

Auditing water issues: experiences of SAIs

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1. INTRODUCTION

Water is a vital prerequisite for human life. Safeguarding the sustainability of water resources can be considered a public responsibility for all governments. Because of its worldwide importance, water was adopted as the central theme of the Working Group on Environmental Auditing of the International Organisation of Supreme Audit Institutions (INTOSAI) in 1996. The role of Supreme Audit Institutions (SAIs) in this area is to audit the regularity of public expenditure and government performance.

2. THE RELEVANCE OF WATER

People need water for drinking, food preparation, sanitation and a multitude of other purposes. Water is of crucial importance for human life and has ecological ('planet'), social ('people') and economic ('profit') values at a societal level. Striking a balance between these dimensions is the main policy challenge for governments nowadays. This objective is better known as 'sustainable development', which means, for example, the use and management of freshwater resources for current purposes without endangering the ability of future generations to meet their needs.

The total volume of water on earth is about 1386 million km³. Only 2.5 per cent of the total volume of water is fresh water – about 35 million km³ – and less than 1 per cent of all fresh water is directly accessible for human use (Gleick, 2000).

There are ongoing concerns about the quantity and quality of water resources, like the lack of access to fresh water and sanitation, water pollution from agricultural and industrial activities, flooding, desertification, and loss of biodiversity. By the mid-1990s, about one third of the world's population lived in countries suffering from moderate-to-high water stress. It is estimated that by 2025 this will be the case for two-thirds of the world's population (UNEP, 2002). The problems of water pollution and water shortage are global in nature and affect all countries, although they differ in degree and scale. Moreover, water scarcity can become a limiting factor to economic growth in the future.

3. THE ROLE OF GOVERNMENTS AND THE CHALLENGE TO SAIS

In Latin America and the Caribbean, water availability varies greatly between countries and even within them. Water demand is rising, mainly due to agricultural use (for irrigation purposes) and industrial use. Irrigation technology and practices are often inefficient. Water use for domestic purposes is also on the increase, but big inequities exist. Many of the poor in rural and urban communities do not have access either to clean water or to sanitation services. Water quality deteriorates from untreated sewage, the excessive use of fertilizers and pesticides, and industrial pollution. Sources of groundwater contamination and depletion are the release of heavy metals, nutrients, chemicals, and hazardous wastes from mining, industry and agriculture. Only 13 per cent of sewage in the region receives any kind of treatment, which in itself provokes considerable health and environmental risks (UNEP, 2002b).

International cooperation is important in solving water problems. In March 2003, over 24,000 people from all over the world attended the 3rd World Water Forum held in Japan. Topics discussed included the actions needed in order to solve global water challenges and to meet the goals set forth at the United Nations Millennium Summit in New York in 2000, the 2001 International Freshwater Conference in Bonn, and the World Summit on Sustainable Development in Johannesburg in 2002.

The importance of water for economic development, for public health and for the quality of ecosystems means that each government has the responsibility of seeing that basic services are provided and a balance of competing interests is maintained. Only a central government is in the position to have an overview of all claims on the available water stocks and can fulfil the crucial role of serving public interest. Even if actual water services are privatized, it can be considered a public responsibility to ensure that the public receives an adequate supply of clean water for domestic use.

Several governmental and other public bodies, often in close cooperation with private organizations and international bodies, are involved in problem-solving activities concerning water issues. Governments have various instruments at their disposal, including the formulation of a general water policy, water pricing, legislation, permits, inspection and enforcement, fees and fines, investments in infrastructure, and scientific research. Also the provision of information to the public and monitoring and reporting are important elements of water policy and programmes.

SAIs can audit the implementation of government plans and programmes, the application of instruments and the budget spent on water programmes and measures. This fits the traditional role of SAIs, namely assessing whether public money has been spent according to the rules and if it has been used economically, efficiently and effectively. Choosing the right (most relevant) subject and focus for their audits is the main strategic challenge for SAIs, if they are to have maximum effect.

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On the national or regional level, both regularity and performance audits are done on water issues. Frequently occurring types of audit focus on:

- compliance with national environmental laws and regulations by government departments, municipalities, and/or other bodies;
- the implementation of environmental programmes;
- the evaluation of impacts or effects of existing national environmental programmes;
- the environmental effects of non-environmental programmes; and
- government environmental management systems.

