

## **Management of Water Resources- Seriousness of the Problem and the SCC's Experiences from the Audits Carried Out (Poland)**

### **Theme: Protection of Water**

#### **THE SUPREME CHAMBER OF CONTROL POLAND**

##### **Management of Water Resources: Seriousness of the Problem and the SCC's Experiences from the Audits Carried Out**

The aim of water management is to provide population, industry and agriculture with water and protect the State property against floods. Actions taken in this regard must follow the principle of sustainable development.

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Poland as a country has very scanty water resources. Average annual river flow from the territory of Poland amounts to 1600 cubic metres (m<sup>3</sup>) per capita and is nearly three times smaller than the European average. In a dry year this value decreases to approximately 1000 m<sup>3</sup>, which is considered to be a marginally low amount of water, whereas in a wet year it does not exceed 2000 m<sup>3</sup> per capita.

Irregular occurrence of water resources in various regions of Poland as well as seasonal changes periodically but seriously endanger some areas (Kujawy, Mazovia, part of Wielkopolska) due to water shortage.

The total capacity of more than 70 larger artificial reservoirs and barrages amounts to 3400 million m<sup>3</sup>, 65% of which is accounted for by reservoirs with a capacity ranging from 100 to 500 million m<sup>3</sup>. The capacity of storage reservoirs in Poland does not exceed 6% of the average flow compared with 12 – 14 % needed for proper water management and protection against floods. Poland does not have major underground water resources either. A system for the management of river basin water has been in operation for over 10 years in Poland. To that end regional water management boards were established, which have been working since 1991.

99% of the territory of Poland is situated in the Baltic Sea catchment area, which is very prone to pollution due to its close nature, relatively small capacity, and reception of water from the territory of 9 highly industrialized countries with intensive farming. Poland has ratified the 1974 Helsinki Convention, as amended in 1992, on the Protection of the Marine Environment of the Baltic Sea Area and takes strong interest in compliance with its provisions.

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All issues related to water management require auditing by an independent body such as the Supreme Chamber of Control (SCC). Audits carried out by the SCC take into account a complex nature of water management and cover its particular fields at yearly to 3-year intervals. Duration of each audit cycle ranges on average from 9 months to a year, and includes preparation of an audit programme and training of participants for about 3 months, an actual audit in units – 3 months, and summarizing audit results and drawing up the final report – 3 months. In most audits it is impossible to examine all units and all information related to the subject under study. On average 80 to 130 units were audited. Sample was

selected in such a way to be representative for making conclusions about the whole population. To that end the SCC relies on its experiences (auditor's manual and the SCC's standards – since 2002) and on the recognised international auditing standards (European Implementing Guidelines for the INTOSAI Auditing Standards). These audits usually combine the issues specific to performance audits and regularity audits.

Regardless of the topic studied, the following are audited:

- compliance of the tasks implemented with the law in force,
- regularity of water policy implementation,
- reasonable use of public funds,
- efficiency of management,
- economic results achieved in comparison to the projected ones.

The SCC invites also state control bodies to participate in relevant audits, for example environmental, plant and sanitary protection inspectorates that on the basis on a general audit programme and under the SCC's supervision carry out specialized audits also in private units that cannot be audited directly by the SCC.

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For the last 10 years the SCC has carried out 10 audits covering nearly all spheres of water management, i.e.:

- protection of surface and underground water resources against pollution,
- ensuring safety of hydrotechnical objects,
- fulfilment of obligations under the provisions of international agreements concluded with our neighbours as regards borderland waters (these were parallel audits carried out with relevant SAIs),
- antiflood protection in Poland and management of rescue operations during the flood-time, as well as removal of flood effects.

In 2000 within the framework of the audit concerning the fulfilment of obligations under the provisions of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, the so-called Helsinki Convention, we audited the water-supply-and-sewage-disposal management as regards point and non-point land-based sources of pollution, monitoring system, adjustment of local law to the Convention requirements as well as regularity of spending public funds on the objectives mentioned; the audit was carried out in parallel with the SAIs of Denmark, Estonia, Finland, Latvia, Lithuania, Russian Federation and Sweden. The audit findings and the course of action taken were presented at the Seminar of the EUROSAI Working Group on Environmental Auditing held in Gołowice near Warsaw.

Between 2000 and 2001 we audited costs incurred in connection with the public water-supply-and-sewage-disposal management as well as provision of water for people living in urban agglomerations, covering 20 cities with over 200.000 inhabitants.

