the environmental targets within the foreign aid policy. In the case of the Plan of Action for Nuclear Safety Issues, a full restructuring of procedures and regulations within the plan has been conducted. The division of roles and responsibility between the Ministry and other involved authorities has been clarified.

### *Example 9*

The above-mentioned audit on the management of the national fish resources also focused on management by objectives. The audit observed that the Ministry's efforts on setting performance requirements had not yielded the desired results. The use of performance indicators was inadequate, and the degree of attainment of targets was seldom reported as required by the Appropriations Regulations. In the wake of the audit, the Ministry has worked to find adequate indicators to better enable reporting on targets and results, although it is found difficult. In general, the Ministry emphasises that the audit report has been useful for the fishery authorities and in the Ministry's work on improving routines and practices with regard to management of subordinate agencies, reporting and evaluation.

### **Key factors to secure acknowledgement from the audited body**

The experiences so far suggest that three factors are crucial for the acknowledgement of the findings in the audits. Acknowledgement is important to make the administration see the audit as a useful tool. The factors we would like to highlight are a wide approach to the audited theme, a firm professional base and integrity, and a well-targeted scope through good communication.

### **Broad approach to the theme**

A central factor in the replies from the ministries was the appreciation of a holistic and embracing approach to the theme for the audit. Generally speaking audits that cover a broad spectre of aspects in a policy area are being perceived as legitimate even if they are critical, as the criticism is based on an understanding of the issues that the ministries can identify with.

Experiences also show that the OAG's need to scope the audit narrowly and limiting the audit to a feasible task may cause an audited body to claim that the understanding of the bigger picture is compromised and that the criticism is unjust. Such a course of events is certainly not desirable.

### **Firm professional base and integrity**

Another identified key factor of importance for the acknowledgement of our reports, is that the auditors appear as professionals with both auditing skills and specialist skills within the sector they investigate. It is essential that we appear as objective and independent, and that nobody questions our causes for conducting a particular audit. We are therefore continuously working to increase our knowledge in the management of natural resources and the environmental policy sector.

In audits where we experience that we do not have the possibility to internally develop the necessary skills, we make use of external experts. In a small country like Norway it is, however, a challenge to find environmental experts that are well recognized and not too closely related to the auditees. It is essential that the facts and findings are reliable, and that nobody questions them.

### **Good communication and a well targeted scope**

For some of the environmental audits the ministries emphasise the importance of the good communication between the OAG and the ministry during the audit process. The Ministry of Fisheries and Coastal Affairs highlighted the good dialogue between the auditors and the auditees as valuable for obtaining a constructive result. The Ministry of Environment also emphasised the good cooperation as important in one of the audits that they perceived as very useful.

So why are the good dialogue that important? In the dialogue process the auditees share information and knowledge that they have about the topic in question as well as getting an understanding of the benefits an audit might bring. Matters that might be discussed through the process are the scope of the study, the audit questions, the audit criteria, methodological aspects and findings. In addition to the potential for new and improved insight on both sides through the dialogue, information received in the direct dialogues may also be difficult to get hold of solely through documents or other written sources.

## **How the OAG will continue to ensure impact of our environmental audits**

The OAG's Strategic Plan for 2003-2006 emphasis the following target:

“By virtue of the auditing process and reporting of relevant matters to the Storting [Parliament], the Office of the Auditor General's performance audits shall provide useful input for the development of a better and more efficient administration”.

Dialogue and communication is a central factor towards this target. Each year, the OAG management has meetings with ministries and relevant subordinate agencies to discuss the general risk situation to ensure a joint understanding of the fundamental basis for future audits. Additionally, efforts are made to ensure relevance and acknowledgement of each audit: i) all new audits have a start-up meeting with the relevant ministry, where the overall perspective of the audit are presented and discussed, and which opens up for dialogue on both perspectives and key questions; ii) the ministry receives the audit criteria and is invited to comment and supplement them before the audit assessments are made; and iii) the handover of the final audit results includes a broad-based presentation of the audit.

The department in the OAG that cover environmental audit sees a good dialogue with the ministries as of key importance for how the audits are received and thereby what impact they will have with regard to a change in policies and practices. The department has therefore decided to add extra contact points with the audited body to its routines. Two – three meetings will be held through the audit period, and the purpose for these meetings is to get feedback on our scope, methods and preliminary findings so as to enrich the audit.

Another effort to increase impact taken within our department is to strengthen the risk assessment phase of the audits. Preliminary studies are required in all audits, but the department has initiated additional “strategic studies” to strengthen the knowledge basis for future audits. The strategic studies include thorough analyses of a selected ministerial sector, and the initial aim is to strengthen the internal capability in the department within this area. Secondly, the aim is to identify the most vulnerable and possible most mismanaged policy areas within this sector. These strategic analyses ensure a more professional understanding of the policy area and the challenges that the ministries face regarding its management. So far, two strategic studies have been carried out within our department – one in the petroleum and energy sector, and one in the agricultural sector. The study in the petroleum and energy sector has substantially improved the relationship between OAG and the Ministry of Petroleum and Energy, and cooperation on the formulation of a performance audit on the sector is initiated.

In light of the findings of this paper, we will stress the importance of providing new knowledge through our studies. As the Parliament expects the OAG to carry out broad scoped performance audits, the organization is given resources that enable us to generate new knowledge and insight into key policy areas. As the examples show, we make use of knowledge and competence beyond the capacity of the OAG through external experts and applied research institutions. Still, much information is accessible for the OAG auditors only, and resources should also be channelled within the organization to ensure the quality of the audits. As the aim of the department is to continue to scope audits that give new knowledge to the governmental administration in key policy areas, we will continue to develop our in-house competence and dialogue skills.

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<sup>i</sup> The assessed documents are listed below. Press releases for all these audits and some full text versions are available in English at our web page: [www.riksrevisjonen.no](http://www.riksrevisjonen.no).

Document no. 3:13 (2003-2004), The management of fish resources

Document no. 3:12 (2003-2004), The sustainable use of reindeer grazing resources in Finnmark County

Document no. 3:6 (2002-2003), The authorities' efforts to clean up polluted soil and sediments caused by polluting activities in bygone years

Document no. 3:4 (2002-2003), Environmental development assistance

Document no 3:9 (2001-2002), The authorities' control of hazardous chemicals

Document no. 3:7 (2001-2002), Building within 100 metres of the shoreline

Document no. 3:9 (2000-2001), The implementation of the plan of action for nuclear safety

Document no. 3:4 (2000-2001), Norway's compliance with the OSPAR Convention within industry, waste water management and agriculture

## Through Financial Audit to Environmental Audit (Russian Federation)

**Theme:** Increasing the Impact of Environmental Audits

**Author:** Alexander V. Nazarov

The audit related to budget enterprises makes the Accounts Chamber of the Russian Federation to face the following problem. The enterprises of different forms of activities damage the environment, the rehabilitation of which demands in its turn direct and indirect expenses in the volume considerably exceeding at times all types of revenues raised within these enterprises. To pay minor fines is easier for today's business than to eliminate the consequences of damage and implement measures that would ensure the environmental security.

At the bottom of such state of affairs are:

- The absence of efficient instruments of implementation of the environmental legislation;
- The morally and physically obsolete equipment;
- The cumulative factor arisen from the environmental problems occurring during the previous decades;
- The low effectiveness of the allocated resources;
- The limited international practical experience in resolving the environmental problems.

The major environmental problems in Russia are:

- The water body pollution;
- The atmospheric air pollution by emissions from industrial enterprises and vehicles;
- The constantly increasing amount of production and consumption residues, including toxic ones;
- The soil contamination, ground cover degradation, reduction of flora and fauna species composition.

The efficient resolution of the enumerated environmental problems depends directly on the level of financing of the activities of federal bodies of the environmental complex, implementation of federal target environment-oriented programs as well as financing of environmental arrangements, primarily out of federal budget.

The international practice demonstrates that the increased requirements to the environmental security of the production in combination with the economic incentive of specific enterprises force the industry to introduce new energy-saving and clean technologies. In 2001 the Government of the Russian Federation adopted *the Environment and Natural Resources of*

*Russia* (2002-2010) Federal Target Program with the projected amount of financing 10bln rubles allocated from the federal budget. At the same time the analysis of the implementation of this program revealed the undue and untimely allocation, inefficient distribution and no-purpose channeling of funds. As a consequence, there are no expected results achieved, including in universal introduction of the environmentally friendly productions.

The Accounts Chamber of the Russian Federation in its activities puts high emphasis on the audit of financial resources allocated to protect the environment. One of its areas is the control of the federal budget funds allocated to rehabilitate the mineral resources, support agriculture and fishing industry, water resources, forest sector and environment protection. Within the framework of this area the audit activities are carried out aimed at both auditing the financial, legal and environmental aspects of the issue and revealing actual achievements, advances and difficulties in protecting the environment. The following audits were conducted in 2001 – 2004:

**2001**

Control of Funds of the International Bank of Reconstruction and Development allocated with the aim of environment protection;

*Audit of the Volga Rejuvenation* Subprogram implementation within the framework of *the Environment and Natural Resources of Russia (2002-2010)* Federal Target Program;

International parallel audit of the Helsinki Convention

**2002**

*Audit of the Wastes* Subprogram implementation within the framework of *the Environment and Natural Resources of Russia (2002-2010)* Federal Target Program;

*Audit of the Baikal Protection* Subprogram implementation within the framework of *the Environment and Natural Resources of Russia (2002-2010)* Federal Target Program.

**2003**

International parallel audit of the Bucharest Convention on the Protection of the Black Sea;

Audit of the efficient utilization of federal funds allocated to protect forests.

**2004**

International parallel audit of the Neman River;

International parallel audit of the Helsinki Convention.

Besides, we prepared the analytical paper containing measures on the improvement of efficiency of the use of forestry funds, that was sent to the heads of ten authoritative bodies of the Russian Federation for taking decisions, to the plenipotentiary representatives of the President of Russia in four federal constituencies, heads of legal and executive authorities of the subjects of the Federation.

For **2006**, we planned the bilateral audit of the Caspian and Barents Seas.

The audit findings demonstrate the low level of federal budget financing of the environmental activities.

The audit of the completeness of financing and target use of the federal budget funds allocated to implement *the Lake Baikal* Subprogram revealed an extremely low (16 per cent) level of its federal financing. Besides, the experts of the Accounts Chamber noted a number of deficiencies which do not allow to provide the protection of the Baikal Lake as an object included in the **UNESCO List of World Heritage**, namely the great number of state customers, absence of due control over the implementation of program measures, etc. The Baikal Lake protection not only corresponds to the national interests of Russia but is the integral part of the fulfillment of international obligations under **the Convention on the World Natural and Cultural Heritage**.

The audit revealed the violations in the management of *the Volga Rejuvenation Program* which increase the efficiency of the allocated budget funds.

The international audits within the framework of the Work Group on the Environment Protection of the European Organization of the Supreme Audit Institutions (EUROSAI) covered the issues of federal budget funds use as well as of other sources, including regional and foreign, channeled to implement measures on reasonable natural management and environment protection. Besides, we conducted the expert arrangements within the framework of the audits aimed at environment assessment of the environmental situation in a number of regions.

Upon the findings of parallel and joint audits we approved the general reports signed by the representatives of participating parties and directed to the Secretariat of the EUROSAI Work Group. So the findings gained the international recognition.

**It should be noted that the Accounts Chamber of the Russian Federation pays great attention to multilateral and bilateral international cooperation and takes an active part in the activities of the supreme audit institutions. For several years already and based on many examples we exchange the experience on the environmental audit between the European and world supreme audit institutions. These issues are connected with joint audits, their planning, preparation of reports and circulation of the audit findings at the international and European level, personnel training and education at the specialized courses and many others.**

In this context and taking into account the international obligations of the Accounts Chamber of the Russian Federation the later faced the necessity of elaborating a special document that would regulate the activities of the body responsible for organization and implementation of joint and parallel measures with the foreign state audit bodies.

In 2004 the Decision of the Board of the Accounts Chamber of the Russian Federation developed and approved the provisional procedure of the said audits implementation. The updating of the provisions of the said procedure will be conducted based on the results of the 2004-2005 audit organization and implementation as well as taking into account the recommendations elaborated at the EUROSAI and INTOSAI Work Groups' meetings.

So, we developed the methodological foundations for conducting the international audits, which allow to prepare and carry out the audit as well as synchronize the participation of the parties.



In conclusion, I would like to note the perfect international cooperation in the North of Europe. On 22 September 2005, the South-West disposal plants were introduced in Saint-Petersburg.

Russia completed the large-scale and even enormous for the region environmental project. We made a step forward towards constraining the rate of pollution of the Baltic Sea water area that became a significant contribution to improving the life quality of people in Saint-Petersburg as well as in the countries of the Baltic region inhabited by 50mn people.

When introducing the construction, the President of Russia expressed gratitude to the President of Finland and Prime Minister of Swiss for their personal contribution to the implementation of this project. The President of Russia noted that the taxpayers in Finland, Swiss and European countries in general, proceeding from the premises that the European Union has already contributed to the solution of this problem, should know that their money are spent in the best manner.

The President of the Russian Federation expressed assuredness that Russia would realize its responsibility for ensuring the environmental balance, improving environment and relies on further international cooperation in the implementation of such large-scale projects in which interested the peoples of different countries.

I would like to hope that the recommendations elaborated at this workshop will lead to a more productive environmental audit and improved environmental situation in our counties.

## **The Importance of the Audit in the Area of Waste Water Treatment (Slovak Republic)**

**Theme:**        **Increasing the Impact of Environmental Audits**

**Author:**      **Igor Ciho**

Water is the most common substance on Earth, covering more than 70 percent of the planet's surface. Water makes up two-thirds of our own bodies. But the abundance of water is an illusion. Only a tiny fraction of the planet's water is drinkable. Ninety-seven percent is sea water, which is expensive and difficult to desalinate. About 2 percent is caught in polar ice caps. That leaves just 1 percent to sustain life in this millennium. Within 25 years, half the world's population could have trouble finding enough freshwater for drinking and irrigation. Two hundred scientists in 50 countries have identified water shortage as one of the two most worrying problems for this millennium.

The best things in life are free. But because water is free, we often take it for granted. Clean water is now scarce, and we are at last beginning to respect this precious resource. Like other environmental resources, the clean water that remains is the property of our children and grandchildren. For their sake, we must fight to protect what is left of the water supply.

### **1. Activity in the Area of Environmental Audits**

The audit activities at the governmental level are directly related to the legislative system. All legislation in the area of environmental protection make basis for the regulation of commercial subjects in order to reach goals of environmental politics. Very important are also financial instruments which directly or indirectly affect the adopting of measures and taking necessary actions aimed at protection and improvement of environment.

Among the economic instruments in the area of environmental pollution and exploitation of natural resources the following fees can be defined:

- for air polluting,
- for discharging of waste water,
- for waste storage,
- for taking agricultural land,
- for taking forest land,
- for drawing water from rivers and streams,
- for drawing well water.

There are also other components aimed at protection of the environment which are included in the tax system, such as taxes and levies.

According to the facts mentioned above it is obvious that the financial instruments play a crucial role in the environmental politics.

The audit activity of the Supreme Audit Office of the Slovak Republic (SAO SR) includes auditing the management of public funds that are vital for addressing environmental problems. During the twelve years of SAO SR existence no aspect of financing environmental goals was left without attention. That includes individual specific subsidies provided directly from the state budget, the State Environmental Fund and charging appropriate fees.

The SAO SR performs environmental audits on regular basis. Total number of environmental audits carried out in the period of 1999 – 2004 was 24 including 3 international audits. Audit results and recommendations are sent to appropriate committees of the National Assembly of the Slovak Republic and to the Ministry of Environment as well. The findings should help in their legislative activity and in considerable way assist in checking the government's management of state finances and state property. Audited entities are obliged to adopt their own measures to eliminate shortages (misstatements, irregularities) and violations of law.

## **2. Example of Audit**

### **Background**

#### ***Title of audit***

Audit of Management of Financial Funds of the Slovak Republic and European Community allocated for Construction of Waste Water Treatment Plants and for sewerage systems.

#### ***Type of audit***

Financial and regularity audit.

### **Audit Planning**

#### ***Audit Aim***

The audit aim was to verify:

- economical, efficient and effective use of the financial means from the state budget and from the European Communities (EC),
- fulfillment of budgetary discipline and rules of sound financial management of financial means from EC, concerning the construction of waste water treatment plants and sewerage systems.

#### ***Scope of Audit***

Compliance with the rules of sound financial management:

- at the Ministry of Environment of the Slovak Republic,
- at 8 selected municipalities,
- at 2 water management companies,
- at 1 business association.

## ***Date of completion***

24 January 2005

## **Methodology**

Audit of Management of Financial Funds of the Slovak Republic and European Community allocated for Construction of Waste Water Treatment Plants and for sewerage systems was the financial and regularity audit. We used relevant acts on this type of audit. Apart audit of respect of rules defined at the acts our main question was “Which were the main funding goals from the point of view of environment protection?” and “Were the goals achieved?”

We started our audit at the Ministry of Environment, continued the audit at the water management companies and later at the selected municipalities. We finished the audit at the Ministry of Environment. This procedure allowed us to apply the acquired knowledge to draw conclusions in the audit report and to suggest recommendations for the Ministry of Environment.

## **Findings and Recommendations**

### **Findings**

#### *General*

Number of inhabitants using the sewerage system is 2 978 thous. inhab. (55 %).

Length of the sewerage network is 6 853 km. In general 557 municipalities (19 %) have public sewerage system and 492 municipalities (17 %) have waste water treatment plants (WWTP).

Number of the WWTP in the Slovak Republic is 395. Most of them are mechanical-biological WWTP (87 %). Total capacity of the WWTP is 2 112 thous. m<sup>3</sup>/day.

There were 1 422 applications for financial subsidies for Construction of WWTP and sewerage systems in the years 2003 – 2004 of total amount 9 866,7 mil. Sk. The Minister of Environment decided to allocate subsidies only to 454 applicants (32 %) in total amount 1 073,1 mil. Sk (11 %). The reason was lack of financial means and sporadically failure to comply with requirements for allocation of subsidies for applicants.

#### *Specific*

The Ministry of Environment of the Slovak Republic (ME SR) disbursed subsidies to accounts of beneficiaries based on their invoices in spite of shortcomings in the process of project implementation. This procedure of the ME SR indicated insufficient interim audits.

There were found shortcomings in 7 cases concerning the compliance with the provisions of laws and contracts between the ME SR and beneficiaries.

The audit found:

- differences between invoices and completed works,
- uneconomical activities,

- breaking contractual conditions,
- failure to comply with procedures of accounting.

### **Recommendations**

Recommendations for the Ministry of Environment of the Slovak Republic:

- to develop more detailed subsidy rules,
- to improve interim audits,
- to increase the financial resources for construction of waste water treatment plants and sewerage systems.

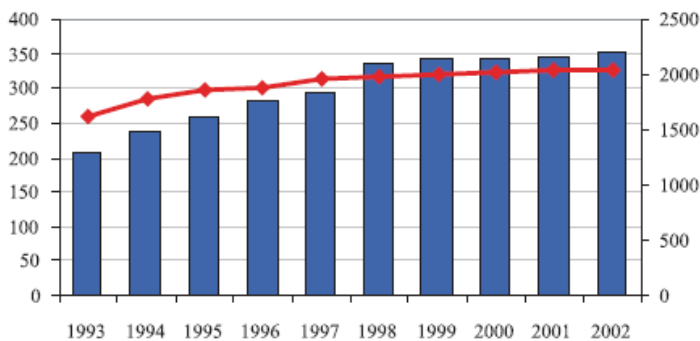
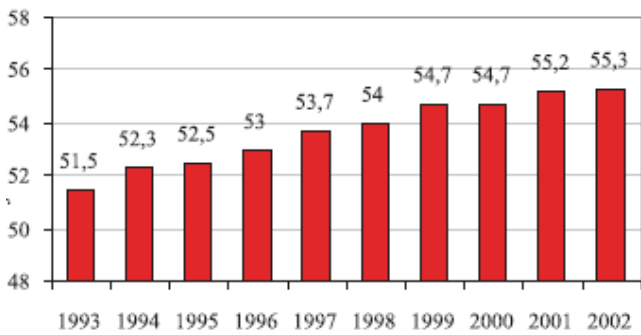
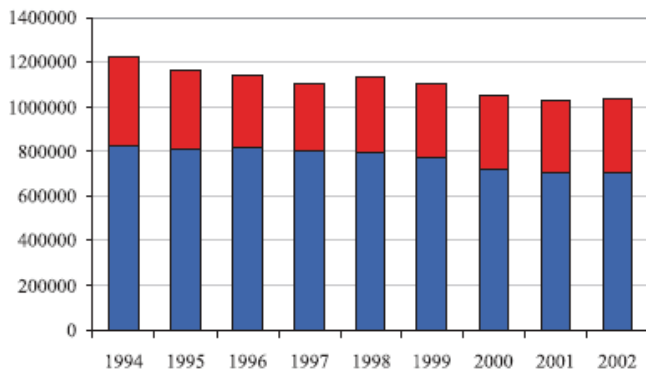
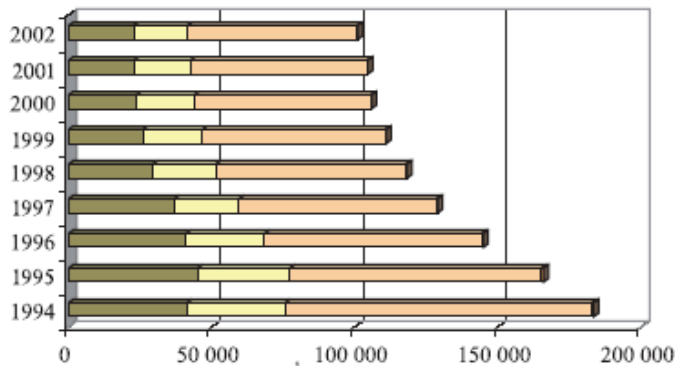
### **Impacts and Results**

Audited entities have adopted their own measures to eliminate shortages (misstatements, irregularities) and violations of law. The Ministry of Environment of the Slovak Republic has developed and adopted new directive on subsidy rules concerning the construction of waste water treatment plants and sewerage systems. It is also important that the Ministry of Environment has improved its interim audit since we performed our audit.