Depending on an SAI's mandate, the general environmental policy towards water management and the evaluation of impacts or effects of *proposed* national environmental programmes can also be a possible starting point.

Environmental policies related to water often have an international dimension. A total of 261 river basins worldwide are shared by two or more countries. Together with the marine environment, these transboundary water resources are the shared responsibilities of most countries. Many international environmental agreements are in place, aimed at dealing with water issues that are shared by countries. Despite the many agreements, problems have often not been solved. In this respect, some even speak of a *crisis in governance* in the sense that close international cooperation has often not come about.¹ Independent institutions like SAIs could play a role by auditing the national implementation of international arrangements relating to water issues.

To support the audit of environmental issues, and international environmental agreements in particular, the working group has developed manuals and guidelines on the audit process, audit methods and the selection of international environmental agreements (INTOSAI, 1998 and 2001; INTOSAI Working Group on Environmental Auditing, 2001 and 2003). These are all applicable to the audit of water policy issues too. Experiences of SAIs with water audits are reflected in the working group's paper "Auditing water issues" (INTOSAI Working Group on Environmental Auditing, 2004). All publications mentioned are available, in various languages, on the Working Group's website: www.environmental-auditing.org.

4. EXPERIENCES OF SAIS

In the past decade, over 500 water audits were carried out by SAIs. European and Latin American SAIs have developed several water-audit projects cooperatively, for example in compliance with international environmental obligations.

The topics that were audited vary from region to region. Each country is, naturally, confronted with issues specific to its area, and therefore the focus of SAIs will be on the policies set and the budgets spent to solve these issues. Many audits were on fresh water, while others concentrated on the marine environment. The most audited subjects were water quality, rivers and lakes, prevention and/or recovery from flooding, drinking water and sanitation. Other audit topics included the natural value and biodiversity of water ecosystems, the prevention of pollution of the marine environment, and the costs of water-related infrastructure.

Some freshwater topics are not yet being frequently audited by SAIs, but could be relevant as well, for example water as a source of energy (hydro-electric stations, dam projects) and measures to fight drought like agricultural irrigation projects.

To illustrate the possibilities of SAIs, some examples of audits are described below.

4.1 WATER QUALITY

The SAI of China (1999) conducted a regularity audit focused on the operating funds of a wastewater treatment plant that was financed by wastewater treatment fees. It was found that the fee was low and quite a big gap existed between the subsidy the plant received and the operating funds available to the plant. The Chinese SAI recommended that the fee for wastewater treatment should gradually be raised to ensure the plant's normal operation.

1. HRH the Prince of Orange of the Netherlands (2002). *No Water No Future: A Water Focus For Johannesburg*.

Most audits are performance audits. For example the SAI of Argentina (1997) undertook an in-depth analysis of the quality of groundwater and sources of pollution in urban areas. The audit focused on the capital, Buenos Aires, and 19 other urban areas. The history and geographical make-up of the area studied was described and an inventory was made of all water stocks, the water services provided, all sources of contamination (industry, agriculture) and even contaminants. Health issues connected to deficiencies in water supply and quality were also dealt with. The SAI of Argentina made many recommendations. At an abstract level it recommended the development of an integral policy for the protection of groundwater and the prevention of pollution. Moreover, according to the SAI, a policy needed to be formulated to deal with water services and sanitation, and systems had to be established to monitor quality, quantity and the use of the area's underground reservoirs.

4.2. RIVERS AND LAKES

In several audits, the geographical entity of a watershed, river, lake or water basin was the subject of the audit. The environmental problems related to these water entities vary widely between countries and between regions within countries, but all have to do with some form of water pollution.

The national ministries responsible for water management, environmental protection, flood protection, health, and environmental education are generally included in these audits. In most, the provincial councils and/or local municipalities situated along the river or lake are also included. A third group of bodies being audited consists of inspectorates – the organizations responsible for testing or checking water quality, drinking water, health or the environment. The fourth group of institutions being audited are water companies, state enterprises and private-sector enterprises. These groups can be involved in the audit as a provider or a user of water resources, as an actor to improve water quality, or as a polluter, or a combination of these.