*It follows that the main focus of water management auditing has been on the protection of water resources and proper provision of water for the population and the national economy.*

The audit carried out in 1994 showed that efforts taken with a view to improving water purity had been insufficient and had not brought about improvement. The purity of rivers and lakes was alarmingly low. In 1994 only half of sewage was treated in the degree required, and half of industrial plants and one third of cities did not have any waste water treatment plant. Nearly one third of waste water treatment plants audited did not comply with obligations arising from water law permits. Fees due for discharge of wastes into water and fines imposed for breaching conditions of water law permits were calculated and collected with delay.

The audit carried out in 2000 showed that purity of surface waters gradually improved. Half of the plants audited substantially limited pollutant loads discharged into waters, and the volume of untreated sewage decreased by over 60%. Conditions set out in water law permits for the disposal of wastes to surface waters and operation of treatment installations were better complied with; and work on the construction of new waste water treatment plants was intensified. Between 1998 and 1999 around 60% of waste water treatment plants came into use and results of their work can be seen today as the quality of surface waters has improved. The SCC's conclusions covered many issues related to rendering the supervision over waste water management more effective, updating legal regulations and launching construction of waste water treatment plants. Substantial number of conclusions has already been implemented, and the implementation of long-term conclusions is pending.

Protection of underground water resources was audited in 1996. Class III water was detected in one third of underground water samples studied. Moreover, indirect protection zones for underground water intakes were still not established. Inactive wells failed to be liquidated, which might have polluted water-bearing horizons, or they were closed with delay. Regional authorities did not draft balances of available underground water resources, nor did they make any periodical assessments of the amount of water used under water law permits. Implementation of tasks related to the protection of underground water resources has become more effective thanks to the assessment presented by the SCC as well as detailed and focus conclusions proposed.

The second group of problems concerned water supply. Audits carried out in 1997 in 63 municipalities showed that the consumption of water by industry and individual users decreased by 15%. Nevertheless, there were some irregularities as regards exploitation of public water intakes. Nearly half of the water intakes were exploited without valid water law permits for water withdrawal and operation of facilities. Conditions set out in water law permits were not obeyed in one third of the water intakes. Enforcement of post-audit conclusions ensured the eradication of existing irregularities.

Provision of water for people living in urban agglomerations was audited in 2001. The audit was carried out in the 20 largest cities with over 200.000 inhabitants, totalling a quarter of the population in Poland. About 7% of the inhabitants did not use water supplied centrally but withdrew it from local intakes and public wells. More than half of the cities studied tapped class III water or water not classified. In over two thirds of the cities the quality of mains water supplied to the population as well as water withdrawn from most public wells did not meet all the requirements specified for drinking water. A sanitation inspectorate is certainly not blameless, as it carried out insufficient audits of the quality of water supplied or did not enforce its findings, which had an impact on the quality of water. The audit also showed that the water

mains were prone to frequent malfunctions due to insufficient renovation and modernisation of the grid that was often 50 to 100 years old, which greatly affected the quality of water. Losses of water from the water mains amounted to 25%, pushing up operational costs of water management companies, which were, in consequence, bound to be passed on to the user. The audit disclosed that there was insufficient progress as regards drafting conditions for using basin waters that constituted a basic instrument for water management, including for the benefit of urban agglomerations. Focus conclusions, related in particular to new legal regulations, have already been implemented or are being executed now. Improvement in water treatment and modernisation of the old water mains require considerable financial resources and are achieved progressively.

Moreover, the audit showed that the rise in costs of the public water-supply-and-sewage-disposal management was not always justified when we take into account poor parameters of water supplied. It was found out that financial resources obtained as a result of higher fees for water and for pollutant loads discharged with wastes were not always used for water quality improvement or protection of waters against pollution; they were sometimes spent on faulty investments, and even on pay rises.

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We are pleased to report that a great part of conclusions arising from assessments formulated during audits is implemented by the units concerned. This applies in particular to legal and organisational regulations and to the strengthening of supervision over task implementation. Nevertheless, considerable improvements of water balance both quantitative and qualitative, protection against floods, construction of sewage system and waste water treatment plants require substantial funds and long periods of implementation.

The analysis presented shows that auditing topics falling within the scope of the management of water resources is feasible and crucial for each SAI. Issues related to water management are, by and large, escalating in all countries.

The synthetic outline of issues audited in the field of water management also points to the efficacy of organizing a training by INTOSAI in this regard.