### **Challenges Faced in the Audit**

We did not face special challenges during our audit. Status and scope of competence of the Supreme Audit Office of the Slovak Republic granted us sufficient authority to perform environmental audits.

Some data collected during the audit





The Waste water treatment plant in Brezno ▲ and in Žiar nad Hronom ▼



## **Increasing the Impact of our Audit: Environmental Audits as Case Examples (United Kingdom)**

**Theme:** Increasing the Impact of Environmental Audits

**Author:** UK National Audit Office

### **Introduction**

This paper explains how the UK National Audit Office works to increase its impact. It describes the different types of impact we can achieve, whether financial or non-financial, and considers how the impacts of an audit can be increased at every stage of the audit, from planning to post-publication.

The UK National Audit Office has a publicly stated target to save the taxpayer at least £8 for every £1 spent running our office and though the impact of our work is much greater than direct financial savings alone, we recognise that this savings target is an important indicator for the UK Parliament and taxpayer of the 'return on investment' they are getting from our work. The savings figure varies from year to year but the average trend is upwards and we consistently achieve or improve on our target. Indeed, we have reported total savings of more than £4bn since 1993.

Although the nature of the impacts we generate may be different for environmental audits, the opportunities for securing these impacts will be similar for all audits. This paper therefore identifies when and how to make impacts on any audit but gives illustrative examples from recent audits of environmental topics and on our cross cutting sustainable development audit work.

### **Types of Impact**

At a high level, impacts fall into two main groups: financial and non-financial. Here, we consider each in turn.

### **Financial Impacts**

We achieve a financial impact when, as a result of our recommendations, a department either reduces the resources it employs to achieve its objectives, increases its revenue, for example by reducing fraudulent non-payment of taxes or duties, or improves the efficiency of its activities. Sometimes financial impacts are cash releasing in that we identify ways in which the same output can be achieved for fewer resources. These may be savings for the relevant government department and hence indirectly savings for the taxpayer, or they may be direct savings for the citizen. These often arise from audits or studies where we have identified scope for improved financial management on the part of departments, agencies or public bodies. Cash savings can also come from errors picked up from our routine financial audit work. In other cases the financial impacts are non-cash releasing *efficiency improvements* whereby outputs are increased for the same level of input. Case examples 1-4 describe examples from recent audits on the Environment Agency (England and Wales) that illustrate a variety of financial impacts in practice.



**Case example 1: Cash releasing financial impacts**

*Environment Agency: Protecting the Public from Waste (2002)*

In this study we highlighted that many low risk waste sites were being inspected frequently by the Environment Agency and recommended a lower inspection frequency combined with more in-depth inspections. Following the report, the number of routine inspections dropped from 125,000 planned for 2001 to 84,000 in 2003. This was calculated to be equivalent to £6.15m saving in that year (with further savings to follow in future years) of which 50% was considered attributable to the impact of our report.

**Case example 2: Cash releasing financial impacts**

*Environment Agency: Efficiency in Water Resource Management (2005)*

Here, we estimated that the Environment Agency could save up to £2.5m in the cost of managing water resources and a further £174,000 for other parts of the Agency, by implementing our recommendations. These recommendations included for example, better control of the size of the network of monitoring sites; improved organisation and a review of the need and frequency of visits to sites; the use of new technology to automate data collection and transmission; and better organisation of data collection teams.

**Case example 3: Non-cash releasing efficiency improvements: 'Getting more for your money'**

*Environment Agency: Protecting the Public from Waste (2002)*

Another recommendation from our study on waste management in the UK was that the Environment Agency would make better use of its resources to combat the illegal dumping of waste (fly-tipping) if a national monitoring system for fly-tipping was established. This has since been established, and has enabled the government to compile a comprehensive national picture of the true extent of fly-tipping which has helped direct resources, target hotspots and identify trends.

**Case example 4: Direct saving for the citizen**

*Inland Flood Defence (2001)*

Following this study in which we highlighted problems of poor maintenance and inconsistent standards in flood defence in England, the Environment Agency increased investment in flood defence. Although this represented an increased cost to the department, the cost-benefit ratio was such that this cost was far outweighed by the savings to citizens in flood risk areas, both in terms of reduced insurance costs, and in terms of protection from the trauma and disruption that flooding can cause.

**Non Financial Impacts**

Many of the beneficial effects of our audits and studies cannot easily be quantified in monetary terms. There are several ways in which we can have a qualitative impact:

- At the broadest level, our work as a SAI has a crucial impact in providing assurance to Parliament that public money is spent properly and our very existence is a significant deterrent against impropriety in this regard. More specifically we often draw attention

to areas where government needs to improve its information gathering and monitoring activities (Case example 5).

- Another impact we can have is through contributing evidence and analysis to ongoing debates in Parliament. Sometimes we even play a part in raising the profile of issues in the first place, though for us, this is a by-product of our work.
- Finally, the important role we play in improving service delivery cannot always be fully expressed in terms of financial savings or efficiency improvements. Indeed, recommendations that result in lives saved, or increased well-being may need some assessment of intrinsic value.

**Case example 5: Improving information gathering and monitoring**

*Policy Development: Improving Air Quality (2001)*

In our report on the UK's national air pollution strategy we highlighted that further research was needed on the health effects of air pollution and on ways of incorporating these effects into an analysis framework (either by valuing these effects in monetary terms or by accounting for them in other ways). The government accepted this recommendation and has since supported a number of research programmes to this end.

Often our work will result in a range of financial and non-financial impacts. Case example 6 describes an example where we have achieved both financial and non-financial impacts.

**Case example 6: Achieving financial and environmental impacts**

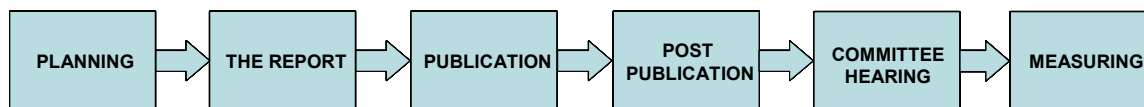
*Warm Front: Helping to Combat Fuel Poverty (2003)*

As a result of this report the environment department now replaces boilers for the fuel poor with the most fuel efficient model which also had lower purchase costs, rather than with a similar model as previously had been the case. Because these models were cheaper to buy, this impact was calculated to save £400,000 per year to the Department and hence to the taxpayer. Additionally this change led to lower fuel costs for the citizens involved, and to a potential saving for the environment from reduced carbon dioxide emissions.

**Increasing impacts at each stage of the audit cycle**

One way to increase the impact of an audit is to think about increasing impacts at every stage of the audit. For the second part of this paper we have divided our audit cycle into six key stages, which are depicted in figure 1. We will consider each in turn:

**Figure 1. Six stages of the audit cycle for increasing impacts**



## **1.Planning for impacts**

We recognise that good planning is vital for achieving impacts and so we consider the potential impacts of our work at the earliest possible stage.

Some areas have more potential for impact than others. By identifying early on which topics have the greatest potential for high impact, we can ensure our resources are allocated most effectively. We use four classifications to help us identify good study topics and ensure a good cross section of subjects:

- Financial Impact/Efficiency
- Service Delivery Improvement
- Parliamentary Interest
- Coverage/Value/Risks to value for money

All four types have the potential to be high impact studies but the first type are those where we consider we are likely to secure a significant financial impact. For these we would also estimate at an early stage the likely size of any financial impact. We also undertake studies where we can add value through our expertise such as our work on Private Finance Initiatives.

One recent subject which was both high profile and had the potential for high financial impact was the UK Emissions Trading Scheme. In our report on this subject (published 2004) we expressed concern that the targets set for some participants in this scheme to reduce greenhouse gas emissions were not as demanding as they could have been. Helped by our work, the Department was able to agree tightened targets for six leading participants in the scheme. These extra reductions, a 75 per cent increase in the scheme's effectiveness, would have cost £12 million per year for three years if the department had needed to buy them in the emissions market. Half of the value of the tightened targets was considered to be due to the NAO's work.

Of course, we may make recommendations that have the potential to achieve savings; but it is only when departments implement these recommendations that the benefits are realised. Only by working together can we achieve maximum benefit, and that is why we take care to develop and maintain good client relations throughout the audit process.

## **2.The report**

Strong evidence is the cornerstone of a good report and key to securing our impacts. For example, in a recent review of sustainable procurement in central government, we found that there was a difference between what academics and policy makers generally perceived to be the barriers to sustainable procurement, and what the people responsible for implementation 'on the ground' identified as barriers. One such example was that departments perceived that there was a lack of knowledge on what sustainable procurement is. This was backed up by the evidence that only four departments were delivering training on sustainable procurement. Given this evidence we were in a strong position to recommend that departments should increase uptake of training on sustainable procurement.

In terms of the recommendations themselves, all our recommendations should be SMART: Specific; Measurable; Achievable; Relevant and Timebound, so they are easily implemented and their impact is easily monitored. We are exploring ways to improve the added value to the departments of our recommendations, and are currently exploring how to make our recommendations more 'implementable', although discussing potential recommendations with the audited body is a good first step.

It is not enough, however, for the content of the report to be rigorous and relevant, it also has to be clearly communicated. To ensure this is the case we have developed a method for report drafting called the Dinner Party approach. The approach involves a meeting of the whole audit team (the audited body usually attends also) where we distil the detail of our evidence into around three high level messages, the intention being that these are framed so that they are sufficiently understandable and interesting to be potential conversation topics at a dinner party. Reports based on the Dinner Party approach are written so that a reader only needs to read the contents page for a summary of our argument and findings, which makes them immediately accessible to those without the time to read the full report. Figure 2 gives an example of this from our recent sustainable procurement report.

**Figure 2. A contents page using the Dinner Party approach.**

**SUSTAINABLE PROCUREMENT IN CENTRAL GOVERNMENT**

**3H**Part 1: Procurement has a key role to play in the drive towards sustainable development

**4H**There are government-wide mechanisms to promote sustainable procurement

**5H**How we approached this review

**6H**Part 2: The Sustainable Development in Government report (2004) presents an overly positive view of departmental performance

**7H**Departments interpreted the SDiG questionnaire differently, giving rise to inconsistencies in reported performance

**8H**The 2004 SDiG report suggests that departments' progress towards sustainable procurement is more advanced than it is

**9H**Part 3: There is a gap between commitment and implementation

**10H**Most departments have high level processes to enable sustainable procurement

**11H**Few departments have established mechanisms to put sustainable procurement into practice

**12H**Part 4: Departments face common barriers to sustainable procurement

**13H**Procurement teams identified a range of barriers to implementing sustainable procurement

**14H**Departments struggle to reconcile sustainable procurement and the need to reduce cost

**15H**There is a need for stronger leadership on sustainable procurement

**16H**Sustainable development is not yet integrated into the day to day business of procurement

**17H**The decentralisation of procurement activity makes sustainable procurement more difficult to implement

**18H**Sustainable procurement is hampered by a lack of knowledge

A final way to increase our impact is to include guidance on best practice and many of our reports have good practice checklists within them. For example in our report on the challenges of transposing and implementing environmental European law *Lost in Translation? Responding to the challenges of European law (May 2005)* we included a table of learning points for departments, which drew on the good practice examples we found in our study.

### **3. On Publication**

Our work to increase impacts does not stop with the report itself. However well drafted, rigorous and relevant our reports are they need to be publicised to ensure maximum impact.

The media are an important vehicle for publicising our work. We always formulate a communications plan for our reports and this includes a press notice to announce the publication and to draw attention to the key messages in each report. In 2004 the NAO was mentioned in nearly 4000 newspaper and magazine articles and this includes national and regional newspapers. Specialist publications are one way to get more detailed pieces on our work in to the media and this can be a significant route for environmental work as there are now a number of specialist environmental and sustainable development publications. In many cases there will also be advisory bodies, pressure groups or taskforces who can take forward our recommendations. The recent sustainable procurement review for example, can be used by the Sustainable Procurement Task Force - senior representatives of the public and private sectors who have been charged with developing a national action plan for sustainable procurement in the UK - and our report specifically identified the challenges which the Task Force will need to address in order to assist central government bodies in procuring more sustainably.

### **4. Post publication**

The primary audience for our report is Parliament, however, we recognise the importance of communicating key messages several times and in different ways. We may need something more hands on and user friendly to ensure recommendations are embedded:

- Producing supplementary publications. For example, using our findings from a specific department to draw lessons that are applicable to other departments or agencies through best practice guidance.
- Organising conferences on the themes in our report, or presenting our findings at conferences on related subjects. We have spoken at a number of conferences about Emissions Trading, Fuel Poverty and Air quality.
- Workshops and seminars with the Department and others to disseminate our findings. Our report on the challenges of European law, for example, concentrated on the experiences of the environment department, but our findings and recommendations were relevant to all departments whose remit includes areas covered by European law. We therefore organised a workshop with lawyers from across government to disseminate our findings to this audience as well as seminars within the environment department.

## **5. Committee of Public Accounts (PAC), Treasury Minutes and follow up**

Many of our reports are taken up by the PAC, a parliamentary select committee of 15 cross party MPs. Our report will form the key evidence at a PAC hearing, at which questions based on our findings and recommendations will be addressed to the accounting officer of the relevant department. Following this hearing the PAC will produce its own report, and the government is obliged to respond in the form of a Treasury Minute to any recommendations the PAC makes. The majority of the PAC's recommendations are accepted by government; in 2005 two hundred and seventy-six, or 93 per cent, of all recommendations were accepted.

For a certain number of reports we go a step further and do a follow up study to verify the department's implementation of the recommendations they agreed to following the PAC report. We are in the process of doing this for our 2001 study on inland flood defence, for example. Despite the fact that we do not do this for every study, the very possibility that we might is a strong incentive for departments to make good their commitments.

## **6. Measuring Impacts**

The last stage in the impact cycle is monitoring and measuring. It is important that the 8:1 savings ratio we claim is accurately calculated and reported. There are three main ways in which we ensure this:

- 1) We only permit an impact to be included in this target if it is clear that a quantifiable performance improvement has occurred that is a direct result of the NAO's work.
- 2) We require that the relevant department agrees to each impact. A discussion of whether the impact is attributable to the NAO is part of the agreement process for each financial impact. Normal practice is to agree with the department or agency concerned a percentage of the identified savings that would reasonable be attributed to NAO intervention.
- 3) Finally, we do not claim a financial impact until the department or agency concerned has taken action in response to our work.

Each year our impact calculation is externally audited and found to be 'reasonably stated and supported by robust processes'.

We recognise, however, that this financial target covers only part of our work and we need to have broader measures of impact than the simple financial savings target. We already keep a record of our non-financial impact, but recognise that it is helpful if this can be quantified in some way. We are therefore considering the possibility of developing a range of measures to supplement our 8:1 target – perhaps around the concept of a target of concentric rings with the 8:1 savings as the hard core in the centre, and the least tangible impacts, like our 'deterrent effect' at the outer margins. In between, there might be an economic value placed on such things as 'lives saved' by our health work or savings to industry as a result of better regulation. Environmental impacts could fit within this methodology.

We consider that increasing our impacts is the responsibility of every member of the audit team and have introduced a number of prizes for impacts this year, including a prize for the largest financial impact, the most innovative financial audit impact, and for the impact which is most transferable and easily leveraged to impact on other organisations and departments.

## **New Audiences as a way to increase impacts**

Although the majority of our Value for Money work is reports to PAC, we recognise that there is potentially a much wider audience within parliament for our skills and expertise. One way in which we already do this is by responding to over 400 queries a year from Members of Parliament on issues relating to public spending. Another potential avenue is support to other parliamentary select committees, in addition to the PAC. One select committee with which we already have a relationship is the Environmental Audit Committee and we have developed our work for this Committee over the past 18 months.

In July 2004 we provided analysis for the Environmental Audit Committee's Greening Government 2004 report. Our work assessed the Sustainable Development in Government Report 2003 which provides information about the performance of 20 central government departments and their executive agencies in nine areas of sustainable development for the financial year 2002-2003. One impact of this work has been that the questionnaire the government uses to gather information on departments' sustainable development progress, has been improved to make it clearer and easier to complete. In March 2005, we completed another briefing for the Committee which looked at the extent to which the UK government has delivery mechanisms to enable progress to be planned, coordinated, tracked and demonstrated against the commitments made at the World Summit on Sustainable Development held in Johannesburg in 2002. One of our key findings in this study was that the Table of Commitments that the UK government selected as priorities for actions was missing key areas of ongoing action, and following our study the Table was made more comprehensive and inclusive.

## **Conclusion**

The impacts of audit are always difficult to measure accurately. It is hard to attribute a consequence solely to the effect of the audit and impacts may be spread across departments, or extend to third parties. The impacts of environmental audits may often be even more difficult to measure for a number of reasons:

- Longer term impacts. Environmental impacts may not materialise for many years or they may have an impact that lasts for several years. This can pose problems for calculation and monitoring.
- Quantification. Environmental impacts are difficult to attribute monetary values to - and many will need some assessment of intrinsic value
- Inherent uncertainties. There may be inherent uncertainties as to what will happen in the future and so calculations may have to be based on scientific models. The counterfactual i.e. what would have happened had the audit not taken place, is also difficult to prove.

All this makes the impacts of environmental audit extremely difficult to quantify and even more difficult to express in monetary terms. However, we believe that looking for opportunities to deliver impacts at each stage of the audit cycle is a good first step in increasing the impact of our environmental audits.

## **Impact of GAO's Environmental Audits: Seeking The Highest Return on the U.S. Taxpayer's Dollar (United States)**

**Theme:**        **Increasing the Impact of Environmental Audits**

**Author:**      **Robert A. Robinson**

Reflecting the priorities of the United States Congress, and the concerns of American public at large, the United States Government Accountability Office (GAO) each year invests considerable resources in evaluating how the U.S. federal government is implementing the Nation's environmental laws and regulations. The bulk of this work is conducted by GAO's Natural Resources and Environment Team. To address the wide range of issues that lie within its purview, the Team employs a workforce of about 250 full-time staff, located in its Washington D.C. headquarters and in 6 field offices across the country.

This sizable commitment underscores the need to ensure that GAO's environmental audits achieve real results. For this reason, as discussed in the following pages, a desire to maximize the impact of GAO's reports is reflected throughout the Office's reporting process--from the moment the decision is made to undertake an audit until long after the audit report is issued.

### **Internal Performance Targets Encourage a Culture that Emphasizes the Impact of GAO's Environmental Audits**

GAO's management has long followed the adage, "What gets measured gets done." Given the importance we attach to the impact from our audits, we use a number of institutional measures, summarized in Table 1, which help us to track how well we are doing in this regard. Financial benefits refer to savings that accrue from GAO audits. Such benefits may result from (1) the termination of a governmental activity of questionable value, (2) a department's implementation of recommendations that identify how an activity can be carried out at lower cost, or (3) the collection of additional revenues to fund the activities of government. As Table 1 notes, GAO contributed directly to \$6.2 billion in benefits during fiscal year 2005 as a result of reports issued by the Natural Resources and Environment Team.

Non-financial benefits often accrue from audits that lead to improved government operations, but for which dollar savings cannot be quantified. These may reflect, for example, changes that help the program to better achieve its goals, or the passage of a law by the Congress (as a result of a GAO recommendation) that addresses a problem that cannot be solved by agency actions alone. In one recent instance, we found that state water pollution officials used widely divergent approaches in deciding which of their polluted waters deserved highest priority for cleanup, and that much of the disparity was caused by unclear guidance from the federal Environmental Protection Agency (EPA). EPA has since implemented our recommendation to clarify its guidance on what type of waters should be placed on priority lists, and on the circumstances in which polluted waters may be removed from these lists. Another example involves the nondisclosure of environmental risks and liabilities by private companies, which could impair the public's ability to make sound investments. For example, the discovery of extensive hazardous contamination at facilities could expose investors to expensive cleanup costs and affect the company's future financial position. As a result of GAO's recommendation, the Securities and Exchange Commission, a federal agency charged



with protecting investors, and the EPA are now sharing data relevant to environmental disclosure, and are exploring how EPA can provide other relevant information to investors.

In addition to tracking these tangible outcomes of GAO audits, we also track certain activities that are valued by the agencies we audit and by the Congress. Recommendations, for example, represent GAO's effort to provide constructive solutions to the problems it identifies, and are often solicited by both the audited entities and by the Congress that oversees them. Accordingly, we track both the percentage of reports we issue that contain recommendations, and the percentage of GAO recommendations that are implemented by the audited agency within 4 years. As you can see from the table, almost three-fourths of the environmental audit team's reports contain recommendations, and three-fourths of these recommendations are ultimately implemented by the audited entity. GAO does not permit us to prepare reports for the sake of preparing reports. We have to produce results.