Examples are audits on the rivers Rio Pirai (Bolivia), Rio Tachira (Colombia and Venezuela), Nile (Egypt), Loire (France), Rio Mantaro (Peru), Oder (the Czech Republic, the Slovak Republic and Poland) and Danube (Romania, Bulgaria, Croatia, the Slovak Republic and Slovenia).

In Latin America, the SAIs of Peru, Bolivia, Colombia and Venezuela have performed comprehensive audits with a watershed as the starting point. The audits include institutions belonging to the central and departmental governments as well as the local governments in the watershed area. Attention was paid to water pollution caused by various sources, such as industry, mines, agriculture and households.

The audit of the SAI of Bolivia on the pollution of the Pirai River, Santa Cruz (1999) shows the relevance of water-quality measurements as one of the audit methods. The analyses included the physical and chemical water properties as well as the presence of bacteria. The SAI concluded that the monitoring duties carried out by the Environmental Authority were not effective concerning the control of the water quality of the Pirai River.

The SAI of Peru (1999) paid special attention to the effects of contamination on the health of the local population in the Mantaro River Basin in the Andes. This river is contaminated by mining activities, as well as by urban garbage. In cooperation with a hospital, toxicological analyses were performed of the level of lead in citizens' blood samples. The worrying result was that 60 per cent of the citizens had more lead in their blood than the recommended level.



4.3 FLOODING

The issue of managing water quantity in relation to flooding, and in particular the risk of flooding, has been dealt with in several audits. An example is the French SAI, which audited flood prevention measures in France (2002). The audit showed that flooding of the River Seine would cause a lot of damage. However, the populations at risk were not sufficiently aware of their vulnerable position and very often, there were no plans to reduce the risk in the most urbanized flood-prone areas. Nor were the general preventive measures sufficiently effective.

Other SAIs, like those of Poland (2002) and the Czech Republic (1997-1998), audited the performance of rescue operations during flooding, flood damage repairs, and the management of state funds allocated to determine the damage from flooding.

4.4. DRINKING WATER AND SANITATION

Because of the importance of drinking water, SAIs devote a lot of attention to this topic. The audits are generally focused on the availability and the quality of potable water, and/or on leakage (resulting in unaccounted-for water), often in relation to costs. Most bodies audited in this field are (public) water companies.

In 2000 the SAI in Mauritius conducted an audit on leakage in potable water storage and distribution systems. The reason for this audit was a large volume of unaccounted-for water (UFW) (around 47 per cent of total production in 1998 and 1999) that led to the classification of Mauritius as a 'water stressed' country. A decrease in rainfall in combination with an estimated increase in the demand for potable water by more than 20 per cent by 2010 poses an urgent problem for the country. This shortage could seriously hamper economic and social development. The SAI concluded that if the target of decreasing UFW to 35 per cent by 2010 could be achieved, no other substantial water resources would have to be harnessed. The main causes for the high level of UFW that were identified were the poor performance of contractors, inadequate monitoring of their work by water companies, the widespread use of sub-standard materials, a general shortage of materials, equipment and skilled labour, and limited job specifications.

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In 2002, the Brazilian SAI conducted an audit on water resources management. The audit focused on the Federal Government Acts and revealed that 19 metropolitan regions in Brazil are at risk of a crisis in their water supply system now or in the future. The main causes are fountainhead degradation, poor sewage treatment systems and water leakage. The report concluded that federal agencies responsible for managing water resources do not deal with these issues in a systematic, integrated way due to a lack of coordination of government actions and insufficient analysis of the impact of the policies that deal with the use of water. The Brazilian SAI suggested that the National Council of Water Resources, which is responsible for the coordination of the states and the national water resources plan, has to take part in the budgetary plan. The high rates of water leakage in the state's sanitation companies were also noted: out of 27 state companies, nine have losses over 50 per cent and three show figures that reach almost 70 per cent. According to the report, leakage is mainly a result of a lack of maintenance of the water distribution system. As a consequence, suggestions were made to increase federal support for the necessary corrective actions, such as the reopening of credit lines, and to focus on actions to improve the institutional, operational and commercial management of the state's sanitation companies.

