

Message from the Chair of WGEA



Dear Colleagues,

In this era, we face many global environmental issues, such as climate change; biodiversity; water quality; and the use of natural resources; as well as regional and local environmental issues, such as waste management and air pollution. Involvement from all parties—globally, regionally, and locally—is necessary in managing these issues. Many initiatives are underway, including sustainable development goals (SDGs); as well as Multilateral Environment Agreements (MEA), such as the United Nations Framework Convention on Climate Change and the Conventions on Biodiversity, Marine Environment and Hazardous Waste.

In conjunction with these MEAs, our countries have implemented environmental rules and regulations. SAIs play important oversight roles in the implementation of these rules and regulations. Individual SAIs, INTOSAI, and WGEA can work together on cooperative audits, trainings, and seminars, as well as developing research and guidelines. Through these activities, we can share our knowledge and experiences to improve our institutions' auditing capacities.

On this occasion, I am pleased to inform you that the 14th INTOSAI WGEA Steering Committee Meeting was successfully held in October 2015 in Cairo, Egypt. I would like to convey my gratitude to the Accountability State Authority of Egypt for its hospitality in hosting this memorable and fruitful meeting. The purpose of this meeting was to present final draft projects from the 2014-2016 Workplan and discuss possible topics for the 2017-2019 Workplan, which included climate change impacts, agriculture and food protection, biodiversity in fisheries, marine resources, green cities, and desertification. These topics are in line with the SDGs, and it is promising to know that there is widespread concern.

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Feature Story

The Supreme Audit Institutions of 12 countries—Argentina, Bolivia, Brazil, Colombia, Costa Rica, El Salvador, Ecuador, Honduras, Mexico, Paraguay, Peru and Venezuela—conducted a coordinated audit on the implementation and management of Latin American protected areas. Brazil and Paraguay coordinated the audit.

The audit included a standardized analysis of 1,120 Latin American protected areas, which allowed a systemic view of the management of these areas and an evaluation of the implementation of the Aichi Biodiversity Target 11 of the United Nations Convention on Biological Diversity. (See p. 2.)

WGEA News

The Accountability State Authority (ASA) of Egypt hosted the 14th Steering Committee Meeting of INTOSAI WGEA in Cairo, Egypt, from 29 September to 1 October 2015. The meeting was attended by 35 delegates from 15 SAIs. The delegates discussed projects from the 2014-2016 Workplan, including steps that need to be taken to finalize them.

Prior to the meeting, the delegates enjoyed an excursion that began with a lunch cruise on the Nile River, followed by a visit to Saint Virgin Mary's Coptic Orthodox Church, the oldest Coptic church in Egypt.

The meeting itself had three key agenda items. The first item was to discuss and endorse the drafts of seven research projects, one guidance material update, and four ISSAI reviews. The second item was to discuss issues such as how to improve cooperation between INTOSAI WGEA and Regional WGEAs and the WGEA Secretariat's recent achievements and forthcoming activities. The third item was to discuss possible topics for the 2017-2019 Workplan.

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UKRAINE: Auditing implementation of 2008 recommendations to protect the Bug River drainage basin

UNITED STATES: Further steps needed to enhance understanding of climate-related risks to public health

Feature Story

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Brazil and Paraguay Coordinate 12-Nation Audit of Protected Areas in Latin America

In October 2015, the Organization of Latin American and Caribbean Supreme Audit Institutions (OLACEFS) reported the results of a 12-nation coordinated audit of the management of protected areas. The SAIs of Brazil and Paraguay coordinated the efforts of the 12 countries, which also included Argentina, Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, Honduras, México, Peru and Venezuela. The audit report, *Protected Areas: Latin America*, consolidates the evaluation conducted by the SAIs and shows the main weaknesses and opportunities for improvement in biodiversity conservation.

The origins of the audit can be traced back to 1998, when the national members of OLACEFS established the Special Technical Commission on the Environment (COMTEMA) to carry out joint audits of environmental issues that concern more than one nation or region. The audit of protected areas was prompted by the United Nations Convention on Biological Diversity, a treaty signed by 193 countries. The treaty set numerous goals for protected areas, including that 17 percent of a nation's land area and 10 percent of marine and coastal areas be subject to conservation management by 2020. These goals are part of the convention's Aichi Biodiversity Target 11.