**Table 1: NRE PERFORMANCE TARGETS AND RESULTS FOR FY 2005**

Measure	Tentative Fiscal Year 2005 Targets				Fiscal Year 2005 Results			
	Goal 1	Goal 2	Goal 3	Total	Goal 1	Goal 2	Goal 3	Total
Financial benefits (As of 8/04/05)	\$4.0 B	-	-	\$4.0 B	\$5.81B	\$89.8M	\$286.6M	\$6.19B
Non-financials (As of 8/04/05)	50	10	-	60	53	7	-	60
Testimonies (As of 7/26/05)	27			27	15	4	2	21
Percent products w. recommendations (As of 8/01/05)				55				71
Percent of recommendations implemented* (As of 8/01/05)				80				67.4
Percent external products on time (As of 8/01/05)				98				97.4

*\*Percent of fiscal year 2001 recommendations implemented.*

Achieving these targets presents an important and sometimes difficult challenge. It certainly would not happen if we concerned ourselves about our reports' impact only after they were completed. Therefore, as detailed below, our efforts to maximize our audits' impacts begin

with our determinations of what audits are to be undertaken. They continue into the planning and execution of each audit; the preparation of the written report; the report distribution process (including working with key U.S. media outlets); and through a systematic recommendations follow-up process after the report is issued.

## **We Plan and Carry Our Audits to Target the Right Issues and Produce Meaningful Findings**

Within the SAI community, GAO is unusual in that the vast majority of its audits are prepared at the request of Congressional Committees or individual members of the Congress. Consequently, we may have somewhat less flexibility than most SAIs in deciding which issues warrant highest priority for GAO's audit resources. Nonetheless, we influence our audit agenda through (1) a systematic, strategic planning process, which helps to determine how we invest our audit resources and (2) a priority-setting process in which each request from a Congressional source for GAO's services is examined on a case-by-case basis.

### Environmental Audit Priorities Are Set Within the Context of a Broader GAO Strategic Planning Process

While individual GAO audits are undertaken largely at the request of Committees and members of the Congress, the Office still maintains considerable influence over its agenda through its strategic planning process. The process, which culminates in a 5-year plan that identifies the Office's highest priorities, is the product of extensive consultations with key Members of the Congress, their staff, other audit organizations, and expert advisors (See Appendix I.). Among the key criteria for including a particular issue in the Plan is the potential for GAO involvement to have a significant, positive impact on the Nation's well-being, in general, and to improve federal government's operations in particular.

GAO is presently looking for opportunities to expand on its current strategic planning process by using key national indicators that would help it to better target its audit priorities. Although the United States has yet to develop a comprehensive set of such indicators, there has been progress in developing them in a number of substantive areas, including environmental protection. Such indicators would help to serve as a basis for setting audit priorities, testing the effectiveness of proposed solutions, and tracking progress toward achieving results.<sup>17</sup> Perhaps more significantly, these indicators could potentially lead to development of a much needed government-wide strategic plan that identifies long-term goals and strategies to address issues that cut across federal agencies. Currently, the U.S. National Academies of Science are leading the development of a framework for a key national indicator system that will include, by the end of 2005, the identification of indicators in many areas regarding the economic, environmental, social, and cultural condition of the nation over time.

GAO's broad-based Strategic Plan includes a specific strategic objective entitled, "Responsible Stewardship of Natural Resources and Environment." Pursuant to this strategic objective, the Natural Resources and Environment Team conducts work on a wide range of issues, including the safety of the nation's food supply; the government's management of national forests, parks, and lands; the availability of secure sources of energy at stable and affordable prices; the state of the nation's air and water quality, the economy and

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<sup>17</sup> Such a modification could, for example, lead us to emphasize audits that examine whether programs are actually resulting in a cleaner environment rather than merely complying with legal requirements.

effectiveness of government efforts to clean up hazardous and nuclear waste, and other issues.

### Individual Audits Are Prioritized In Accordance With Established Congressional Protocols

Individual audits are undertaken and conducted within the context of this broader Strategic Planning process. Specifically, candidate audits are considered by senior GAO management through the Office's "Engagement Acceptance" process. The criteria that determine which requests receive priority under this process were the subject of considerable negotiation with GAO's Congressional clients, and have since been codified in our "Congressional Protocols."

The protocols set out clear criteria for determining the level of priority a given Congressional audit request may have. For example, an audit request would receive a relatively low priority if it requires a relatively large investment but only affects the interests of a single Congressional Member's district. On the other hand, requests from the leaders of Congressional Committees, who typically have jurisdiction over broad issues with national implications, are generally accorded higher priority. Thus, a primary criterion for engagement acceptance is the expected impact that pursuit of a particular audit may have.

### Audit Design Enhances the Impact of GAO Work By Helping to Produce Relevant and Reliable Findings

Once a proposed audit is approved by senior management and staffed by GAO analysts, it enters the "design phase" of our work process. The design phase, which generally lasts about 1 to 4 months (depending on the type of audit), is intended to ensure that the work we undertake is responsive to the request; can be accomplished within a reasonable timeframe; and represents a worthwhile use of GAO's resources. To achieve this objective, the audit staff typically consults with other GAO staff with either subject matter expertise on the issue at hand, or analytical skills (e.g., economists, experts in survey techniques) that would enhance the audit. These "stakeholders" usually remain involved throughout the audit, often providing assistance and offering comments on the draft report. On some occasions, GAO also seeks the assistance of outside experts, often including the National Academy of Sciences, to assist in designing the audit approach.

At the end of the design process, GAO communicates its audit plans to the staff of the Congressional requester. As part of this process, a senior GAO manager signs a "Commitment Letter" that spells out our agreement with the requester on the scope of our work and the expected date on which the report will be issued.

As the audit work proceeds, audit staff meet periodically with GAO managers and stakeholders to ensure that the work remains on track, and to ensure that any concerns that could adversely affect the audit are addressed. The audit team also meets periodically with the Congressional staff to apprise them of its progress, and communicates its progress to the management of the organizations that are the subject of its audit. Importantly, GAO staff also work with Committee staff to organize Congressional hearings, suggest witnesses for such hearings, draft legislative language, and take other steps to maximize the impact of our work. Likewise, we attempt to work constructively with executive agencies to help them adopt our recommendations by providing assistance, such as sharing databases we have developed.

## **We Strive to Communicate Our Message in a Way That Can Be Understood by the Busy Reader**

An audit can be filled with meaningful findings and recommendations, but will only be useful if its message is communicated clearly and convincingly. In recent years, GAO has sought to ensure in its hiring practices that new staff have the communications skills to convey their findings effectively in writing. GAO also takes a number of other measures to ensure that the results of our work can be clearly understood by a broad audience and by the busy reader. Among them:

- Communications Analysts assist audit teams both in conceptualizing the message prior to drafting, and in providing suggestions improve the presentation of draft material. Each environmental audit is assigned a communications analyst for this purpose.
- A “Highlights” page, included at the beginning of each GAO report and testimony summarizes on a single page all the key findings and recommendations arising from the audit.
- Graphics are systematically considered for each audit to enhance the audit report’s message and readability, and therefore its potential for impact. A graphics specialist is assigned to the Natural Resources and Environment team for this purpose, and assists both in suggesting appropriate graphics and in helping to produce them. (See Appendix II for an example such a graphic from a recent environmental audit.)
- Effective recommendations, offering constructive solutions to often-difficult problems, are viewed as an essential component of most audits. While some environmental audits do not lend themselves to recommended solutions, the majority—about three-fourths during the last fiscal year—do include recommendations.
- A risk-based report review process helps to ensure that each audit report undergoes the appropriate amount of review to ensure that its audit findings are supportable and convincingly presented. A “High-Risk” audit, for example, will receive more scrutiny than a low-risk audit, and must be cleared at the highest levels in GAO before it is distributed outside the Office for review.
- Agency comments on all GAO audits help to ensure fairness, and to ensure that possible problems with a report are identified before it is finalized. Typically, GAO audit staff meet with the audited organization’s management once the audit work is completed. Subsequently, the audited entity is provided an opportunity to read a draft of the report, and its comments are included as part of the final report. We believe this process enhances both the quality and credibility of the report.

## **Our Report Distribution Process Seeks to Effectively Reach Key Audiences and the General Public**

While the U.S. Congress is considered GAO’s primary client, numerous other entities, including the organizations audited by GAO, also make wide use of GAO reports. In addition, in recent years GAO has undertaken significant improvements to its report distribution

methods to ensure that any interested person or organization can access GAO reports on almost any subject.<sup>18</sup>

In conveying its audit results to the Congress, GAO's outreach extends beyond the transmittal of the final report. GAO audit staff typically give Congressional audiences advance notice of a report's pending issuance. In those cases in which members of the Congress believe that a GAO report would be useful in informing a Congressional discussion on a particular issue, senior GAO staff are often invited to present the audit's findings at a public hearing sponsored by one or more Congressional Committees. These hearings are often covered by the media, which serves to further increase the impact of the audit.

A key secondary client for the issued report is the audited agency, particularly in the case of audits that contain recommendations for corrective action. Federal agencies are required by law to respond to GAO's recommendations within 60 days of a report's issuance, indicating how they plan to respond to GAO's recommendations. As a supplement to this formal requirement, GAO staff frequently meet with agency managers to discuss how GAO believes the audited agency can most effectively respond to the recommendation.

Finally, GAO reports are demanded in increasingly large numbers by the public at large, and the Office has taken steps in recent years to meet this growing demand. While hard copies are still made available for issued reports, our reports are now available over the Internet ([www.gao.gov](http://www.gao.gov)) to anyone with access to the Worldwide Web. GAO's reports database can be easily searched, and readers can download abstracts as well as the full text of the report. GAO teams are also assisted in their efforts to reach the mass media and the public through the GAO Office of Public Affairs. Among its responsibilities, this office is charged with informing the media and the public of the availability of newly-released reports; preparing daily listings of reports and testimonies that are made available on GAO's website; and assisting GAO teams in developing strategies for the release of their reports and in responding to media inquiries.

### **Post Issuance Follow-up Ensures that the Intended Purpose of GAO Recommendations is Achieved**

Our involvement does not end with the issuance of the audit report. GAO's "Recommendation Follow-up System" tracks the progress of audited agencies in implementing GAO recommendations. Typically, the GAO staff who conducted the audit contact the audited agencies for progress reports, which are then entered into the Recommendation Follow-Up database. This practice helps to achieve a number of key goals. First, audited agencies are reminded that their efforts to implement GAO's recommendations are being tracked, thereby "keeping their feet to the fire" to ensure continued progress. Second, the system helps GAO management and staff to determine whether additional audit work or other actions are needed to achieve the goals of the original recommendations.

In addition, GAO staff typically undertake other, less formal activities to follow up on their audit reports. They routinely consult with cognizant Congressional committees on the agencies' efforts to address problems identified in GAO audits. These consultations may result in oversight hearings by Congressional committees, or in requests that GAO undertake additional audit work to determine what barriers may be inhibiting further progress. In many

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<sup>18</sup> A small percentage of reports dealing with sensitive national security matters may be treated as "classified," and may therefore be restricted from general distribution to the public.

cases, GAO's managers are often interviewed by the national media, and its staff are often invited to speak to professional organizations and other interested parties on the issues addressed in issued reports.

### **Suggestions For Improvement?**

GAO expends considerable energy to achieve tangible results from its environmental audits. We recognize, however, that our strategies in doing so can be improved. We therefore welcome your feedback on our efforts to maximize the impacts from our environmental audits, and would be pleased to hear any suggestions you may have, based on the practices that have proven to be successful in your country.

# SERVING THE CONGRESS GAO'S STRATEGIC PLAN FRAMEWORK



## MISSION

GAO exists to support the Congress in meeting its constitutional responsibilities and to help improve the performance and ensure the accountability of the federal government for the benefit of the American people.



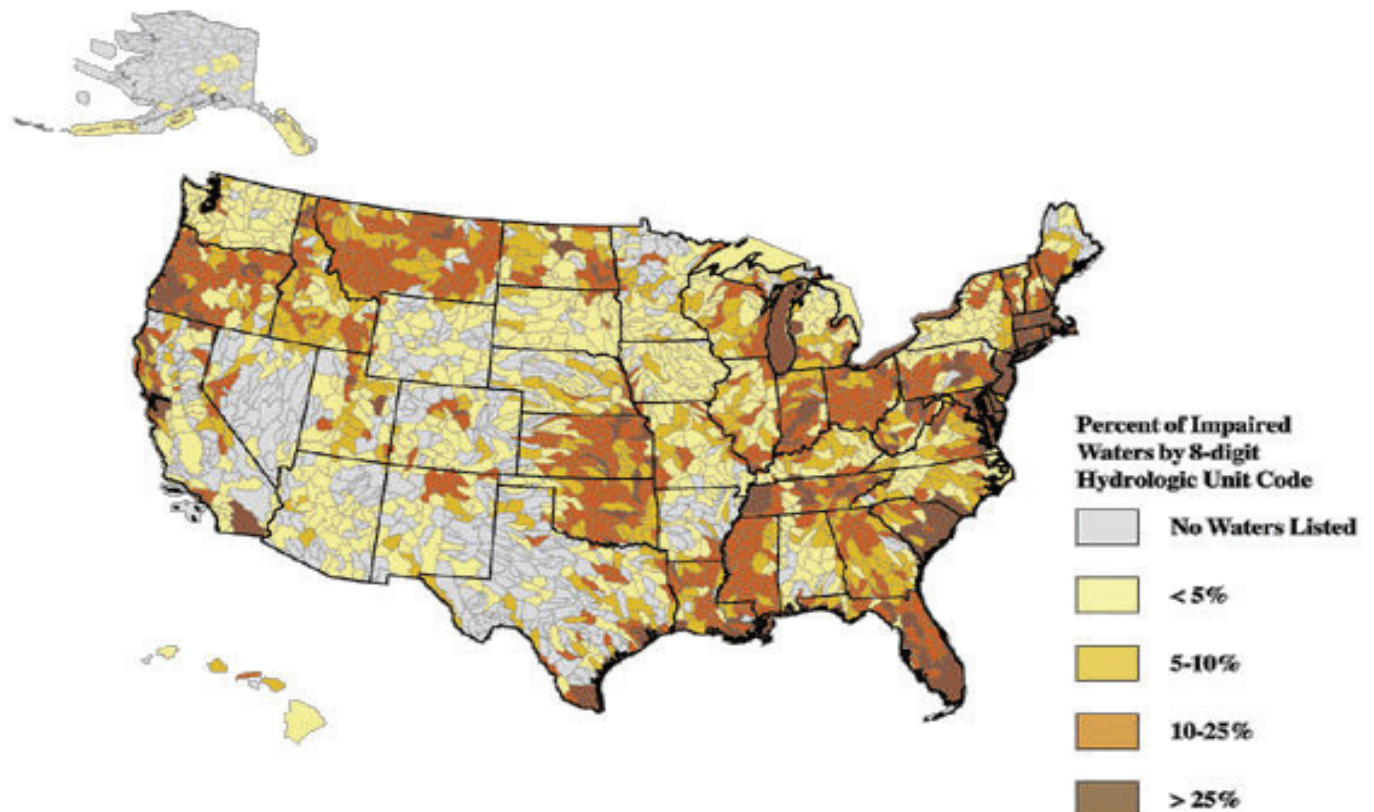
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## Use of Graphics in GAO Reports

The following graphic is an example from a recent GAO report intended to enhance the audit report's message and readability. The darker portions of the graphic represent areas in the United States with more serious water pollution problems.

The graphic illustrates many cases in which water quality appears to change significantly and immediately as one crosses from one American state to another—even in areas where the states share similar geophysical characteristics. Instead, the audit identified other reasons for this apparent inconsistency, including that (1) different states have very different standards that indicate when a body of water is considered “impaired” by pollution and (2) some states do a much more thorough job than others in monitoring their waters for pollution problems.

**Figure 1: Percentage of U.S. Waters Listed as Impaired by Water Pollution**





# **ENVIRONMENTAL AUDITING: FACING THE CHALLENGES**

## **Working in Progress: Environmental Audits (Chile)**

**Theme:** Environmental Auditing: Facing the Challenges

**Author:** María Argentina Guevara Weber

Since the nineties decade, the protection and preservation of the environment have become a significant target for the government of Chile: new laws and regulations have been approved; new public agencies have been created with special mandate on environmental subjects and responsibility; international agreements have been celebrated which require adopting significant environmental policies to meet the international obligations. The government is trying to achieve a better quality of life for citizens, now and for the future generations. This means ensuring the health of the natural environment- the air, water, land and ecosystems on which we depend. The challenge is to find a way to do this without diminishing the availability of the resources for future generation.

Facing this new scenario, the Contraloría General de la República de Chile has the potential to make an important contribution to the modernization of comptrollership in the Administration. Actually, the Contraloría has adopted the implementation of new and modern strategies to accomplish in an effective, efficiently and appropriately manner its constitutional mandate, in particular, whether the government, departments and public agencies meet their environmental obligations.

Achieving environmental audits initiatives requires change and innovation. It is a complex challenge: we need training professionals; financial and technological resources and tools; new auditing methodologies; an appropriate coordination with Departments and public agencies and private sector.

The implementation of the modernization project the Contraloría General de la República de Chile is carrying out considers between others matters, innovative initiatives concerning audit control and follow-up. It has been developed the "Audit Integrated Information and Control System" to reinforce the audit function and special examinations, improve professional capacities, efficient and effective resources management, a modern audit methodology and computational systems according its constitutional and legal mandate.

This system includes strategic planning, risk management, human resource management, skills and training needs and plans, policy statements, methodology, rules and proceedings, control and quality management

Once it will be implemented, September 2006, we will have an structured and standard audit methodology, on line data audit information and files, coordinated audit teams, increase staff performance, best quality delivering service to the community, improve reporting transparency, identified responsibilities and their assignment to the right professionals, effective and efficient approach to the audit, integrated and up-dated corporative information.

## **Auditing Environment**

According to the Fundamental Chart and its constitutional organic Law N° 10.336, the Contraloría General de la República de Chile develops regularity and financial environmental audits to determine whether the government, the departments and public agencies with mandate on environmental matters have met their legal obligations and applied financial resources appropriately to accomplish its objectives and annual programmes duly approved, as well as compliance with international agreements, monitor and control the environmental actions of other entities.

**Environmental Department** was created in 2005, to deal exclusively with environmental topics, excepted public works, matter which responsibility belongs to the **Public Works Technical Department**.

Considering the significant impact public works- infrastructure and highways projects- have on the environment, engineers and architects have been trained on environment audit during 2004.

The public works audit planning approved for 2005, includes technical and environmental control of road construction and airports infrastructure executed in the IV and X Regions, by private enterprises under the control and by delegation of Public Infrastructure Works Department, to determine the extent to which environmental requirements established in the Environmental Assessments Impact approved by the Environment National Commission have been accomplished and the protection measures implemented..

These audits also consider the environmental impact of public work in progress, sand and gravel transportation, abandonment planning sites on loan, protection of archeology sites, protection and preservation of flora and fauna affected by infrastructure public works, follow-up of public roads projects already achieved, measuring air and acoustics contamination in highways, sound management to diminish the impact of sound waves.

The environmental audit planning also considers to follow-up the implementation of environmental assessments impact approved by the Regional Environmental Commissions concerning projects that would lead to adverse impact on the environment and wildlife protection.

### **Auditing Accomplishment of Environmental Requirements in Public Works Contracts**

**Framework:** During 2005, a pilot programme has been developed to audit the accomplishment of environmental regulations related to construction and exploitation process of public works considering these activities involve environmental risk and that investment linked to the waste waters treatment is significant.

**Impact:** The environmental risk is quite significant since water courses pollution do not only impact negatively human resources, but also it may affect other environmental components, producing irreparable and non-recoverable damages with a high cost.

**Criteria:** It is expected to obtain updated information whether the monitoring actions taken by the responsible public agencies are appropriate, timely and effective as well as the control behaviour implemented by the fiscal survey.

**Objective:** Assessing whether actions implemented by the fiscal surveyor of agencies executing sanitation works accomplish regulations and policies verifying that construction and exploitation process fit to the respective requirements and regulations.

**Methodology:** The audit will evaluate on the spot the accomplishment of the established requirements in the Environmental Impact Declaration or Assessment as well as in the respective Environmental Qualification Resolution, considering the on-going stage of works, construction, exploitation or abandonment. The evaluation regulatory framework includes specific regulations, contract basis, environmental management plans, sectorial permissions, territorial planning instruments, etc.

By other hand, **the Environmental Department** planning environmental audits focuses on the implementation gap between what departments and public agencies must implement according their mandate, laws and regulations and programmes to carry out and what they actually have done and the negative impact it would have.

To meet its specific commitments, the Environmental Department develops environmental audits regarding:

- the conservation of renewable and non-renewable resources
- the consequences of violating environmental laws and regulations
- assessing whether the Departments and public agencies conduct their activities in accordance with relevant environmental laws, standards and policies, both national and international
- some international agreements such as Montreal Protocol, CITES and RAMSAR have been audited to determine whether the government is meeting its international obligations and the extent of the implementation of the obligations imposed by these agreements
- whether public resources to implement government environmental policies have been applied effectively to meet international obligations

### **Implementation World Summit on Sustainable Development Commitments**

The Contraloría General de la República de Chile has not yet developed a specific auditing programme on the implementation of the WSSD.