4.5. NATURE AND BIODIVERSITY

Indirectly most water audits on rivers, lakes and seas involve the broad issue of nature and biodiversity. However, dedicated biodiversity audits on water issues appear to be scarce.

One example is the audit on the compliance with international agreements on wetlands (SAI of the Netherlands, 1999). The Netherlands is party to the Ramsar Convention on the Protection of Wetlands and must comply with two European Union directives: the Bird Directive and the Habitat Directive. The main findings were that the Netherlands has drafted many plans for the management and restoration of wetlands but in practice the implementation of these plans was often problematic or extremely slow. International obligations were inadequately operationalized in national policy and the ministry responsible for nature management had not made agreements with local authorities on the fulfilment of international obligations. As a result, local authorities were badly informed about the substance of the obligations. The Ministry of Nature Management did not have a clear picture of the condition of nature sites or of the effects of the regional wetlands policy and thus could not determine whether compliance with international obligations had been achieved.

4.6. MARINE ENVIRONMENT

The marine environment is, by definition, a topic shared by more than one country and most recent audits on the marine environment have focused on the national implementation of international obligations.

An example is the audit of the MARPOL Convention on Prevention of Marine Pollution by Ships and the OPRC Convention on Dealing with Pollution at Sea. Eight SAIs cooperated in this audit: Cyprus, France, Greece, Italy, Malta, the Netherlands, Turkey and the United Kingdom. They highlighted two complementary aspects: the prevention of pollution (by ensuring the quality and safety of ships and adequate facilities for waste collection in harbours), and measures to be taken against polluters and pollution (including, for example, surveillance above the coastline, the reporting of incidents of spillage to coastguard centres and the cleaning up of spills, and, last but not least, tracing and prosecuting polluters who violate the law). Each of the participants reported their national findings to their respective governments (reports available from the SAIs of the Netherlands, 2001; United Kingdom, 2002; Cyprus, 2002; Turkey, 2002; Malta, 2003; Greece, 2003; Italy, 2003). A joint report that will focus on best practices and lessons learned is currently being prepared (publication expected in 2004).

biodiversity

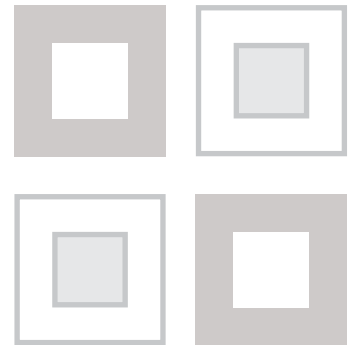
5. CONCLUSIONS

These audit examples illustrate that SAI audits on water issues are very diverse. Some deal with financial control and management issues and have water issues as a secondary subject, while others take water problems in society as a starting point, such as lack of access to clean water. It is not possible to formulate a general conclusion based on opinions of SAIs concerning water policy but one element that does seem to be a central problem of policy implementation and organization is the general lack of sufficient and reliable policy information. Basic information on the money spent, activities carried out, outputs delivered and impacts achieved to be used for key management and policy decision-making often seems to be inadequate.

Audits help to raise public consciousness of the relevance of water problems. The aim of the SAIs' audit work is to increase the quality of government policy and performance and the transparency of its (financial) operations by providing structured feedback to policy makers and executives. Since 1996, members of the INTOSAI Working Group on Environmental Auditing have been exchanging experiences on the central theme of water. Non-member SAIs have also done audits related to water and environment. The working group's paper "Auditing water issues", prepared by the SAI of the Netherlands, summarizes the collective experience of SAIs worldwide, drawing on the lessons learned from more than 350 audits and providing practical tips for SAIs. The paper was approved by the Working Group and was published recently (INTOSAI Working Group on Environmental Auditing, 2004).

The working group encourages SAIs to work together since environmental problems have no regard for national borders. A joint or coordinated audit is one of the instruments SAIs have to address common issues. Sharing experiences and audit methods can also improve the quality of the work of SAIs.

Because of the relevance of water as a prerequisite for life, the INTOSAI Working Group on Environmental Auditing decided to continue to work on this theme in the near future. The working group has recommended that SAIs maintain their current high level of interest in water issues in their work and make use of the experiences of water audits of their sister organizations within INTOSAI. ■



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