Nevertheless, regularity and financial audits has been carried out concerning some subjects related to the WSSD.

Actually, in August 2005, the audit “Meeting Specific Obligations under the Ramsar Convention: International Importance Wetlands in the Metropolitan Region: EL Yali Wetland” was achieved

El Yali wetland is one of the nine wetlands listed by the Republic of Chile under the Ramsar Convention.

The focus of the audit was to assess whether the administrative system and the actions taken by the public and private agencies to implement the international commitments are accurately in their progress regarding the control and preservation of the natural reserve.

## **Conclusion**

- a) The Government has met its international obligations by designating the wetlands of international importance, decree N° 41, 1996, Foreign Affairs Department.
- b) The audit concluded that the involved public agencies have accomplished their control functions.
- c) It is necessary to establish the Wetlands National Committee under the Ramsar Convention to meet the commitments and coordinate inter agency actions for wetlands and conservative efforts.

This Committee shall include Departments and public agencies with mandate on this area and also representatives of non-governmental associations and local authorities.

- d) The Forestry National Corporation has not published the Wetlands National Strategy neither has implemented the management planning for El Yali Wetland.
- e) Allocation policy of responsibility of public agencies for wetlands has not been successful. This has result in the lack of a coherent national policy and planning framework on wetlands. This instrument is essential to set priorities, targets, standards, and monitoring, incentives and agencies roles.
- f) The environmental public agencies need to be provided of the adequate financial resources to meet their international obligations under the Ramsar Convention. The main difficulties had been with limited resources and lack of defined responsibility among public agencies and private owners land.
- g) It is necessary a data base including aspects such as: water quality, land use; biodiversity to asses objectively the extent of wetland degradation and whether the Ramsar Convention has helped to slow the rate of degradation. Now days, wetlands are threatened ecosystems. Human activities have a negative effect on their flora and fauna and water quality.
- h) It has been observed the lack of effective land monitoring.
- i) It is required to promote the wise use of wetlands in the country.
- j) The exploration and exploitation of underground water, illegal drainage and contamination of waterways contribute to degrade wetlands. Also extension of urban settlements, industrial activities, land management practices, discharge of contaminants, between others elements.
- k) There is also evidence that wetland degradation has been worse than it ought to have been.

- I) Penalties for not keeping protection and conservative environmental rules are not significant.

It is important to remark two projects to assess and monitoring El Yali Wetland are in progress:

- Agreement with the Ramsar Convention N° WFF/02/CHI 1  
Once achieved it shall be informed to RAMSAR.  
City Hall Santo Domingo responsible
- The Great Britain Embassy in Chile has sponsored the project “Water restoring policies EL Yali Wetland.”  
University of Chile responsible

A range of other audit activities has been reported to INTOSAI: e.g. Ozone Layer Protection and Fresh Water Pollution.

### **Developing actions to work in progress**

- October 2005 will take place a workshop with the participation of representatives of departments and public agencies with mandate on environmental matters to review the coordination quality of policies, programmes, protection and preservation measures adopted, actions taken and future perspectives on environmental issues. Reinforce experiences and inter institutional coordination.
- Continuous training employees on environmental auditing to enable them to perform their task in an effective and efficient manner. It may include those training environmental subjects defined by OLACEFS as they are within the Contraloría General’s mandate
- Developing innovative initiatives such as auditing performance of government environmental programmes, environmental impact of government programmes and policies or environmental management systems

### **Conclusion**

From the point of view of departments and public agencies audited it can be said they are meeting the specifics environmental obligations. However, it is necessary to improve policies to put in practice environmental laws and regulations, both national and international, and monitoring the actions taken.

For successful implementation it is required clear roles and accountability for the departments and public agencies responsible for the implementation of environmental laws and regulations.

It is also required a well-defined working and reporting relationship between departments and public agencies responsible for the implementation of environmental policies.

There should be a national framework for planning and monitoring environmental policies.

The Contraloría General de la República de Chile aware of the complexity and technical aspects of planning environmental audit is adopting actions to improve strategies, methodologies and procedures to promote progress in this area to accomplish its mandate in the best efficient and effective way to ensure high quality reporting.

# **Audit of Implementation of Provisions of the Convention on the Protection of the Marine Environment of the Baltic Sea Area —The Helsinki Convention (Denmark)**

**Theme: Environmental Auditing: Facing the Challenges**

**Author: Yvan Pedersen**

## **Pollution from ships in the Baltic Sea**

Co-ordinated/Parallel Audit conducted by The National Audit Office of Denmark, The State Audit Office of Estonia, The State Audit Office of Finland, The German Federal Court of Audit, the State Audit Office of Latvia, the State Control of the Republic of Lithuania, the Supreme Chamber of Control of Poland and the Accounts Chamber of the Russian Federation

### **I. Introduction**

In 2004 the Supreme Audit Institutions in Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Russia conducted a parallel audit on preparedness to combat pollution from ships in the Baltic Sea. The audit was performed as a performance and compliance audit of the implementation of the articles concerning pollution from ships in the Convention on the Protection of the Marine Environment of the Baltic Sea Area (the Helsinki Convention), including relevant annexes and recommendations. The relevant articles in the Helsinki Convention are:

- Article 8 – Prevention of pollution from ships (including annex IV and the HELCOM Copenhagen Declaration)
- Article 13 – Notification and consultation on pollution incidents
- Article 14 – Cooperation in combating marine pollution (including annex VII)
- Article 16 – Reporting and exchange of information.

The objectives of the audit were to assess whether the national authorities in the respective countries comply with the provisions of these articles, including relevant annexes and recommendations.

The audit was planned and conducted as a parallel audit. A parallel audit means that the participating audit institutions audit the same objectives in their respective countries and together identify relevant audit criteria and audit methods. However, it is up to the individual Supreme Audit Institution to decide how to conduct the audit and which audit criteria and audit methods to use in the audit. The Supreme Audit Institutions have prepared national audit reports and have on the basis of summaries of these national audit reports, identified comparative data and some cases to be presented in a Joint Final Report.

The National Audit Office of Denmark has been co-ordinator of the parallel audit, but data from the individual countries have been provided and validated by the participating Supreme Audit Institutions. The parallel audit covers the period 2000-2003.

The national audit reports have been forwarded to the national authorities and to the parliaments and the Joint Final Report has been forwarded for information to the Helsinki Convention Commission and to the national authorities. The Joint Final Report was presented at a Press Conference in Warsaw in May 2005.

In 2000, the Supreme Audit Institutions of Denmark, Estonia, Finland, Latvia, Lithuania, Poland, Russia and Sweden conducted a parallel audit of implementation of article 6 of the Helsinki Convention concerning pollution from land-based sources. Thus, this parallel audit concerning pollution from ships is the second parallel audit on implementation of the provisions of the Helsinki Convention.

The international co-operation in environmental audit in Europe has been promoted by EUROSAI's Working Group on Environmental Auditing chaired by the Supreme Audit Institution of Poland. The Joint Final Report is available on the web-page of the EUROSAI Working Group on Environmental Auditing: [http://www.nik.gov.pl/grupa\\_eurosai/str0\\_an.html](http://www.nik.gov.pl/grupa_eurosai/str0_an.html).

The reasons for undertaking this parallel audit were the increasing volume of oil and other goods transported through the Baltic Sea and the estimated high risk of marine pollution by hazardous substances from ship accidents or from emissions. There is a heightened risk of pollution from heavy oils as the shipping of crude oil in the Baltic Sea is increasing dramatically. The general growth of traffic implies a significant risk of collisions involving tankers. Therefore, government measures for preventing pollution from ships, detecting marine pollution incidents and eliminating their consequences should be effective. Good environmental protection depends on thorough coordination of preventive, contingency and combating measures, and requires fast and effective action of the responsible national authorities and international co-operation.

Since pollution at sea could affect all the countries at the Baltic Sea, the rules for common protection of the sea are laid down in the Helsinki Convention. One of the fundamental principles of the Helsinki Convention is that the states shall individually or jointly take all appropriate legislative, administrative or other relevant measures to prevent and eliminate pollution in order to promote the ecological restoration of the Baltic Sea.

According to the Helsinki Convention, the states are required to prevent pollution from ships and respond to pollution incidents threatening the marine environment of the Baltic Sea. The ability to respond should include adequate equipment and manpower prepared for operations in coastal waters as well as on the high sea.

International cooperation in the marine environmental area is well developed and anchored in several sets of agreements on a bilateral and multilateral basis. As a main rule, the Helsinki Convention corresponds to regulations issued by the International Maritime Organisation (IMO), although the Helsinki Convention often sets more strict requirements in recommendations.

The main objective of the Helsinki Convention is protection of the Baltic Sea against pollution and comprises all states bordering the Baltic Sea. The Helsinki Convention was drawn up in 1974 and revised in 1992. All countries around the Baltic Sea have acceded to the Helsinki Convention.

The Helsinki Convention consists of 38 articles and 7 annexes. In addition, the states have agreed on more than 100 recommendations functioning as guidelines to the Helsinki



Convention. The objectives of the Helsinki Convention are pursued on the basis of jointly made decisions and agreements, joint declarations, recommendations and broad co-operation in the area of environmental protection. To become legally valid, the recommendations have to be implemented by the contracting states in national legislation. This leaves room for the contracting states in what ways they incorporate recommendations into their respective national laws. Therefore uniform and binding provisions covering several nations are an exception. The HELCOM (the Baltic Marine Environmental Protection Commission) has no legal means of enforcing the implementation of its recommendations vis-à-vis the contracting states.

Every 3 to 5 years, the HELCOM conducts an assessment of implementation of the provisions of the Helsinki Convention by the states. However, this is in reality a self-assessment carried out by the national authorities in the individual states.

At the national level, responsibility for the marine environment of the Baltic Sea often is divided between local authorities, regional authorities and central and/or federal government. Therefore, the protection of the Baltic Sea marine environment involves many authorities and it is an important task to clearly define the individual authorities' tasks and responsibilities.

The 8 Supreme Audit Institutions participating in this parallel audit agreed on and signed a Common Position on Cooperation/ Terms of Reference including the scope of the audit, audit objectives, audit criteria, audit method, products of the audit and a time table.

The common position on cooperation/ terms of reference was prepared on the basis of the INTOSAI booklet on how SAIs may cooperate on the audit of international environmental accords, INTOSAI booklet on the audit of international environmental accords and INTOSAI guidance on conducting audits of activities with an environmental perspective.

## **II. Audit results**

Some of the main general comparative audit results are listed in the following bullet points:

- The Supreme Audit Institutions taking part in this parallel audit recognize that the countries in general have taken necessary measures to implement the provisions of the Helsinki Convention. However, there is still some need for improvements in all countries.
- The success of combating pollution depends on the short term readiness of combating ships, manpower and equipment. Therefore, the Helsinki Convention requires a first-response capacity (recommendation 11/13). However, recommendation 11/13 is only partly implemented in the 8 countries and in general, the national authorities have not sufficiently planned, supervised and controlled the implementation of these provisions. It is uncertain whether the equipment and contingency plans will work in reality.
- There is an urgent need for comprehensive and realistic risk assessments because of the dramatic increase in oil shipping in the Baltic Sea.
- In general, there is a need for more co-operation, exchange of information on research and sharing of good practice.

- In the light of growing transportation of oil, it is very important that the countries around the Baltic Sea strengthen their cooperation on reducing the risks of oil pollution.

### **III. Lessons learned**

If it is important and make sense to focus on comparative data, it will be relevant and appropriate to prepare a joint audit report. A joint report should only be prepared if the comparative data is validated and of high quality and indicate best practice or lessons learned.

Otherwise, it could still be relevant to have an international expert group to focus and facilitate the audit as a sparring partner. Together the participating Supreme Audit Institutions can agree on the scope of the audit, audit objectives, and develop audit criteria and measurements for some audit criteria, e.g. common questionnaires. On this basis the Supreme Audit Institutions prepare national audit reports and meet to discuss common problems and possibilities. However, the target will then not necessarily be to prepare a joint final report.

It is important to formulate and agree on the audit framework in an overall audit plan which includes audit scope, audit objectives, audit criteria, comparative data, audit methodologies, timetable, report format, report target-group, and publication of the joint final report.

It is important to develop precise definitions of the comparative data and some tables/matrix of these comparative data.

Include a reasonable timetable based on prior experiences in the audit field and extra slope for unforeseen events and delays.

It can be an advantage to arrange a workshop for the auditors to present and discuss the audit objectives, audit criteria, audit methodologies and the comparative data to make sure there are no misunderstandings.

It is often a problem that the different Supreme Audit Institutions do not have a common scale of critics. This could make it difficult and problematic to prepare a joint final report and to make transnational comparisons. If possible, create a standard scale of critics which is well defined to prevent different weighting of equal problems.

A joint final report will often be based on summaries of the national audit reports. These summaries of the national reports should be prepared on the same level of content and include the comparative data. Otherwise, it could be difficult to compare audit findings in the different summaries.

Finally, the writers of the joint final audit report can ask all the participating Supreme Audit Institutions to accept the joint final report based on their summaries and comparative data. It is necessary to have all the data validated in the different countries. It will be appropriate to arrange a final meeting with all the participating Supreme Audit Institutions in order to formulate and agree on the conclusions and recommendations. The signing of the joint final report can eventually be done electronic by e-mail.

## **The Audit on the Program of Rehabilitation on Mangroves and Coastal Forests in Aceh (Indonesia)**

**Theme:** Environmental Auditing: Facing the Challenges

**Author:** Dewi Sukmawati

### **Background**

The coastal ecosystem in Aceh, which is dominated by mangroves in eastern coast and non-mangroves vegetations in western coast, was already degraded before the earthquake and tsunami in December 26, 2004. According to Ministry of Forestry, in 2000 mangroves forests in Aceh were approximately 350,000 ha. Approximately 30,000 ha were severely degraded and 30,000 were moderately degraded. The causes of degradation are mostly over-utilization of mangroves and land conversion into housing and fishponds. It is predicted, especially from satellite image, the earthquake and tsunami caused most mangroves and coastal forests severely degraded and or disappeared, especially in the northern and western Aceh. The December 26, 2004 tsunami has highlighted the significance of mangroves in protecting the coastal population from the impacts of tsunami, hurricane, and cyclones. Mangroves serve as the first line of defense against tsunami and could reduce the impact considerably. There is evidence to substantiate mangroves and trees had reduced the impact of tsunami and lessen the damage, which was more severe when all mangroves and other coastal forest trees had been removed.

Government of Indonesia has developed Master Plan to rehabilitate and reconstruct Aceh and Nias, which is legalized in Presidential Decree No 30 year 2005 on April 15, 2005 . Master Plan will be used as a foundation for Regional Governments concerned and the Implementing Agency for the Rehabilitation and Reconstruction of Aceh and Nias, in preparing the action plan and the implementation thereof. It consists of Main Book and Detailed Books of eleven related sectors. The plan for rehabilitation and reconstruction of natural resources and environment was covered in Detailed Book 2. It is stated in the book that earthquake and tsunami have given lesson that rehabilitation and reconstruction of Aceh and Nias after tsunami and earthquake should take into account environment safety with regard to disasters and carrying capacity. One of the strategies is to develop buffer zone/green belt in the coastal zone. One of the main activities for the strategy is rehabilitation of mangroves and coastal forests. Target for mangroves plantation or rehabilitation for the period 2006-2010 is 164.840 ha in Aceh and 9.750 ha in Nias. However, the activity of rehabilitation of mangroves and coastal forests has been initiated by Ministry of Forest –as the line ministry for mangrove and coastal forests rehabilitation- and non-governmental organizations (NGO) in 2005.

To coordinate the rehabilitation and reconstruction activities in Aceh and Nias, the Rehabilitation and Reconstruction Agency for Aceh and Nias was established on April 16, 2005, and its mandate is defined by Regulation in Lieu of a Law No. 2 year 2005 issued by the President of the Republic of Indonesia. On April 29, 2005, the President signed Presidential Regulation No. 34 year 2005 detailing the organizational structure and mechanism of the Agency. Its mission is to restore livelihoods and strengthen communities in Aceh and Nias by designing and implementing a coordinated, community-driven reconstruction and development program with the highest professional standards. The agency has not been designed to directly manage projects currently being carried out by government agencies,

donor institutions, NGOs, and the private sector. Furthermore, local government in Aceh and Nias as well as line ministries will continue to play key roles in project development and implementation.

## **Audit Planning**

### *Audittee*

The Rehabilitation and Reconstruction Agency, Ministry of Forestry, local government agencies related to mangrove and coastal forests rehabilitation

### *Audit Scope*

Rehabilitation of mangrove and coastal forests in Aceh for the year 2005

### *Objective*

- To assess whether the Rehabilitation and Reconstruction Agency is well-functioning in coordinating mangroves and coastal forests rehabilitation activities.
- To assess whether the activities of Ministry of Forestry in rehabilitating the mangroves and coastal forests in Aceh is in comply with the Master Plan.
- To assess whether the local government agencies is well-functioning in implementing mangroves and coastal forests rehabilitation activities.

### *Criteria*

1. Presidential Decree No. 30 year 2005 about Master Plan for Aceh and Nias Rehabilitation and Rehabilitation with focus on Detailed Book 1 (about spatial planning) and Detailed Book 2 (about the plan for rehabilitation and reconstruction of natural resources and environment)
2. Regulation in Lieu of a Law No. 2 year 2005 about the establishment of the Rehabilitation and Reconstruction Agency for Aceh and Nias
3. Presidential Regulation No. 34 year 2005 about the organizational structure and mechanism of the Rehabilitation and Reconstruction Agency
4. Ministry of Forestry Regulation No. P13/Menhut-II/2005 about the organizational structure and mechanism of the Ministry of Forestry
5. Technical Assessment Report from Ministry of Forestry and Bogor Agriculture Institute about rehabilitation of mangrove and coastal forests in Aceh and Nias

## Methodology

The audit was conducted using performance and compliance audit approach. The audit was undertaken in three stages:

### 1. *Preliminary Audit*

The data gathering was conducted in 2 weeks in Jakarta with the focus on the National Development Planning Agency (as the institution that developed Master Plan for the Rehabilitation and Reconstruction of Aceh and Nias) and Ministry of Forestry. Then the team was assisted by the Office of the Auditor General of Norway in developing the research questions and audit methodology and determining the audit criteria for 2 weeks.

### 2. *Field Audit*

The field audit was conducted in 4 weeks in Aceh with the focus on the Rehabilitation and Reconstruction Agency, Ministry of Forestry, local government agencies related to mangroves and coastal forests rehabilitation. The team gathered the data/information, interviewed the auditees, checked the work of the auditees, confirmed the data to the NGOs, analyzed the data, and communicated the results to the management to have their comments on the findings.

### 3. *Reporting*

The audit report will be included in Semester Report, which will be reported to the parliament in February 2006.

## Findings and Recommendations

### 1. *There is a risk of overlapping and duplication of activities on rehabilitating mangrove and coastal forests due to uncoordinated efforts of the implementing agencies (line ministries and NGOs/donors).*

Ministry of Forestry has developed a plan for rehabilitation of 7,350 ha mangrove in Aceh for the year 2005, however the plan does not specified the name of the area/village to be rehabilitated. More over, the ministry has not yet mapped the severely degraded or destructed mangrove and coastal forests after the earthquake and tsunami as the based for rehabilitation activities. As prescribed in Detailed Book 2 of the Master Plan, one of related activities for mangrove rehabilitation is mapping of mangrove ecosystem. It is necessary to map the existing mangrove areas as early as possible to obtain realistic estimation. Mapping using aerial photographs would give a better picture of the land availability, yet extensive field verification has to be done to determine ownership.

The audit team also found out that the Rehabilitation and Reconstruction Agency does not have a valid and comprehensive database about the activities of rehabilitation and reconstruction that has been planned, in progress, or done. As the result, the agency approved project proposals proposed by NGOs and or donors that have the same activities in the same area. Furthermore, the agency does not inform the line ministries and local government agencies regarding the project proposal that has been approved. The line ministries could use the information in planning their activities.

Up to September 1, 2005, the Agency approved 8 project proposals about mangrove rehabilitation. The result of sampling confirmation showed that 2 (two) NGOs received approval to nurse and plant mangrove in the same area/village. One of them then decided to move their activities to other area/village.

The Rehabilitation and Reconstruction Agency as coordinator for rehabilitation and reconstruction in Aceh and Nias has not fully functioning and this leads to a risk of overlapping and duplication of activities on rehabilitating mangrove and coastal forests due to uncoordinated efforts of the implementing agencies.

The audit team recommended the Rehabilitation and Reconstruction Agency to develop a clear and concrete mechanism of coordination amongst coordinating and implementing agencies.

2. *There is a risk of failure in the activities of mangroves and coastal forest rehabilitation because the rehabilitation is not in accordance to technical standard.*

Ministry of Forestry initiated to plant 50 ha of mangroves in Lham Nga village, Aceh in April 2005. Result of field check and confirmation showed that 40% of planted mangroves failed because the types of mangroves do not suitable to the soil character and the density is not in comply with technical standard. Technical Assessment Report from Ministry of Forestry and Bogor Agriculture Institute about rehabilitation of mangrove and coastal forests in Aceh and Nias was finalized in July 2005 after the initiation of mangroves rehabilitation was done.

The Rehabilitation and Reconstruction Agency in approving the project proposal uses an expert panel to review the proposal. However, in reviewing 8 approved proposals related to mangroves rehabilitation that need specific technical requirements, the agency did not invite mangroves experts. The team found out that the plantation of mangroves by NGOs in 3 areas/villages was failed. The propagules of Rhizophora from east Aceh was planted in 10 cm X 10 cm density. The different type of soil in east and west Aceh made the mangrove from muddy soil in east Aceh do not suitable to be planted in sandy soil in west Aceh. Extra care is needed not to directly planting the mangrove without a bag of soil originally from east to allow it to adapt to the new soil. A spacing of 1m X 1 m is recommended for planting of Rhizophora. The NGOs said that during the plantation they did not receive any technical assistance from ministry of forestry and or local forestry agencies.

The risk of failure in mangrove rehabilitation appeared because of the lack of awareness from the coordinating and implementing agencies about the technical requirements/ standards in mangrove rehabilitation.

The audit team recommended:

- the coordinating agency to use relevant experts in reviewing the project proposals, and
- the implementing agencies to put more emphasize on technical requirements/standards in implementing their activities.

### 3. *There is a risk of over supply of resources*

According to the Master Plan, target for mangroves plantation or rehabilitation for the period 2006-2010 is 164.840 ha in Aceh and 9.750 ha in Nias. The Master Plan do not mention about the area and location to be rehabilitated. However, the number is still a prediction because the assessment was conducted in January-February 2005 by the National Development Planning Agency when the condition in Aceh was unsettled. Up to September 2005, the Ministry of Forestry or the Rehabilitation and Reconstruction Agency has not yet updated the need assessment about the actual number and location of mangroves and coastal forests that need to be rehabilitated. Mapping of mangrove ecosystem as prescribe in the Detailed Book 2 of the Master Plan would be necessary to have a realistic estimation.

Data from Ministry of Forestry showed that up to 2010 the ministry plans to rehabilitate 66,850 ha mangroves. The Rehabilitation and Reconstruction Agency approved projects of 500 ha mangroves rehabilitation. Using the number from Master Plan, it is predicted that the rehabilitation of 107,240 ha mangroves need to be funded.

The risk of over supply of resources appeared due to the uncertainty about the actual need for mangroves and coastal forests that need to be rehabilitated.

The audit team recommended the Rehabilitation and Reconstruction Agency with the help of Ministry of Forestry to update the need assessment.

### 4. *The rehabilitation of reconstruction activities is not in comply with spatial planning*

Spatial Plan of Aceh and Nias in Master Plan was developed using bottom-up approach and top-down approach. The bottom-up approach is the procedures of village planning. The communities are able to discuss and decide about their village plan with cooperation of facilitators from NGOs and donors. Then the top-down approach should be guidance the consensus among the community. The local government will make spatial plan accordingly and consult to the community before it is legalized into Local Government Regulation. Therefore, the Spatial Plan in the Master Plan will be used as the guidelines in the rehabilitation and reconstruction in Aceh and Nias before the revised spatial planning was legalized. The Spatial Plan recommends green belt development in the coastal zone along with rehabilitation of tambak (blackis water) and development of urban forests.

Result from observation in city of Banda Aceh showed that there are housing constructions in green belt area. The 100-300 m green belt of mangroves, other coastal forest and coastal trees such as Casuarina, coconut, etc from the shore to the periphery of village settlement, along the entire shoreline is intended to protect the coastal villages from the impact of tsunami. The green belt was shown in blue line along the coast in the following spatial plan for Banda Aceh City:





## **Lessons Learned**

The team felt that the time to conduct the audit is inadequate. More time in preliminary audit is needed in order to explore for more appropriate criteria and develop better research questions. Learned from what the team experienced, we would like to lengthen the time in preliminary audit to have assurance for the best result.

## **Accountability Arrangements Regarding Solid Waste – A Pilot Cooperative Audit (Kenya/South Africa)**

**Theme:** Environmental Auditing: Facing the Challenges

**Author:** Kenya/South Africa

We undertook the collaborative audits in 5 countries Kenya, Ethiopia, Ghana, Mauritius and South Africa. The procedures and findings are attached.

The audits were front loaded in terms of uniform procedures and extensive research (from an outside expert) to put in place the templates for the audit. The findings and reports were also standardized with a view to using electronic (TeamMate) working papers. The purpose for frontloading the info was to standardize the reports and audits. All the above culminated in a 2 week workshop that included training in electronic working papers that was attended by IDI and representation from Commissioner through John Reed.

The next stage was to conduct the audit fieldwork and this included a review of the working papers from the South African Office, where we physically visited the countries and even had meetings with the people at the respective municipalities. Finally the reporting stage includes awaiting the reports to be tabled (or adapted) in the various legislatures.

### **Successes**

Electronic working papers were used successfully  
Fieldwork conducted within two months (a major plus)  
All objectives set out at the commencement of the project were achieved  
Cost effective  
General feedback from the various Auditor-Generals' were positive

### **Challenges**

Environmental auditing should be incorporated into the audit office methodology  
Still no reports have been tabled in legislatures  
Little momentum to the next stage (see powerpoint presentation final slide for way forward discussion)  
Lack of political buy-in within audit offices (including South Africa) with respect to environmental auditing. This in part is due to the lack of accountability on the AG's in ensuring appropriate follow up.

### **Other Observations**

The audit was primarily aimed at looking at compliance issues and did not really address the performance dimensions. As a consequence the findings are not really headline worthy. What we did prove was that although legislation is in place, it does not automatically translate into service delivery. However, I would argue that the skills and competences of the auditors and the time and resources available to them make it difficult to provide more in depth audit procedures. In part the lack of availability of outside "experts" as well as reasonable performance indicators make the steps into environmental auditing more difficult.

The above issues may have been raised before, however, the difficulty in bringing to life an audit and making it marketable means we are still focused on institutional (i.e. the audit offices) issues rather than added value to the public sector.

I think at this stage the AFROSAI-E community are undertaking strategic planning and looking at links to environmental issues. These are aimed at a planning session in March 2006.

The Audit Report and the Protocol and possible conclusions are identified in Attachment 1 and 2 respectfully.

## TRANSVERSAL REPORT

### EXECUTIVE SUMMARY

Human activities have a significant impact on the environment and over the last decade specific emphasis has been placed on the sustainable use of environmental resources. This audit focuses on one such aspect namely waste management.

The audit revolved around a collaboration of five Auditors'-General office staff members and included an environmental theme. This was to follow up on initiatives undertaken by the International Organisation of Supreme Audit Institutions (INTOSAI) Working Group on Environmental Auditing. The working group has provided extensive information on waste management and providing effective training on the auditing of environmental issues. The project was for all Supreme Audit Institutions to follow a common approach and assess the adequacy of the accountability framework surrounding waste management from National and International policies and declarations through to the basic service delivery. Fifteen key areas of questioning were identified and examined at each of the Countries including the national perspective through to one local council per country.

For the purpose of the waste management audit conducted in the five African countries it was expected that not all accountability arrangements would be in place. The crucial issue is to see improvements over time, therefore this audit will be most effective if it is performed on a regular basis and provides on-going accountability and benchmarking opportunities. At this stage the issue of waste is the first in the series but hopefully the principles and methodology can be replicated to other key service delivery areas. The research was conducted centralised in South Africa, with the involvement of auditors from the different countries. The research and completion of the audits was undertaken within a three-month timeframe. The audit was conducted by means of using electronic working papers.

The summary of the audit findings provides an insight as to whether adequate accountability is in place. All negative findings reflect areas where attention should be drawn and corrective action taken to ensure the accountability chain can be completed.

***The audit findings were discussed with the relevant role-players in the different countries, but the findings have not been made public. As result thereof, an overall summary, rather than detailed findings is included in this report.***

The average achievement for the five countries were 70%, with the highest been 82% and the lowest 55%. The criteria was a simple average of each of the fifteen key areas of questions and whether the responses were yes or no.

## 1. Accountability gaps

The audit revealed a number of limitations or accountability gaps. In four procedures the percentage achievement was 50% or less. One of the procedures was on National level while three were on Management level.

### *National level*

1. The national frameworks did not provide for measurement and reporting of performance by including provisions for the following:
  - Targets (desired level of performance);
  - Indicators / measures of performance (for each objective);
  - Monitoring the achievement of targets and indicators;
  - Defined internal reporting mechanisms (including the format, contents and frequency);
  - Defined external (public) reporting mechanisms (including the format, contents and frequency); and
  - Enforcement of laws.

### *Management level*

1. Performance contracts for employees responsible for solid waste did not exist or did not adequately cover:
  - Performance measures and targets.
  - Service delivery in the performance contracts is measured on the following principles:
  - Cost (consistent with budget);
  - Quality (in line with the legislation and strategy of the entity); and
  - Timeliness.
2. The service delivery agents are not publicly reporting its performance in achieving the service levels defined above. Specifically whether:
  - Reports are in the public domain;
  - Reports are issued frequently (at least annually);
  - Reports are audited or validated internally or externally;
  - Reports include information against measures, indicators and targets including those in the national framework;

- Reports include a plan of action on non-achievement of targets;
  - Reports contain information that is simple, understandable and complete; and
  - Reports are linking the cost of service delivery to their effects.
3. Training and education needs have not been assessed and provision has not been made for training and education regarding solid waste, including internal education (employee training) and external education (community training and education).

## **2. Accountability strengths**

Three procedures were performed where the countries met the accountability requirements 100%.

All three were on management level.

1. The relevant authorities approved the documents that constituted the service delivery agent's framework.
2. The service delivery agent has defined and documented roles and responsibilities in respect of solid waste and the organisational structures were aligned to meet the national requirement in terms of service delivery.
3. The different types of service delivery within solid waste have been separately dealt with in the policy and procedural documents.

## **TRANSVERSAL REPORT ON THE ACCOUNTABILITY ARRANGEMENTS REGARDING SOLID WASTE**

At its 2001 meeting in Ottawa, Canada, the Working Group on Environmental Auditing (WGEA) of the International Organisation of Supreme Audit Institutions (INTOSAI) adopted waste management as one of the central themes of its 2002-2004 Work Plan. This resulted in the publication of the WGEA document "Towards Auditing Waste Management".

Subsequent to the INTOSAI WGEA developments and to bring the NEPAD 'Action Plan for the Environment Initiative' (NEPAD: 66) to life, an audit was conducted on the accountability arrangements, with specific focus on the removal of solid waste in urban settlements in five countries, namely:

- Ethiopia;
- Ghana;
- Kenya,
- Mauritius; and
- South Africa

### **A. Problems caused by waste**

Waste management is an important factor in safeguarding human health and environmental protection, and most countries, developing and developed, recognise that waste management is a major concern. Unsatisfactory handling of waste can lead to the contamination of soil, surface water, groundwater and air. Some examples are:

- Soil can be contaminated with toxic components;
- Waste can pollute surface water and groundwater;
- Uncontrolled burning of waste produces toxic and carcinogenic gases; and
- Leaks of radioactive substances can contaminate the air and soil.

Furthermore, insufficient waste handling and emissions can have negative impacts on public health, exemplified by:

- The transmission of diseases and infections by rodents and vector insects;
- Birth defects caused by exposure to polluted drinking water;
- Cancer caused by radiation exposure;
- Respiratory problems caused by waste sorting;
- Uncontrolled burning of waste; and

- Odour, littering, unsightliness and noise.

### **Classification of waste**

There are many ways of classifying waste for example hazardous, radioactive, medical waste and non-hazardous/solid waste.

For the purpose of this audit the scope was limited to solid waste.

### **B. Importance of effective accountability and governance**

Across the continent there is a perception that the service delivery from public servants is not adequate or are not improving. Accountability in government is a mechanism that could be employed to identify where the problem within the public service has arisen. By looking at the accountability chain from the national policy to the actual service delivery, officials throughout government can be held accountable for their contribution or lack thereof, towards effective waste management.

There is often a high level commitment, even on the international stage such as being party to UN initiatives, however, it is often difficult to establish how it is reflected in service delivery.

**For the purpose of the waste management audit conducted it was expected that not all accountability arrangements would be in place. The crucial issue is to see improvements over time, therefore this audit will be most effective if it is performed on a regular basis and provides on-going accountability and benchmarking opportunities.** At this stage the issue of waste is the first in the series but hopefully the principles and methodology can be replicated to other key service delivery areas.

### **Environmental Management Accounting**

The emphasis that has been placed over the last decade on the sustainable use of environmental resources increased public awareness, which resulted in a drive by various organisations to research Environmental Management Accounting (EMA) and related reporting aspects.

Different organisations have given EMA different definitions (and even names), but in essence ... **EMA is simply a better and more comprehensive approach to environmental management and management accounting, with a particular focus on costs related to wasted raw materials and other environmental issues.**

Since different organisations are focusing on EMA, it created a perception that uniform standards and practices are not developed and implemented to account and report on environmental aspects. It seems that reporting is done haphazardly and is not always disclosed in public domain. It may, therefore, be necessary to harmonise the efforts of these organisations to specifically focus on environmental accounting and reporting in the African context.

Harmonising efforts to improve EMA will strengthen accountability, while it would also assist in implementing a uniform approach on reporting on environmental matters.



### **C. Audit of waste management in an African Context**

While the majority (62.1 per cent) of the African population is still rural, urban growth rates at nearly 4 per cent a year are the most rapid in the world, and nearly twice the global average (United Nations Population Division 2001). Growth rates are predicted to average 3.5 per cent per year over the next 15 years, meaning that Africa's share of the world's urban population will increase from 10 to 17 per cent between 2000 and 2015 (United Nations Population Division 2001). Not only are there more people living in cities but the cities themselves are becoming larger, and more numerous. The rapid rate of uncontrolled and unplanned urbanisation in the developing nations of Africa has brought environmental degradation.

Urbanisation created a waste management problem for most city authorities, state and federal governments, and professionals alike. A visit to any African city today often reveal aspects of the waste-management problem such as heaps of uncontrolled garbage, roadsides littered with refuse, streams blocked with junk, disposal sites constituting a health hazard to residential areas, and inappropriately disposed toxic wastes. The sheer volume of waste does not actually constitute the problem; it is the inability of governments and waste-disposal firms to keep up with it.

Solutions to waste management are possible. Communities around the world, large and small in both developed and under-developed countries have proven that this problem can be solved effectively. The benefits of sound waste management to human health and environment quality outweigh the cost of delivering these services.

**The summary of the audit findings, which were identified during the course of the audit, provides an insight as to whether adequate accountability is in place. All negative findings reflect areas where attention should be drawn and corrective action taken to ensure the accountability chain can be completed.**

The information recorded provides an insight into areas where activities may occur but where accountability arrangements in place are not always clear or adequate. It is important to consider that the deficiencies identified are not necessarily representative of capacity or resource constraints. Instead it identifies the cases where the accountability cannot be determined even though the required resources are employed. This in plain terms means that we are not sure whether the individuals to whom responsibility has been given are providing adequate value for money. This audit is conducted in an environment where there is limited and often insufficient funds to deliver services. It is therefore crucial that accountability is understood not to be a costly add-on but an essential requirement of service delivery and democracy.

### **E. Audit findings**

The audit findings were discussed with the relevant role-players in the different countries, but the findings have not been made public. As result thereof, an overall summary, rather than detailed findings is included in this report.

The audit procedures was grouped into National (Government policy level and assurance and reporting) and Management level (Strategy and assurance and reporting). Detailed findings are included in Tables 1 and 2.

The average achievement for the five countries were 70%, with the highest been 82% and the lowest 55%.

## **1. Accountability gaps**

The audit revealed a number of limitations or accountability gaps. In four procedures the percentage achievement was 50% or less. One of the procedures was on National level while three were on Management level.

### **National level**

The national frameworks did not provide for measurement and reporting of performance by including provisions for the following:

- Targets (desired level of performance);
- Indicators / measures of performance (for each objective);
- Monitoring the achievement of targets and indicators;
- Defined internal reporting mechanisms (including the format, contents and frequency);
- Defined external (public) reporting mechanisms (including the format, contents and frequency); and
- Enforcement of laws.

### **Management level**

Performance contracts for employees responsible for solid waste did not exist or did not adequately cover:

- Performance measures and targets.
- Service delivery in the performance contracts is measured on the following principles:
- Cost (consistent with budget);
- Quality (in line with the legislation and strategy of the entity); and
- Timeliness.

The service delivery agents are not publicly reporting its performance in achieving the service levels defined above. Specifically whether:

- Reports are in the public domain;
- Reports are issued frequently (at least annually);
- Reports are audited or validated internally or externally;
- Reports include information against measures, indicators and targets including those in the national framework;

- Reports include a plan of action on non-achievement of targets;
- Reports contain information that is simple, understandable and complete; and
- Reports are linking the cost of service delivery to their effects.

Training and education needs have not been assessed and provision has not been made for training and education regarding solid waste, including internal education (employee training) and external education (community training and education).

## **2. Accountability strengths**

Three procedures were performed where the countries met the accountability requirements 100%.

All three were on the management level.

1. The relevant authorities approved the documents that constituted the service delivery agent's framework.
2. The service delivery agent has defined and documented roles and responsibilities in respect of solid waste and the organisational structures were aligned to meet the national requirement in terms of service delivery.
3. The different types of service delivery within solid waste have been separately dealt with in the policy and procedural documents.

## **Way Forward**

The audits were conducted over a two-month period and have provided an insight into what can be achieved in a small timeframe across the AFROSAI-E environment. The auditors that were selected from each country had attended environmental awareness training given by INTOSAI, however, it is felt that the ability for others to undertake such an audit would not be an obstacle. The key possible scenarios using the tools and methodologies identified in the audit are to:

- Utilise the auditors to facilitate similar auditors within their sub-region for example the Ghanaians to facilitate the West African contribution
- To undertake the waste audit (with the option of considering electronic working papers) throughout the 23 countries
- To go further and consider more relevant and therefore difficult aspects relating to waste management in particular the performance auditing dimensions
- To undertake research on further issues such as in the health or education arena

All the above options will require a centralised capacity to facilitate, research and co-ordinate the process. This will also entail collating and summarising information. A long term vision would be to set up annual assessments of service delivery and/or accountability across major sectors of public service within the African environment.

**Table 1: National Level**

Procedure	% Achievement
<p><b>Determine whether the national framework provides for measurement and reporting of performance by including provisions for the following:</b></p> <ul style="list-style-type: none"> <li>• Targets (desired level of performance);</li> <li>• Indicators and measures of performance (for each objective);</li> <li>• Monitoring the achievement of targets and indicators;</li> <li>• Defined internal reporting mechanisms (including the format, contents and frequency);</li> <li>• Defined external (public) reporting mechanisms (including the format, contents and frequency); and</li> <li>• Enforcement of laws.</li> </ul>	50%
<p><b>Determine whether:</b></p> <ul style="list-style-type: none"> <li>• For each of the agencies identified, their respective roles and responsibilities have been clearly identified including the function of monitoring.</li> <li>• Service delivery agents in particular have been given the appropriate mandate to carry out their functions as required by national legislation and policy.</li> <li>• Clear and specific timelines for the implementation of the service delivery agent's mandate have been established.</li> </ul>	70%
<p><b>Obtain documentation pertaining to the national framework including legislation and policy and determine whether:</b></p> <ul style="list-style-type: none"> <li>• There is a national framework including legislation and policy dealing with waste management.</li> <li>• This framework reflects internationally recognised principles on waste management. These principles of the waste stream are as follows: <ul style="list-style-type: none"> <li>• Prevention;</li> <li>• Generation;</li> <li>• Recycle, reuse;</li> <li>• Collection;</li> <li>• Transport;</li> <li>• Treatment and disposal.</li> </ul> </li> <li>• Legislation was revisited during the last 10 years.</li> <li>• The framework addresses the need for learning and education (internal and external).</li> </ul>	77%

Procedure	% Achievement
<ul style="list-style-type: none"> <li>National framework provides for an agent responsible for the enforcement of the principles of the framework.</li> <li>Budget is provided for on a separate line item for waste.</li> <li>The Constitution clearly states the rights of people with regards to clean and safe environment.</li> </ul>	

**Table 2: Management level**

Procedure	% Achievement
<p><b>Obtain performance contracts for employees responsible for solid waste and determine whether:</b></p> <ul style="list-style-type: none"> <li>The performance contracts include performance measures and targets.</li> <li>Service delivery in the performance contracts is measured on the following principles: <ul style="list-style-type: none"> <li>Cost (consistent with budget);</li> <li>Quality (in line with the legislation and strategy of the entity); and</li> <li>Timeliness.</li> </ul> </li> <li>Individual targets clearly are linked to the organisational strategy (or in absence of that to the national requirements).</li> </ul>	37%
<p><b>Determine whether the service delivery agent is publicly reporting its performance in achieving the service levels defined above. Specifically whether:</b></p> <ul style="list-style-type: none"> <li>Reports are in the public domain;</li> <li>Reports are issued frequently (at least annually);</li> <li>Reports are audited or validated internally or externally;</li> <li>Reports include information against measures, indicators and targets including those in the national framework;</li> <li>Reports include a plan of action on non-achievement of targets;</li> <li>Reports contain information that is simple, understandable and complete; and</li> <li>Reports are linking the cost of service delivery to their effects.</li> </ul>	46%
<p><b>Obtain evidence that training and education needs have been assessed and whether there is provision made for training and education regarding solid waste.</b></p> <p>These should include:</p>	50%

Procedure	% Achievement
<ul style="list-style-type: none"> <li>• Internal education (employee training); and</li> <li>• External education (community training and education).</li> </ul>	
<p><b>Determine whether:</b></p> <p>The service delivery agent allocated (and documented) available resources based on priorities and risks.</p> <p>The service delivery agent has identified the additional resources needed to fulfil its solid waste management responsibilities</p>	60%
<p><b>Determine whether there is provision for community engagement in the planning and decision making by the service delivery agent. This could include:</b></p> <ul style="list-style-type: none"> <li>• Planning and setting of strategy; and</li> <li>• Corrective actions taken.</li> </ul>	60%
<p><b>Determine whether:</b></p> <ul style="list-style-type: none"> <li>• Processes and systems are in place to provide information as required for measuring and reporting; and</li> <li>• Was it communicated to all relevant personnel - Obtain evidence as to the means of communications to the relevant officials? Consult with officials to determine whether they are aware of the provisions of the document.</li> </ul>	63%
<p><b>Determine whether management has established and documented an operational framework for fulfilling its waste management services.</b></p> <p><b>Determine whether the operational framework addresses:</b></p> <ul style="list-style-type: none"> <li>• Legal and policy requirements, including those derived from national framework and internationally recognised principles;</li> <li>• Measurement and reporting requirements; and</li> <li>• Day to day solid waste management activities.</li> </ul>	74%
<p><b>Determine whether authority, accountability and responsibilities are assigned to people with relevant capacity e.g. is appropriate delegations in place.</b></p> <ul style="list-style-type: none"> <li>• Determine whether positions are profiled to identify the required capacity of personnel.</li> <li>• Obtain delegations of responsibility.</li> </ul>	80%
<p><b>Determine whether the expected levels of service delivery for solid waste are documented. This should be in terms of cost, extent, quality and timeliness of service delivery.</b></p>	86%

<b>Procedure</b>	<b>% Achievement</b>
<b>Inspect whether the relevant authorities approved documents constituting the service delivery agent's framework.</b>	100%
<b>Determine whether:</b> <ul style="list-style-type: none"> <li>• The service delivery agent has defined and documented roles and responsibilities in respect of solid waste.</li> <li>• The organisational structure is aligned to meet the national requirement in terms of service delivery.</li> </ul>	100%
<b>Determine whether the different types of service delivery within solid waste have been separately dealt with in the policy and procedural documents.</b>	100%

ATTACHMENT 2

PROTOCOL AND RESPONSES

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<p>1. Identify the agencies responsible for waste management, from the formulation of national policy to the service delivery at local levels (organisation chart).</p> <p>For each of these procedures identify the responsible agencies and individuals (see template).</p>						
<p><b>2. Obtain documentation pertaining to the national framework including legislation/policy and determine whether:</b></p> <ul style="list-style-type: none"> <li>• There is a national framework including legislation / policy etc. dealing with waste management.</li> <li>• This framework reflects internationally recognised principles on waste management. These principles of the waste stream are as follows: <ul style="list-style-type: none"> <li>• Prevention</li> <li>• Generation</li> <li>• Recycle, reuse</li> <li>• Collection</li> <li>• Transport</li> </ul> </li> </ul>	<p><b>National framework for waste management</b></p> <p>A national framework represents the commitment of government to implement effective waste management. It also serves to guide national efforts and to establish an <i>accountability chain</i>. A framework could be in the form of legislation or policy. The audit found that:</p> <p>A national framework exists with regards to waste management.  A national framework does not exist with regards to waste management.  There is uncertainty whether national framework exists specifically with regards to waste management.</p>	<p>Yes</p>	<p>Yes</p>	<p>Yes</p>	<p>Yes</p>	<p>Partial</p>



Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<ul style="list-style-type: none"> <li>• Treatment/disposal</li> <li>• Legislation is current - revisited during the last 10 years</li> <li>• The framework addresses the need for learning / education (internal / external). (refer to the information in the source document hyperlinked)</li> <li>• National framework provides for an agent responsible for the enforcement of the principles of the framework</li> <li>• Budget is provided for (separate line item for waste).</li> <li>• The Constitution clearly states the rights of people with regards to clean and safe environment.</li> </ul>	<p>Various international groups and summits have recognised principles of effective waste management including the 1992 Rio Summit and Agenda 21 and further reinforced by the 2002 World Summit on Sustainable Development held in Johannesburg. Internationally recognised principles of effective waste management include the following aspects:</p> <ul style="list-style-type: none"> <li>• Prevention</li> <li>• Generation</li> <li>• Recycle, reuse</li> <li>• Collection</li> <li>• Transport</li> <li>• Treatment/disposal</li> </ul> <p>The audit found that:  The national framework did reflect internationally recognised principles of effective waste management.  The national framework did not reflect internationally recognised principles of effective waste management.  The national framework only partially reflected internationally recognised principles of effective waste management. The following principles were not included in the national framework: (<i>delete as appropriate</i>)</p> <ul style="list-style-type: none"> <li>• Prevention</li> <li>• Generation</li> <li>• Recycle, reuse</li> <li>• Collection</li> </ul>	Yes	Yes	Yes	Yes	Partial

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
	<ul style="list-style-type: none"> <li>• Transport</li> <li>• Treatment/disposal.</li> </ul> <p>National framework in terms of waste management was last updated in 'INSERT DATE'</p> <p>To address capacity issues in ensuring effective service delivery, it is necessary to provide for training and development of personnel. The audit found that in terms of training the national framework included:</p> <p>Provisions for education and training on waste.</p> <p>No provisions for education and training on waste.</p> <p>The national framework provides for an enforcement agent.</p> <p>The national framework does not provide for an enforcement agent.</p> <p>For implementation of any framework the required resources have to be made available. The specific identification of 'waste' in the budget process will facilitate adequate resources to be applied to waste management. The audit has found that:</p> <p>There was separate budget allocation for waste.</p> <p>There was no separate budget allocation for waste.</p>	Yes	Yes	Yes	Yes	Yes
		Yes	Yes	No	Yes	Yes
		Yes	No	No	No	No

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<p><b>3. Determine whether:</b></p> <ul style="list-style-type: none"> <li>For each of the agencies identified in procedure 1, their respective roles and responsibilities have been clearly identified including the function of monitoring.</li> <li>Service delivery agents in particular have been given the appropriate mandate to carry out their functions as required by national legislation/policy.</li> <li>Clear and specific timelines for the implementation of the service delivery agent's mandate have been established.</li> </ul>	<p><b>Role and mandate of agencies</b></p> <p>A crucial aspect of accountability is a clear and documented understanding of the respective roles and responsibilities of each of the agencies involved in waste management, from the national to local levels. From the audit it was found that:</p> <p>The roles and responsibilities of the agent were clearly set out by national government.</p> <p>The roles and responsibilities of the agent were not clearly set out by national government.</p> <p>The roles and responsibilities of agencies included the monitoring function.</p> <p>The roles and responsibilities of agencies did not include the monitoring function.</p> <p>Since waste management activities take place largely at local levels, it is crucial that the service delivery agents be given the appropriate legal mandate to carry out their functions as required by the national framework. The audit found that:</p> <p>The service delivery agent has been given the appropriate mandate.</p> <p>The service delivery agent has not been</p>	<p>Yes</p>	<p>Yes</p>	<p>No</p>	<p>Yes</p>	<p>No</p>
		<p>Yes</p>	<p>Partial</p>	<p>No</p>	<p>Yes</p>	<p>Yes</p>

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
	<p>given the appropriate mandate. It is uncertain whether the service delivery agent has been given the appropriate mandate.</p> <p>An important aspect of accountability is for timeframes to be set for when key aspects of legislation are to be implemented. In terms of timelines, timeframes legislation and other relevant national documentation it was found that:</p> <p>Clear and specific timeframes were used as milestones for assessing implementation of waste management strategy.</p> <p>There were no specific and clear timeframes to ensure that adequate project management principles can be employed for implementation of waste management.</p> <p>The information provided was not adequate to assess whether the timelines and timeframes were in place.</p>	Yes	No	Not sure	Yes	No
<p><b>4. Determine whether the national framework provides for measurement and reporting of performance by including provisions for the following:</b></p> <ul style="list-style-type: none"> <li>• Targets (desired level of performance)</li> </ul>	<p><b>Measurement and Reporting of performance</b></p> <p>A primary role of accountability is to facilitate adequate and consistent measurement and reporting. This can be achieved effectively by setting out instructions through national policy documents such as legislation or policy.</p>					

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<ul style="list-style-type: none"> <li>• Indicators / measures of performance (for each objective)</li> <li>• Monitoring the achievement of targets and indicators</li> <li>• Defined internal reporting mechanisms (including the format / contents / frequency etc)</li> <li>• Defined external (public) reporting mechanisms (including the format / contents / frequency etc)</li> <li>• Enforcement of laws</li> </ul>	<p>This requires that the national framework set out:</p> <ul style="list-style-type: none"> <li>• Targets (desired level of performance)</li> <li>• Indicators / measures of performance (for each objective)</li> <li>• Monitoring the achievement of targets and indicators</li> <li>• Defined internal reporting mechanisms (including the format / contents / frequency etc)</li> <li>• Defined external (public) reporting mechanisms (including the format / contents / frequency etc)</li> </ul> <p>From the information examined it was identified that:  The national framework did include provision for measurement and reporting.  The national framework did not include any provision for measurement and reporting.  The national framework only partially included provision for measurement and reporting. The following aspects were not provided for: <i>[delete as appropriate]</i></p> <ul style="list-style-type: none"> <li>• Targets (desired level of performance)</li> <li>• Indicators / measures of performance (for each</li> </ul>	Partially	Partially	Partially	Partially	No

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<p><b>5. Determine whether management has established and documented an operational framework for fulfilling its waste management services.</b></p> <p><b>Determine whether the operational framework addresses:</b></p> <ul style="list-style-type: none"> <li>• Legal and policy requirements, including those derived from national framework and internationally recognised principles</li> <li>• Measurement and reporting requirements</li> <li>• Day to day solid waste management activities</li> </ul> <p><i>It is anticipated that on an organisational level there will be numerous documents</i></p>	<p>objective)</p> <ul style="list-style-type: none"> <li>• Monitoring achievement of targets and indicators</li> <li>• Defined internal reporting mechanisms (including the format / contents / frequency etc)</li> <li>• Defined external (public) reporting mechanisms (including the format / contents / frequency etc)</li> <li>• Provisions for the enforcement of law</li> </ul> <p><b>Operational framework at local government level</b></p> <p>In order to facilitate accountability and transparency it is necessary that the management of the service delivery agent establish a coherent operational framework that captures the requirements for waste management at the local government level.</p> <p>This includes legal and policy requirements (including those derived from national framework and internationally recognised principles or effective waste management), measurement and reporting requirements, and day to day waste management activities. It is also important that the operational</p>					

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<p><i>available (e.g. by-laws, procedures, instructions, that need to be assembled into a coherent framework)</i></p>	<p>framework be aligned to the national framework established at a national level to ensure effective policy implementation. It was found that:</p> <p>The service delivery agent has established an operational framework that satisfies the above requirements. The service delivery agent has established an operational framework that partially satisfies the above requirements. The following has not been provided for in the framework: <i>(delete as appropriate)</i></p> <ul style="list-style-type: none"> <li>• Legal and policy requirements, including those derived from national framework and internationally recognised principles</li> <li>• Measurement and reporting requirements</li> <li>• Day to day solid waste management activities.</li> </ul> <p>The service delivery agent has not established an operational framework that satisfies the above requirements.</p>	Yes	Yes	Partially	Partially	Partially
<p><b>6. Inspect whether documents constituting the service delivery agent's framework were approved by the relevant authorities.</b> <i>Inspect the signature of the relevant</i></p>	<p><b>Approval of operational framework</b> An essential part of strategy and accountability is that the documentation in the form of framework is approved at an appropriate level. It was found that :</p>	Partially				

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<p><i>official as per delegated authority (e.g. on national level).</i></p>	<p>Approval of the operational framework was provided by the relevant authority. There was inappropriate approval of framework. There was no approved framework.</p>	Yes	Yes	Yes	Yes	Yes
<p><b>7. Determine whether:</b></p> <ul style="list-style-type: none"> <li>The service delivery agent has defined and documented roles and responsibilities in respect of solid waste.</li> <li>The organisational structure aligned to meet the national requirement in terms of service delivery.</li> </ul> <p><i>(Documents should be readily available at the entity)</i></p>	<p><b>Roles and Responsibilities within the service delivery agent</b></p> <p>In addition to documentation (systems) the organisational structure (people) is also essential to provide the necessary capacity for service delivery. This needs to be defined on an organisational level and be broken down in terms of service delivery requirements (including solid waste). From the audit it was found that:</p> <p>The agency has defined and documented responsibilities relating to the management of solid waste. The agency has not defined and documented responsibilities relating to the management of solid waste.</p>	Yes	Yes	Yes	Yes	Yes
<p><b>8. Determine whether authority, accountability &amp; responsibilities are assigned to people with relevant capacity e.g. appropriate delegations are in place.</b></p> <ul style="list-style-type: none"> <li>Determine whether positions are profiled to identify the required capacity of personnel.</li> </ul>	<p><b>Capacity and delegation</b></p> <p>A key element in the successful provision of any service is to match peoples' ability and experience to the responsibilities afforded to them. The audit identified the following findings:</p> <p>Each position was profiled (in terms of competencies and skills) to ensure</p>	Yes	Yes	Not sure	Not sure	Yes



Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<ul style="list-style-type: none"> <li>Obtain delegations of responsibility.</li> </ul>	<p>appropriate personnel were in post. No profiling took place and therefore no estimate of skills and competencies was undertaken. It was difficult to identify whether the skills and competencies of the post had been determined in advance.</p> <p>Delegations of responsibilities were clear and documented. Delegations of responsibilities were unclear and could not be established. There were no documented delegations of responsibilities.</p>	Yes	Yes	Yes	No	Yes
<p><b>9. Obtain performance contracts for employees responsible for solid waste and determine whether:</b></p> <ul style="list-style-type: none"> <li>The performance contracts include performance measures and targets.</li> <li>Service delivery in the performance contracts is measured on the following principles: <ul style="list-style-type: none"> <li>Cost (consistent with budget)</li> <li>Quality (in line with the legislation and strategy of the entity)</li> <li>Timeliness</li> </ul> </li> <li>Individual targets clearly linked</li> </ul>	<p><b>Performance contracts of staff</b></p> <p>Performance contracts need to exist to provide individual accountability at least for senior management down to the level of the manager responsible for service delivery. In addition the contracts need to include requirements regarding timeliness, cost and quality of service delivery in sufficient detail. The audit found that:</p> <p>Performance contracts or other mechanisms to assess performance did not exist. The performance contracts or other mechanisms adequately covered cost, quality and timeliness of performance. The performance contracts or other mechanisms did not cover adequately</p>	No	Partial	Yes		No

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<p>to the organisational strategy (or in absence of that to the national requirements).</p> <p><i>Performance contracts should exist for senior management down to the level of manager of service delivery as a minimum. Performance contracts include the setting of performance objectives / targets / appraisals and there is a mechanism to review the performance of the individual against the pre-set criteria. This process should be documented.</i></p>	<p>the cost, quality and timeliness of performance for assessment purposes.</p> <p>The performance contracts or other mechanisms partially covered the requirements of performance for assessment purposes. The following aspect was not covered: <i>(delete as appropriate)</i></p> <ul style="list-style-type: none"> <li>• cost,</li> <li>• quality</li> <li>• timeliness of service delivery</li> </ul> <p>Individual performance targets were clearly aligned to organisational targets. It was difficult to identify whether individual performance targets were aligned to organisational targets. There was no alignment of individual performance targets to organisational targets.</p>		Partially	Partially	Partially	Partially
<p><b>10. Determine whether:</b></p> <p>The service delivery agent allocated (and documented) available resources based on priorities and risks.</p> <p>The service delivery agent has identified the additional resources needed to fulfil its solid waste management responsibilities (has a GAP analysis been done).</p>	<p><b>Budget priorities</b></p> <p>In most public sector organisations the limited funding requires choices between different services and limits to the scale of services provided. It is the responsibility of management to make choices and decide what can be provided from the finite funding available. Such allocation should be made on the basis of priorities and risks. During the audit it was identified</p>		Not sure	Yes	Not sure	No

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
	<p>that:</p> <p>Available resources have been allocated based on the service delivery agents' priorities and risks. Available resources have not been allocated based on the service delivery agents' priorities and risks.</p> <p>In addition, it is the responsibility of management to identify those services that cannot be addressed within available resources and to make relevant decision aware of the budgetary gap. It was found that:</p> <p>The management of the service delivery agent has identified the additional resources required to fully implement its waste management responsibilities. The management of the service delivery agent has not identified the additional resources required to fully implement its waste management responsibilities. It is uncertain whether management of the service delivery agent has identified the additional resources required to fully implement its waste management responsibilities.</p>	Yes	No	Yes	No	No
<p><b>11. Determine whether the different types of service delivery within solid waste have been separately dealt with in the policy / procedure documents.</b></p>	<p><b>Identification of services for solid waste</b></p> <p>It is important that solid waste is identified separately in the policy and</p>					

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<p><i>Identify whether the processes are broken down into smaller units including solid waste</i></p>	<p>procedure documentation of the entity. The audit found that:</p> <p>The policy and process documentation of the entity includes clearly identified processes for the service delivery on solid waste.</p> <p>The policy and process documentation of the entity did not include clearly identifiable processes for the service delivery of solid waste.</p>	Yes	Yes	Yes	Yes	Yes
<p><b>12. Determine whether the expected levels of service delivery for solid waste are documented. This should be in terms of cost, extent, quality and timeliness of service delivery.</b></p>	<p><b>Aspects of Service delivery</b></p> <p>Accountability requires management to provide their expectations relating to the service delivery before the commencement of the relevant time period. The most transparent way of this being in place is by setting out predefined expectations in respect of service delivery. For the audit we evaluated this in terms of cost, extent, quality and timeliness within policies and procedures. The audit found that:</p> <p>There was a pre-defined framework in place for the cost, extent, quality and timeliness of service delivery established by management.</p> <p>There was no pre-defined framework in place for the cost, extent, quality and timeliness of service delivery established by management.</p> <ul style="list-style-type: none"> <li>• There was a pre-defined</li> </ul>	Yes	Yes	Yes	Partially	Partially

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<p><b>13. Determine whether:</b></p> <ul style="list-style-type: none"> <li>• Processes / systems are in place to provide information as required for measuring and reporting.</li> <li>• Communicated to all relevant personnel - Obtain evidence as to the means of communications to the relevant officials. Consult with officials to determine whether they are aware of the provisions of the document.</li> </ul>	<p>framework in place however only partially covered the aspect of service delivery. The following aspects were not included in the framework:</p> <ul style="list-style-type: none"> <li>• cost,</li> <li>• extent,</li> <li>• quality</li> <li>• timeliness of service delivery.</li> </ul>					
<p><b>13. Determine whether:</b></p> <ul style="list-style-type: none"> <li>• Processes / systems are in place to provide information as required for measuring and reporting.</li> <li>• Communicated to all relevant personnel - Obtain evidence as to the means of communications to the relevant officials. Consult with officials to determine whether they are aware of the provisions of the document.</li> </ul>	<p><b>Systems and Processes</b></p> <p>In order for accountability to occur the need for a measurement and reporting framework is essential. This needs to be at the organisation level and used for internal and external purposes. During the audit it was found that:</p> <p>The organisation had established and documented the processes and systems enabling the reporting in line with the required reporting framework. The organisation had not established and documented the processes and systems enabling the reporting in line with the required reporting framework</p> <p>The documentation on the processes and systems of reporting obtained from management was up to date.</p> <p>The documentation on the processes and systems of reporting obtained from</p>	No	Yes	Yes	Partially	Partially
					Yes	Yes

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<p><b>14. Determine whether the service delivery agent is publicly reporting its performance in achieving the service levels defined above. Specifically whether:</b></p> <ul style="list-style-type: none"> <li>• Reports are in the public domain</li> <li>• Reports are issued frequently (at least annual)</li> <li>• Reports are audited / validated internally or externally</li> <li>• Reports include information against measures / indicators / targets including those in the national framework</li> <li>• Reports include a plan of action</li> </ul>	<p>management was not up to date. It was difficult to evaluate whether the documentation on the processes and systems of reporting was up to date.</p> <p>The documentation on the processes and systems of reporting was communicated to those individuals affected.</p> <p>Although documentation on the processes and systems of reporting was available it was not clear whether it was communicated to all relevant staff.</p>	No	Yes	Yes	Yes	Not sure
<p><b>Reporting on service delivery</b></p> <p>At the entity level the final stage is to assess the reporting framework in terms of accountability as well as transparency. The audit found that :</p> <p>Reports were available in the public domain.</p> <p>Reports were not available in the public domain.</p> <p>Reports were available at least annually.</p> <p>Reports were not available annually.</p> <p>Reports were audited.</p> <p>Reports were not audited.</p> <p>Reporting against measures / indicators / targets were included in the report.</p>	<p><b>Reporting on service delivery</b></p> <p>At the entity level the final stage is to assess the reporting framework in terms of accountability as well as transparency. The audit found that :</p> <p>Reports were available in the public domain.</p> <p>Reports were not available in the public domain.</p> <p>Reports were available at least annually.</p> <p>Reports were not available annually.</p> <p>Reports were audited.</p> <p>Reports were not audited.</p> <p>Reporting against measures / indicators / targets were included in the report.</p>	No	Yes	Yes	Yes	No
		No	Yes	Yes	No	Yes
		No	Yes	No	Yes	No
		Yes	Yes	Yes	No	Yes

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
<p>on non-achievement of targets</p> <ul style="list-style-type: none"> <li>• Reports contain information that is simple, understandable and complete</li> <li>• Reports are linking the cost of service delivery to their effects</li> </ul>	<p>Reporting against measures / indicators / targets were not included in the report.</p> <p>All performance targets were achieved. A plan of action for non-achievement of targets was included.</p> <p>There was no plan of action for non-achievement of targets.</p> <p>The information was simple understandable and complete. The information was not simple, understandable or complete.</p> <p>The cost of service delivery was linked to the expected or budgeted levels of service delivery.</p> <p>The cost of service delivery was not linked to the expected or budgeted levels of service delivery.</p>		<p>No</p> <p>Yes</p> <p>No</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>No</p> <p>Yes</p> <p>No</p>	<p>No</p> <p>No</p> <p>No</p>
<p><b>15. Determine whether there is provision for community engagement in the planning and decision making by the service delivery agent. This could include:</b></p> <ul style="list-style-type: none"> <li>• Planning / setting of strategy</li> <li>• Corrective actions taken</li> </ul>	<p><b>Community engagement</b></p> <p>To ensure that the service delivered meets the requirements, it is essential to embark on community engagements. This engagement with the local community should be included in formal documentation. The audit found that:</p> <p>Community involvement was extensive including setting of standards and review of performance. There was limited community involvement in the waste management</p>	<p>No</p>	<p>Yes</p>	<p>Yes</p>	<p>Partially</p>	<p>Partially</p>

Question	Possible Conclusion	Mauritius	Ghana	South Africa	Kenya	Ethiopia
	<p>process. There was no evidence of community involvement in the waste management process.</p>					
<p><b>16. Obtain evidence that training / education needs have been assessed and whether there is provision made for training / education regarding solid waste.</b></p> <p>These should include:</p> <ul style="list-style-type: none"> <li>• Internal education (employee training)</li> <li>• External education (community training / education)</li> </ul>	<p><b>Training</b></p> <p>Often capacity is cited as major issue prohibiting effective service delivery. To this end on the human resources side it is essential that training is provided to address this concern if possible. The audit identified that:</p> <p>Employee training was provided for. Limited employee training was provided for.</p> <p>There was no employee training provided for.</p> <p>Community training/awareness was provided for. Community training/awareness was not provided for. Limited community training/awareness was provided for.</p>	Partially	Partially	Partially	Partially	Partially
<p><b>17. Voluntary procedure: Arrange 2 site visits during which photos are taken.</b></p>						



## **Environmental Legislation and its Role in the Activation of Environmental Control Work (Libya)**

**Theme: Environmental Auditing: facing the challenges**

**Auditor: Prof. Mohamed Abd Allah Bait Elmal**

### **1. INTRODUCTION**

Libya has a large geographical area reaches to about two millions kilometers with a population of around 6 millions and with high degree of population growth. Of the population distribution characteristics of Libya is that most of the population is concentrated on the coastal strip within a group of main cities. This kind of specialty of area and population reflects, of course, in the nature of local environment and its characteristics. Environment could be identified as follows:

It includes human and his surrounding natural factors including water, air, living things and nonliving things in addition to the conditions resulted from human interaction with these factors and the relevant cultural and social factors.

Of the most obvious traits related to the environmental deterioration in Libya are the following:

- Advancement of cities and its horizontal spread as the productive plants become adjacent to human groupings with the consequential damages to environment
- Agricultural practices harmful to environment and surroundings such as the continuation of the use of greenhouses, use of chemical fertilizers in non-guided and imprecise manner
- Discharge of the water resulted from the plants directly without treatment in the drainage channels
- Random building and non-observance of urban planning

Although the forgoing, Libya, comparing to the number of population, nature of environment and volume of industrial activity, could not be considered as a country of high environmental pollution comparing to international rates. Nevertheless, awareness of the Libyan S A I of the importance of this matter made us shed a light in this paper on the challenges facing our control work in the implementation of our control task in the field of environmental review and protection.

In this field, the question of the sufficiency of environmental legislation to insure the realization of effective control on the environmental performance, prevention of environmental deterioration and its system imbalance arises as this deterioration relates directly with the insufficiency of environmental legislation which effects could be summarized as follows:

## **Shortage of Productivity**

As the biological productivity affects by many factors that, in turn, affect the ecosystem which leads to environmental shaft and disorder of its balance rate such as when a large number of animals enter an area that has fodder production less than that needed by such incoming flocks that makes different degrees of improper posturing, weakness of productivity and desertification.

## **Retreat of Forests and Plant Coverage**

One of the environmental imbalance aspects also is the disappearance of plant coverage. For example, in Tripoli City, area of forests that were forming a green strip around the city has decreased according to the use of its woods in the manufacture of coal, erasing of this strip to use change it into houses and farms for vegetable production which on the other side exhaust the water reserves which are rare originally.

## **Water Contamination**

Results of industrial and technological revolution witnessed by Libya during the last decades led to increased productivity and large spread of plants but the abundance of contaminated residuals resulted from this industrial revolution, dependence on gravity and natural gradient of water led to the discharge of such wastes into the seawater that causes major damages to the biological life of sea.

## **2. NEED OF INTERFERENCE OF THE S A I s IN THE FIELD OF ENVIRONMENTAL REVIEW**

Environmental review evaluates environmental commitments and risks, extent of commitment and observance of relevant laws and regulations. The Control authority can provide, with proper independence, reliable information with suitable level of assurance that helps strategic decision-makers in this field. Provided that control work should be continuous and constant as the exceptional “ on occasions “ inspection works could not provide the required affirmation of non-violation, that is, the continuous and constant compliance with prescribed laws and policies. Then, the matter needs that control works should be made in structural administrative system insures the sustainability of development in the so-called “ sustainable development “. As such prescribed policies should imply a homogeneous mix of social, environmental and economical objectives.

Therefore, any policy or human activity should lead to the improvement of the three goals together. Problem might lie in the balance between the success rates of these objectives. Then, significance of making balance or exchange between economical and social advancements on one side and environment on the other side appears. And in a such a manner that doesn't deteriorate economical or social advancements, what is valuable, what could not be made for or prevents the next generation from using the same resources for the realization of development.

Therefore, without integration of policies within the framework of sustainable development any effort to protect the environment, and realization of accepted living standards will lead to adverse results that could generate environmental complications, establishment of poverty

and unemployment. Accordingly, control authorities face new systematic and analytical challenges within the concept of sustainable development and its requirements of balance between economical, environmental and social objectives.

On the other side, environmental issues know no geographical borders and it's not possible to assign a state as being responsible for environment within its borders, therefore correlation between economical, social and environmental issues become more urgent and clear and the countries should determine and monitor its natural resources, prepare plans for environmental protection and organization within a comprehensive international system. That was the trend of Johannesburg declaration, South Africa, that presented a work plan which is considered as a detailed statement describes objectives and promises, determined some issued such as eradication of poverty, protection of natural resources, energy, health and environmental technology.

According to the increased international dimension of the environmental issues and its effects on universe, experts of the UN have clarified that the world will witness, during the next five years, the migration of 50 million immigrants for environmental and natural reasons. Most of them resulted from soil deterioration and desertification that resulted from the harmful use of agricultural lands as mentioned by the Director of Environment and Human Security Institute of the UN, having its headquarter in Bonn.

### **3. LEGAL FRAMEWORK OF ENVIRONMENTAL PROTECTION**

#### **Identification of Environmental law**

According to the general description of environment as mentioned above, environmental law could be identified as follows: " it's the law system of environmental protection, development and prevention of its destroyers ". Environmental law has emerged and developed in line with economical and social developments of environment. When economical activity increases, especially in the fields of industry and agriculture, legal treatment of compensation of damages of infringement or disturbance cases that could incur to people or properties are not anymore sufficient to go in line with environmental effects accompanying such development. That emphasizes the need to assign, to the project, the task of balance between contradicting interests for the favor of environment over individual interests based on the idea of interest versus return.

### **4. DEVELOPMENT OF ENVIRONMENTAL LAW IN LIBYA**

Within competences assigned to the Financial and Technical Control Authority in Libya and related to environmental control the Authority, in its environmental control, is related to environmental legislation included in the following:

- Law no. 3 of the year 67 regarding urban planning
- Law no. 33 of the year 70 regarding protection of agricultural lands
- Law no. 7 of the year 82 regarding environmental protection, health law and its executive regulation

- Law no. 2 of the year 82 regarding the organization of the utilization of ionized radiations and prevention of its risks
- Law no. 3 of the year 82 regarding the organization of water exploitation and its executive regulation
- Law no. 5 of the year 82 regarding protection of postures and forests
- Law of general cleanness no. 13 of the year 84 and its executive regulation
- Law no. 15 of the year 89 regarding protection of animals and trees
- Decision of the General People's Committee no. 263 of the year 99 for the foundation of the General Authority of Environment.

From the forgoing, it's clear that the emergence and development of environmental legislation in Libya was in the beginning of seventies. They are distinguished by the focus on allocation and organization of resources exploitation with the omission of the treatment of negative effects of the exploitation of such resources such as absence of legislation related to the contamination protection of water resources, and the presence of some legislation that focused on possession rights instead of organization of the exploitation of such possessed properties in such a manner that ensures sustainability of yield as in the laws of forests and agricultural ownership.

Then, there was a trend to address the environmental problems directly. Of the most important problems is the non-guided exploitation of renewable and non-renewable resources with the prompt endeavor to set up legislation that essentially concern with management and sustainable development of such resources. For example, environmental laws included provisions organize the planning of water resources utilization, protection of such resources, control of its contamination in addition to other standards of water quality and purity.

In addition to the afore-said, the following period distinguished by gradual shift from preservation phase of resources to the phase of integrated building of the ecosystem when legislation in this period directed to integration of environmental elements and management legally, planning and implementation. In 1999 it witnessed the foundation of the General Authority of Environment to assume such responsibility.

## **5. EXTENT OF SUFFICIENCY OF ENVIRONMENTAL LEGISLATION**

One of the most important challenges that face the Financial and Technical Control Authority in its activity filed basically related to the extent of sufficiency of environmental legislation in Libya. Nevertheless the development we have referred to but the problem lies in that those legislation have not discussed, in most cases, the elements of environmental formations directly. But, they are a set of legislation have, in one or other forms, a relation to environment and its issues. According to specialists, environmental constituents that have not discussed directly by legislation are protection of air from pollution, atmosphere and ozone layer protection from degradation as not to harm human health and other life elements by the risks of radiation pollution. In addition to the protection of lives of wild and sea creatures ( animals

and plants ) and protection of its habitants from all environmental risks. And also protection elements of soil and protection from noise effects.

Therefore, most of legislative texts related to environmental protection have not directed to environment in a specialized manner but they have addressed some of environmental aspects according to narrow concept of the types and nature of factors affecting the environment and its limits of influence.

That means complete picture of the environmental condition is not present in the minds of legislators that made these texts insufficient and improper to the needs of developments of time.

Due to the complete absence of legislative treatment of to shallow treatment of some elements environmental problems have become sever, especially with limitation of the role the Financial and Technical Control Authority can play. These texts don't include the reference scientific standard for the determination of environment-related violations. Absence of scientific standard exposes the application of legal text to discretion and may be make it out of its objectives. It's known that in the application of penal texts it should be based on a clear legal text according to the legal constant principle " no crime and no punishment without text in law ".

Further, there are some other important aspects related to environment that have not been addressed in the recently applicable texts that means the presence of legislative gap in the provision of legal treatment and the binding legal text for the protection and management of environment.

## **6. ASPECTS OF SUPPORT OF ENVIRONMENTAL LEGISLATION IN LIBYA**

**FIRST:** Supporting institutional frameworks relevant to environmental issues including the General Authority of Environment and the Financial and Technical Control Authority. Support shall include the following:

- Issuance of a document of the national strategy of environmental protection of the State
- Formation of branch environmental bureaus following the main authority concerns with environment

**SECOND:** Issuance of rules, instructions and standard specifications of environmental protection elements according to international environmental laws and legislation as to:

- Include environmental issues in the comprehensive development plan of the State.
- Establishment of quality standards and levels in the general laws and legislation.
- Establishment of environmental and economical principles in the laws based on deterrence punishment and encouraging award.
- Inclusion of international standards in the relevant national laws and authorities.

- Inclusion of the evaluation formulation of the environmental impact as a standard to control the foundation of projects of negative environmental effect.
- Implication of the coordination principle as a basis for the institutional environmental management.
- Realization of legislative harmonization for environmental protection and preservation within reference laws.

## **The Experience and Problems of Environmental Audit (Russian Federation)**

**Theme: Environmental Auditing: facing the challenges**

**Auditor: Tamara V. Zlotnikova**

The legal ground of the activity of the Accounts Chamber of the Russian Federation as a state financial control body is the Constitution of Russia and the Law, On the Accounts Chamber of the Russian Federation.

The main tasks of its activity include not only control of the implementation of the revenue and expense items of the state's budget, but also the efficiency of the use of the federal property.

It is that task that allows the Accounts Chamber of the Russian Federation, within its competence, to carry out expert and analytical activity on a regular and systematic basis, as well as audit of efficiency of the use of the country's natural resources that are the federal property (the forest and water resources, subsurface resources, water biological resources, and in separate cases, land resources).

Thus, the conducting of environmental audit results from the tasks and types of activity stipulated by the said law, though it does not provide for a direct standard of such kind.

This implies that, given the specific character of functioning of the Accounts Chamber of the Russian Federation, the environmental audit carried out by it can be divided into the following types:

- expert and analytical measures to assess the efficiency of the use of different kinds of natural resources (waters, forests, subsurface resources, water biological resources);
- environmental audit as an integral part of checking the efficiency of the use of public funds aimed at the protection of the environment and natural resources;
- international parallel environmental audit.

Meanwhile, the said types of audit are carried out basically by the officers of the Accounts Chamber, sometimes audit specialists are engaged to implement them on a contractual basis.

Within the framework of my speech, I would like to expand on a number of examples from the practical activity of our audit body on all the three types of environmental audit the speaker directly participated in.

### **Expert and analytical measures to assess the efficiency of use of forest resources**

It is known that Russia a forest state harboring on fourth part of the world's stock of standing wood and about 40% of the planet's softwood forest. It is the world's absolute monopolist having almost one half of available forest resources. Those forests are the largest "storage" of carbon in the world. The forest reserves of the Russian Federation occupies more than 1 billion hectares, which is 69% of its territory, herein, 78% of the forests are situated in the Asian part, and 22% in the European part of the country. About 600 cubic meters of wood falls within one Russian citizen.

That is why the Accounts Chamber of the Russian Federation pays a special attention to this field of activity. In the recent five years alone, more than ten audits of efficiency of the use of the forest reserves of Russia have been conducted. It should be noted that the audit measures embraced both individual major forest regions of the country where forests occupy up to 90% of their territory (Karelia, Siberian and Far-Eastern regions), and the country as a whole.

Generally, as far as the forest reserves of Russia is concerned, the efficiency of organization of leasing relations remains at a low level.

Despite obvious achievements in a number of regions of Russia in organizing and conducting timber auctions, the volume of sales by timber auctions does not exceed 20 to 30%.

The rates of forest tributes are set by the Government of the Russian Federation and public authorities of the subjects of the Russian Federation irrespective of the actual market value of the right of use of the forest reserve plots. The share of the forest tributes in the lumber price in Russia is slightly more than 5%, which is next lower order than in major European forest states.

According to our estimation, the loss of profit from the use of the rates of forest tributes underestimated as compared to the auction price is more than 5 billion rubles (about 175 million US Dollars). The damage inflicted annually by forest fires and forest offences exceeds 30 billion rubles (more than 1 billion US Dollars).

Russia's participation in the export of the products of the lumber industry at the present moment does not correspond to the country's potential. The share of raw wood within the structure of Russian exports is about 40%.

The lack of export coordination has led to a considerable reduction in prices for wood products exported from Russia.

The Accounts Chamber of the Russian Federation has studied the state and proposed measures to further improve the efficiency of the use of the country's forest reserves and lumber industry to ensure complete and timely yield income to the federal budget of the Russian Federation, including from foreign trade of the forest resources and wood-using products, justification of the necessary expenses to finance forest conservancy and reforestation measures.

A conclusion was made that the forest resources of Russia are not being used efficiently at the present stage, and a number of measures was proposed in the field of use, protection of the forest reserves and reproduction of forests.

It was proposed to provide an increase in the rates of exports duties for softwood products, which will allow to cut the supplies of clypeate timber abroad at underestimated prices, establish conditions for guaranteed raw material supply for the existing and newly introduced capacities on high-level wood processing in the territory of Russia, and will contribute to the increase in the forest revenue in the budgetary system of the Russian Federation.

The said proposals of the Accounts Chamber are successfully implemented by the Government of Russia.



## **Environmental audit as an integral part of checking the efficiency of using public funds allocated for the protection of environment and natural resources**

When checking the efficiency of implementing the country's expenses and their components (address investment programs and federal target programs), the issues of production and consumption waste management were considered (major testing grounds in the Krasnodar Territory, Leningrad Region, etc.), specially protected natural territories, as well as zones of ecological catastrophe (Ural, Siberia).

The audit of application of funds of the loan of the World Bank of Reconstruction and Development for the project of management of environment protection, by reason of its specific character, had a significant environmental component, as all the four loan components are related to solving environmental problems (policy, waste, human ecological welfare and water resources). The Accounts Chamber noted an inefficiency of the funds allocated.

Water resources management is one of urgent problems of environment protection. The Accounts Chamber of the Russian Federation pays a great attention to this issue at the national and interstate level.

In the recent five years alone, audits of efficiency of application of funds were carried out aimed at the implementation of measures within the target programs Regeneration of the Volga, Protection of the Baikal Lake, as well as at ensuring safety of major water development facilities in the Northern Caucasus and the Urals (the Krasnodarskoye, Tsimlyanskoye and Yumaguzinskoye water reservoirs). The management of the said facilities was funded not only out of the fiscal funds but also out of the funds of local budgets and international organizations (The World and European Banks of Reconstruction and Development). A characteristic disadvantage found out in the course of the said audits is a highly limited financing of water protection measures out of all the sources of financing.

### **International parallel environmental audit**

The Accounts Chamber has become actively engaged in such a type of audit after joining the Work Group on Environment Protection of the European Organization of Supreme Audit Institutions (EUROSAI) in 2000 and has conducted 4 audits within the recent period. They included two international parallel environment protection audits in the Baltic Sea based on the Helsinki Convention. The terms of the audits were 2000-2001 and 2004-2005.

The said audits were carried out basing on cooperation arrangements and under the Working Plan of the said EUROSAI group.

The audits had features of international parallel audit, meaning that each Baltic Region state carried out an audit of the state of this issue within its national borders.

A specific feature of those international audits is that not only financial but also legal and ecological issues were considered in the course of the audits, according to the approaches worked out by EUROSAI to conduct the said audit.

The main hurdle in Russia's activity in the field of protection of the marine environment of the Baltic Sea is a considerable under-financing of environmental measures, including the construction of environmental facilities.

The audits found out that a part of funds from the international sources for the implementation of the environmental measures to fulfill the requirements of the Helsinki Convention in Saint-Petersburg and in Kaliningrad Region was directed not to investment environmental projects but for projects that do not bring actual results in the said field of activity. Above all, it concerns projects financed in the line of the TESIS program of the European Union.

In the course of conducting of the international audit, the analysis of conformity of the legislative and other regulatory and legal framework at the national and regional level of the Helsinki Convention was carried out that showed that the environmental and natural resource legislation of the Russian Federation allows to ensure the ecological safety and environmental protection in the Baltic Sea region.

In 2003, the Accounts Chamber carried out an international parallel audit in cooperation with the following countries (Ukraine, Romania, Bulgaria, Turkey) to control the fulfillment of the obligations resulting from the Convention on the Protection of the Black Sea against Pollution (Bucharest Convention), based on cooperation arrangements within the framework of the activity of the EUROSAI Work Group.

The requirements of the articles of the Bucharest Convention mainly conform to the standards of the environmental and other legislation of the Russian Federation. The audit showed that the requirements of the legislation of the Russian Federation concerning the protection of water resources and natural environment are stricter than the international standards determined by the Bucharest Convention. Thus, Article X of the said Convention on the Protection of the Black Sea Marine Environment against Pollution caused by dumping stipulates prohibition of dumping of wastes by legal entities and natural persons of non-Black Sea states, while the Russian legislation prohibits similar dumping in seawaters at all.

Basing on the outcomes of the analysis of fulfillment of the requirements of the Bucharest Convention conducted, progress can be noted in the implementation of Article XIII of the Bucharest Convention, Protection of Sea Resources. The stocking of natural water bodies with the Black Sea salmon in 2001-2002 contributes not only to the implementation of the requirements of the said article of the Bucharest Convention but also the requirements of the international convention on the Conservation of Biological Diversity.

In accordance with the plan of multilateral cooperation of the Accounts Chamber of the Russian Federation with audit institutions of the Republic of Belarus, the Lithuanian Republic and the Republic of Poland, an efficiency audit was carried out in 2004 of application of public funds allocated for environmental measures in Kaliningrad Region and the Neman river basin. The audit was conducted at the initiative of the Republic of Belarus. The Work Group on Environment Protection of the European Organization of Supreme Audit Institutions (EUROSAI) appointed Russia the coordinator of the said international parallel audit.

Basing on the outcomes of that audit, a joint report was prepared signed by the heads of the said audit institutions.

The choice of the object was not accidental. In the territory of Kaliningrad Region, the Baltijsk (Vistula) and Kursh spits are situated that are unique natural complexes separating the Baltic Sea from the Kursh and the Kaliningrad (Vistula) bays. Those areas are included in the list of regions of the protective zones of the Baltic Sea established within the framework of the implementation of the Helsinki Convention on the protection of the marine environment of the Baltic Sea. In the territory of the Kursh spit there is the national park Kursh spit, a federal

significance preferential protection area included in the list of the UNESCO World Environmental Heritage. It is the only national park in Russia having the status of the world environmental heritage and the only international significance natural area of preferential protection in Russia bordering with the Lithuanian Republic.

The EUROSAI Environment Protection Work Group has repeatedly noted the high professionalism and the pro-active stand of the Accounts Chamber of the Russian Federation in the conducting of the said audits. In this connection, Russia was appointed a co-coordinator of the said Work Group.

In conclusion, it should be noted that the Accounts Chamber of the Russian Federation considers information exchange between supreme audit institutions on environmental audit to be fruitful and useful for Russia. We are thankful to the INTOSAI and EUROSAI Environment Audit Work Group for constructive cooperation aimed at the protection of the environment of our country and the whole global community.

## **Efforts to build capacity in the field of environmental auditing (Kingdom of Saudi Arabia)**

**Theme: Environmental Auditing: Facing the Challenges**

**Auditor: General Auditing Bureau, Kingdom of Saudi Arabia**

The General Auditing Bureau recognizes the role it should assume in the field of Environmental Audit within the framework of its specialty since it was one of the pioneer SAIs that demonstrated an interest in this subject.

This tendency has been clearly shown by the early joining of GAB to the INTOSAI relevant working Group in 1998 and its continued participations in the Group's meetings. Taking into account the newness of this type of Auditing and the Challenges it faces in the implementation activities in addition to the lack or absence of sufficient qualified personnel, the GAB has worked out its plan to develop its capabilities and skills availing itself of the advanced means and vast experiences of SAIs of developed countries. It therefore adopted practical steps to execute the following Programs:

### **Training:**

Design and implementing the following training courses:

- Course in the Environmental Auditing as an output for the program (Training the Trainer: -Design and Develop Training Courses) which was held for the SAIs in the Co-operating Council for the Arab States of the Gulf [GCC] under the sponsorship of the (IDI) year 2005.
- Course in the Environmental Auditing in the Implementing of Waste Management which was held for the members of SAIs in the GCC year 2005.
- Course in the methods and Techniques of the Environmental Auditing which was held for the Arab Groups of SAIs (ARABOSAI) year 2005.
- Course in the Auditing of Seashore Pollution which was held for the members of SAIs in the GCC, year 2001.
- Introducing a training course titled Environmental Auditing for the GAB members, held yearly since 2002.
- Educational courses in the field of Environmental Auditing and Environmental Issues.

Setup of a training team with experiences for lecturing in the Field of Environmental Auditing courses held locally and regionally.

Facilitate the opportunities for the GAB auditors to take part in symposiums related to environmental matters.

## **Conducting Environmental Auditing**

The GAB implemented for the years 2004 and 2005 the following Performance Auditing Programs:

- Auditing the Performance of Chemical and Hazard Waste Safety in the Presidency of Meteorology and Environmental Protection.
- Auditing Performance for the Rehabilitation Program for one of the lakes that was polluted by sewage.
- Auditing the Standards in the Presidency of Meteorology and Environmental Protection.

### **Other tasks:**

- Working with the Arab group: (ARABOSAI) for the developing a General Manual of Environmental Auditing.
- Facilitate access for the members of the GAB to WGEA products .
- Establish and update the data base for the Laws and Regulations of Environment.
- The GAB is in the course of studying establishing a department of Environmental auditing.

## **Facing the Challenges of Environmental Auditing (Turkey)**

**Theme:** Environmental Auditing: Facing the Challenges

**Auditor:** Derya Kubali

I would like to share some of my experiences on the challenges that the profession faces today, particularly with regard to environmental auditing.

We are living in an era of significant change in the public sector. Governments all around the world are rethinking and reshaping the way they go about their activities. In this regard, Turkish Court of Accounts (TCA) has experienced the strongest demand for environmental auditing for several years. That demand, though, also means we are now facing some new challenges. These challenges require new skills and new ways of thinking. And that means that some of the topics I am touching on are both exciting but all the more challenging. It is becoming clear that institutions do not have a choice but to face the challenges (challenges and change).

In this paper, I will focus on how environmental auditing is currently conducted in TCA and what challenges we are facing.

I organized this paper in the following parts:

- **Part 1:** Experience of TCA in environmental auditing
- **Part 2:** Strategies to deal with the challenges we face
- **Part 3:** A vision for future

### **Part 1: Experience of TCA in Environmental Auditing**

I would like to explain TCA's experience with regard to:

1. the growing role of environmental auditing in our organization,
2. setting the audit objectives,
3. determining the audit methodology,
4. concluding the audit.

#### **1.1 Growing Role of Environmental Auditing in Our Organization**

All over the world, societies have been giving more importance to a healthier, cleaner, better environment. As scientific advances accumulate, we understand better that any change introduced to environment will have a variety of impacts to society, to our health, to future generations. Economic development and environmental growth are increasingly considered complimentary goals, as opposed to conflicting ones. Governments have been incorporating and implementing environmental goals and policies all across their activities. Daily economical activities of the private sector also fall increasingly under environmental regulations. People, as citizens and as consumers, demand more attention to environment from the government

and from private sector. This trend will only accelerate in future as economical activity will intensify.

We already experience in Turkey this accelerated importance of environment. Turkish economy has been growing at a fast rate for years, with resulting environmental issues. Government of Turkey has been participating in many international agreements/regulations relating to Turkey. The goal of joining EU means Turkey will also have to implement and adopt its policies, regulations, rules to European standards; environmental issues will no doubt be a major issue here. At the same time, Turkish media attention is increasingly focused on environmental issues. Over last decade, Turkish governments have been passing and implementing many regulations concerning environment. The Parliament has also been active in law making on environmental protection.

As the size and importance of environmental issues increases, TCA has become aware of the need to adopt its traditional audit function to include such important issues. A core group of auditors have been assigned this area for this purpose. At TCA, we have already undertaken several studies outside traditional audit functions, in matters involving environmental issues. Some of the realized audits are concerned marine pollution from ships, forest fires, protection of historical artefacts and protection of coastal area. Nevertheless, this group is yet a small part of TCA's organization and faces significant challenges in to make its voice heard, to have its requests approved.

Given its limited resources and budget, it would not be realistic to expect suddenly large investments in this area by TCA. At the same time, we are aware that we need to present our case, convince our management, the Turkish Parliament and our ultimate superior, Turkish public, on the need for more attention to environmental auditing.

The legal framework of TCA operates is not the ideal one. Implementation of environmental policy in Turkey is delegated to too many bodies, some with overlapping duties. These create various problems and issues for our audit function. Also, government institutions funded by special budget (e.g. The Authority for the Protection of Special Areas) and extra budgetary funds (e.g. Environmental Fund) do not fall under TCA's audit mandate.

However, in recent years, significant legal changes are being introduced in Turkey, some concerning audit functions, some concerning other areas of public administration. These changes will influence TCA's auditing responsibilities and duties. It is clear that the final effect of all these changes will be increase at our audit work. Given the direction that our country takes with regard to adopting the standards of European Union, we are hopeful that after all these changes we will be in a better position as an institution to perform a meaningful role in environmental protection.

## **1.2 Setting the Objectives for Environmental Auditing**

We believe the objectives of environmental auditing do not differ significantly from traditional audits. Environmental auditing must answer the following questions:

- What are the potential environmental problems addressed and not addressed?
- What is the subject's compliance with legal and regulatory requirements?
- How effective are the solutions, practices, policies used?

- What is the room for improvement in these areas? Could protocols or checklists be devised for better performance?

TCA is responsible for auditing the enforcement of national legislation on environmental protection. Turkey has signed many international agreements concerning environmental protection. Also, as a SAI, one of our most important tasks is to assess the conformity to international agreements and conventions.

Audits we performed teach us several lessons:

- **Learn Environmental Laws and Regulations:** As mentioned above, there is usually a wide array of legislation pertinent to environmental issues. As auditors, we must know and learn all these before our audits.
- **Know the International Standards:** It is very likely that the environmental problems have already been examined in detail elsewhere. While not all solutions adoptable, they are often good starting points. In addition, there are standards such as ISO 14000 that already reflect the substantial knowledge of best practices.
- **Know Risk Assessment:** Many environmental issues seem to involve a risk-cost tradeoff. As auditors, we should take this tradeoff into consideration in our reports.
- **Obtain Previous Audit Results or Other Similar Information:** We address and focus on the findings of the previous audits. A less obvious but similarly useful starting point for audits can be established by obtaining records and reports by agencies other than our audit institution.

In the audits we performed, we have seen serious lack of coordination among different agencies. We also witnessed the weak and ambiguous definition of responsibilities hampering environmental work. Through international organizations such as INTOSAI, we have been learning the common and effective solutions to problems similar to we face. Taking lessons from such factors, we strive in our audits also to explain and convey the following goals:

- The need for coordination among different government agencies;
- Communicate best practices, effective solutions to common environmental problems.

International co-operation in the audit area is motivating, by providing opportunities to share information and experiences about the auditing and evaluation challenges facing them.

### 1.3 Determining the Methodology of Audit

Methods for environmental auditing are not necessarily unique. Similar methods are employed in performance audits or in financial audits. Just as one needs expertise in financial audits, environmental auditing also requires expert knowledge. The auditor must know the laws, regulations and policies relevant, and must be aware of the environmental and some technical issues involved.



For large environmental auditing we completed (such as the one concerning marine pollution from ships), we selected the performance audit methodology. Generally speaking, we prefer this methodology and think it is more appropriate to environmental auditing. However, because of some shortcomings in legal framework, most audits TCA completed in past could address environmental concerns only within the context of financial audits. For example, we questioned the fines paid by organizations due to neglect to environmental issues. In some of our other audits, we sought conformity only with the most basic environmental regulations, such as checking the fulfillment of an environmental impact report for the projects completed.

Because we are a Supreme Audit Institution (SAI), our audits differ from more specialized audits performed by other organizations or facilities themselves. By their nature, our audits must be more general and comprehensive. We have experienced that extensive nature of our audits may sometimes surprise the management of audited institutions; this should be explained well to them in the beginning phase of our audits.

Our audits involve on-site interviews and discussions of findings with personnel audited. We end our site visits by having meetings with the management and giving them our preliminary conclusions. Generally, we find that problems and shortcomings are acknowledged easily. Yet, at the same time, most do not take responsibility for these; they lay blame on others, find excuses. It takes diplomatic skills to manage this aspect of our audits.

Our experience is that environmental auditing involves delicate interaction with different groups. For example, a variety of channels exist to collect information on environmental impact. Our audits include discussions with local government offices, municipalities, central government bodies in the capital, local offices of government agencies, professional trade organizations and non-governmental organizations (NGOs).

Our approach is that we are neutral on all issues of government policy and objective in our analysis and recommendations. Being part of an audit office, we conduct our work in accordance with the recognized auditing standards. We strive for objective reports based on reliable data. For these reasons, we believe a good audit report would require a significant investment in data collection and compilation.

We find that site visits are crucial. We have always been time-pressed in the period of collecting data. There was almost always just one more stage of data collection we had to finish before that period was over. Planning, pre-organization and having access to full set of communication tools would be very useful in this regard.

### **Concluding the Audit**

Our audits are followed up by a report on our findings. Our report will list all the detected non-conformities with the standards and legislation applicable. It will also list the extent of compliance. We always add a set of recommendations to audited bodies.

Our audits would be best valued when the results are used for making changes, making decisions, improving performance. To this end, we aspire good publicity and clear and intelligible reports.

TCA is donated with powers of a High Court. So TCA had to stay within the confines of financial and compliance audit until 1996 the Turkish National Assembly entrusted the TCA with the mandate to carry out performance audits. Although TCA has issued several

performance and environmental auditing reports, these reports have not been assessed by the National Assembly yet because of lack of a regulation related to interviewing procedures in Parliament. Some other SAIs, especially not having binding judgments, have been producing performance audit reports for a long time period. In our experience of coordinated/parallel audit on marine pollution, this discrepancy has made it difficult to create some common procedures and approaches applicable to all SAIs.

We find giving media easy access to our reports may prove useful. In our experience, if media publishes a subject, it is carefully observed by politicians and this urges the government and relevant actors to take our reports seriously. For example, our report on marine pollution attracted considerable media interest. Subsequently, the government made changes in the management of audited bodies; a number of regulations were introduced. In general, there was a noticeable progress in the direction of our recommendations.

## **Part 2: Strategies to Deal with Challenges We Face**

In this section, I would like to further elaborate on our ideas to resolve and meet the challenges we face. Our ideas could be listed as:

1. Have a **strategic plan** for environmental auditing
2. Incorporate **training** for auditors
3. Learn **best practices & benchmarking**
4. Develop and make use of **guidelines** and **databanks**
5. Introduce **performance monitoring**

### **2.1 Strategic Plan**

While TCA has not formally set priorities among its initiatives, TCA so far has mainly focused on financial and accounting side of the Government activities in its audit. Going forward, we think it is essential to have a strategic plan in addressing the requirements of environmental auditing.

By this plan, we want the management to make clear decisions on the priorities. We also want a focus on select target areas. This focus may be on any subject related to water, energy, pollution etc. What matters is to dedicate our limited resources to these chosen areas so that we can ensure successful audits.

A good strategic plan should define the mission of environmental auditing carefully. The plan must describe the scope of audits. It must specify in advance the structure of audits. It must give the timeline of audits expected to be completed in the next years. It must specify the frequencies of audits and the follow-up criteria.

Such a strategic plan will then serve as the fundamental guide for planning future audits. Then, we can figure out the resources required to carry out our mission. We can determine the amount of time, personnel and other investment needed.

While we don't yet have a strategic plan at TCA, we hope that TCA's management considering the input and recommendations of auditors experienced in environmental auditing will develop such a plan.

## **2.2 Training**

Environmental auditing can involve very technical subjects. Auditors should be aware of such knowledge as well as the knowledge of the legislation in order to succeed in their activities. On-job training for auditors is therefore essential.

All these intense requirements of knowledge and our experience indicate that training is crucial in environmental auditing. At TCA, we realize we face a significant learning curve and need to make the best use of training resources. We try to organize our audit teams with an experienced auditor supported by less experienced, junior auditors.

We believe it is immensely useful to share data with other audit institutions, perform coordinated or joint audits and studies. We have benefited quite well from the experience of other auditors.

Environmental auditing will not advance if there is not enough number of qualified auditors. It will not advance if the auditors are not competent. Without competent work by highly trained auditors, it will be in the danger of being considered a waste of time or formality by others. In contrast, competent work by highly qualified auditors will be a credit on the profession. It will help convince others that environmental auditing must be an integral part of the environmental management.

Training will help us improve our competence in environmental auditing. TCA's management shares this vision. At the same time, TCA is aware that we are significantly behind the certain developed countries in training and certification.

## **2.3 Best practices & Benchmarking**

Environmental problems are generally global; for example, polluted air or water will not be bounded by national borders. Problems we face may have been encountered already by other nations, other organizations. Some may have developed valuable solutions or insights to these problems. There is no need to invent the wheel again. We can learn from these experiences.

This can be achieved by collecting different experiences together and by comparing them. INTOSAI is of course a good example of this. The same can be done even on a national scale or at sector-level by making use of the studies and the standards published by other agencies.

Learning from these best practices and using these as benchmarks will save us significant time and energy in our audits.

## **2.4 Guidelines**

Guidelines can be very useful for conducting audits in an efficient and effective manner. By guidelines, we mean documents that can help us to develop an audit plan and process in short order. A guideline will list the key steps for an audit starting with the planning process and the set of principles applicable to all audits. Guidelines can serve as checklists for audits.

There are already a number of guidelines we can benefit. An important set of guidelines involves ISO14010 and 19010 series of Environmental Auditing Standards by the International Standards Organization's (ISO). These guidelines focus primarily on environmental management systems. While such guidelines are intended for facility-level environmental auditing, they may also be useful for public auditors. They can be good starting points for our audits. We can also follow on their recommendations on the best format for audit reports.

Databanks, knowledge-banks are software systems that collect and record environmental data and relevant information. These will facilitate our work by providing the fundamental data required for our analysis in easily accessible form.

We think that environmental auditing should have their own guidelines, methods and techniques allowing conducting audit activities with a perspective drawing from extensive knowledge in such areas. It would be very useful to develop new guidelines dedicated to select areas, applicable to SAI's environmental auditing. For example, there may be a guideline concerning only air pollution, another on water pollution etc. Such a guideline can list all the relevant international agreements, major laws, sources of objective data etc. Such standards and techniques can be developed on a regional basis as this will optimize the co-ordination efforts to address the environmental problems.

These guidelines may be placed on Internet and may be revised as our experience accumulates. Guidelines published by so far INTOSAI constitute good examples. We need to continue this work.

## **2.5 Performance Monitoring**

Performance monitoring is very important for environmental auditing. Collection of data will show the actual attention paid to issues. Wherever possible, we should rely on the data measured/collected over other assertions. Most environmental standards even require explicitly measuring such data (for example, there are rules on liquid waste, gaseous emissions, toxicity levels etc).

In the environmental auditing we completed, we used performance monitoring. We collected data on certain key parameters. These were selected based on their auditability, significance and the potential to add value to the audit process. For example, we collected data on the number of ship inspections, on surface amount of forests lost to fires, on liquid waste volume. We also tested the tools and equipment used for data gathering. Our conclusions were based on the analysis of collected data. Trends in data, comparisons to prior results and to results of other nations & facilities were especially useful to us.

However, the fact that most of the government departments and agencies are operating without a modern management information system is another difficulty of the environmental auditors. Fundamental concepts such as "performance monitoring" "performance accountability", "performance measures, indicators and standards" are still alien to most of the public sector managers.

Also, the difficulties we face in this are is that data collecting can be very technical or involved. It can require expensive tools or complicated tests. Sometimes we need close collaborations with specialized experts, engineers etc. on data collecting and analysis. Further, such actions may be costly. These should be taken into consideration during audit planning process. We

need to communicate to our management that, even if they are costly, it is crucial to make such measurements.

### **Part 3: A Vision for the Future**

Our thesis is that environmental auditors can play an important and useful role in answering the demands of public for sustainable development. We believe environmental auditing can identify the problem areas, the bad policies and any waste of resources and public funds. We believe audits can make the environmental practices and policies transparent. This will help public to make better and informed choices or preferences regarding the environment. In turn, this will help good governance, promote accountability. Auditing can also help communicate effective solutions to common environmental problems. Simply put, audit institution is a crucial way of improving environmental performance.

Our main goal is to have the capacities and resources to do our job properly and earn the respect and the appreciation of public for doing so. We believe that environmental auditors will be considered highly trained and competent specialists acting in the best interest of public. This means we must continue to act in a way that reflects credit on our profession. This means also we must train ourselves well; we must keep up with the advances in the world.

What are our other goals? For example, when we complete an audit, we do not want to present only negative findings. While we are obliged to ensure compliance with the rules and conformity with the standards, we also want to foster a culture of management that pays attention to environmental aspects.

Another our long term goal should be the establishment of a specialized audit unit within SAI similar to Commissioner for the Environment and Sustainable Development in Canada. With increasing prestige for the profession, our work will have a larger impact on policy and in practice.

We appreciate the international coordinated audits and joint studies. It has been very useful to us to learn from our counterparts, to share the best practices and to share our mutual concerns. We hope this international collaboration and solidarity will continue.

We can easily envision a future where we will utilize guidelines, data banks, internationally shared best practices and standards. Having such resources at hand will definitely make our work easier.

We sincerely believe our countries can successfully implement policies friendly to environment and beneficial to economic development. We hope that we will continue to have a valuable contribution to environmental protection in our country. We want that citizens will see the benefit from our work. We want to make sure that they will trust the government on environmental issues.

### **Concluding Remarks**

We are here together to share our experiences and find ways that we can work together to protect the environment. I really believe the "learning together", reflects the purpose of this meeting.

While we face significant challenges, we are hopeful and dedicated to the goal of achieving the highest professional standards in environmental auditing. TCA appreciates the importance of exchanging knowledge and experience with sister institutions and values them as a significant source for acquiring knowledge and experience.

We know there is much work to do, we are just beginning, however, we are "learning together" for the years coming.