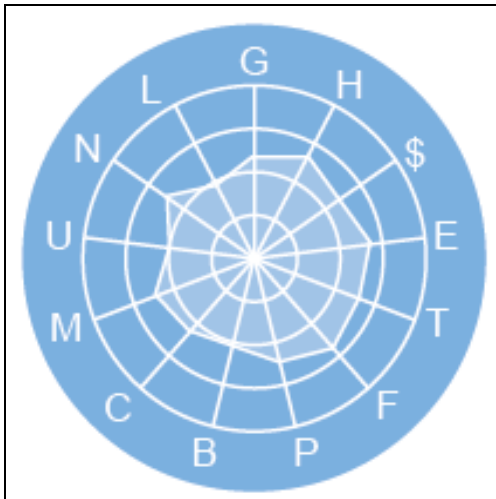
Each of the 12 Latin American SAIs participating in the audit analyzed the management of protected areas, thereby assessing public policies on biodiversity conservation. In total, the 12 countries have over 4,000 protected land areas covering more than 3 million square kilometers. The audit found that the average percentage

of land conserved in protected areas in the 12 countries was 16.2 percent, just below the goal of 17 percent. Of the 12 countries, 8 have already achieved the goal of protecting 17 percent of land areas. On the other hand, the goal of protecting 10 percent of marine and coastal areas was far from being achieved.

In addition to examining the amount of territory under protection, the coordinated audit evaluated the management of these Latin American protected areas. Effective and efficient management is needed to ensure that objectives for protected areas can be achieved.

To perform this analysis, the 12 countries used a tool known as Indimapa developed for this purpose by the SAI of Brazil (the Federal Court of Accounts). Indimapa uses indexes and indicators to assess the management of protected areas and communicate the results in a geo-referenced manner with maps. Indimapa then creates "radar charts" that provide a multidimensional view of the evaluation results by consolidating 13 indicators for each protected area. (See figure 1.) Examples of the indicators include the presence of a management plan, biodiversity monitoring, and adequate financial resources. The indicators are evaluated on a scale of 0 to 3 points, where 0 represents no success in achieving for an objective, while 3 represents full achievement. The SAIs used Indimapa to evaluate management of 1,120 of the protected areas. Using the scores for each of the indicators, the SAIs classified the implementation and management of the protected areas as low (0 to 1), medium (>1 to 2), or high (>2 to 3).

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- G** Management Plan
- H** Human resources
- \$** Financial resources
- E** Administrative structure
- T** Territorial consolidation
- F** Environment inspection
- P** Research
- B** Biodiversity monitoring
- C** Managing council
- M** Community management
- U** Public use
- N** Concessions
- L** Articulation in the protected area

Figure 1: Indimapa radar chart showing 13 management indicators for protected areas. The outer ring represents a score of 3 while the inner ring represents a score of 0. The shaded area shows the average scores for the 1,120 protected areas evaluated by the coordinated audit.

The consolidated results of the audit showed that the 12 countries have a medium level of implementation and management in 52 percent of the protected areas and a high level in 19 percent of the protected areas. However, 29 percent of the protected areas have a low level of implementation and management. Figure 2 on page 4 shows the location of the protected areas the audit evaluated across the 12 nations; the level of management quality in those areas is indicated in green (high), yellow (medium), and red (low).

The audit identified several ongoing structural weaknesses in the governance of Latin America's protected areas, including:

- The absence of management plans in 47 percent of the protected areas evaluated;
- The absence of a manager in 13 percent of the protected areas evaluated;
- A failure to carry out biodiversity monitoring in 44 percent of the protected areas evaluated;
- Difficulties consolidating protected lands and implementing regulations in 54 percent of the protected areas; and
- Problems with coordination among responsible parties involved in implementing conservation management within protected areas.

To address these weaknesses, the SAIs recommended that mechanisms be established to ensure essential resources are dedicated to the effective implementation

and proper management of protected areas. The SAIs also recommended that each country define a strategy for the territorial consolidation of the protected areas that considers relevant technical, juridical, social and environmental factors. Finally, the report recommended that national governments promote actions by local, institutional, and non-government entities to improve the governance of protected areas.

The report concluded that implementing the SAIs' recommendations and improving protected area management will contribute to national economic and socio-environmental development through tourism, scientific research, and other activities, while continuing to conserve biodiversity. Further, by using the results of the coordinated audit, citizens and the SAIs will be able to monitor changes in the management of Latin American protected areas and demand improvements in the governance of these environmental resources. In addition, the SAIs, by promoting joint evaluations such as this one, foster an international commitment to achieve sustainable development through improved environmental management.

An executive summary of the OLACEFS audit report can be found at: <http://www.olacefs.com/executive-summary-audit-protected-areas-latin-america/?lang=en>. The executive summary contains more detailed maps of the protected areas that were evaluated in each of the 12 countries.

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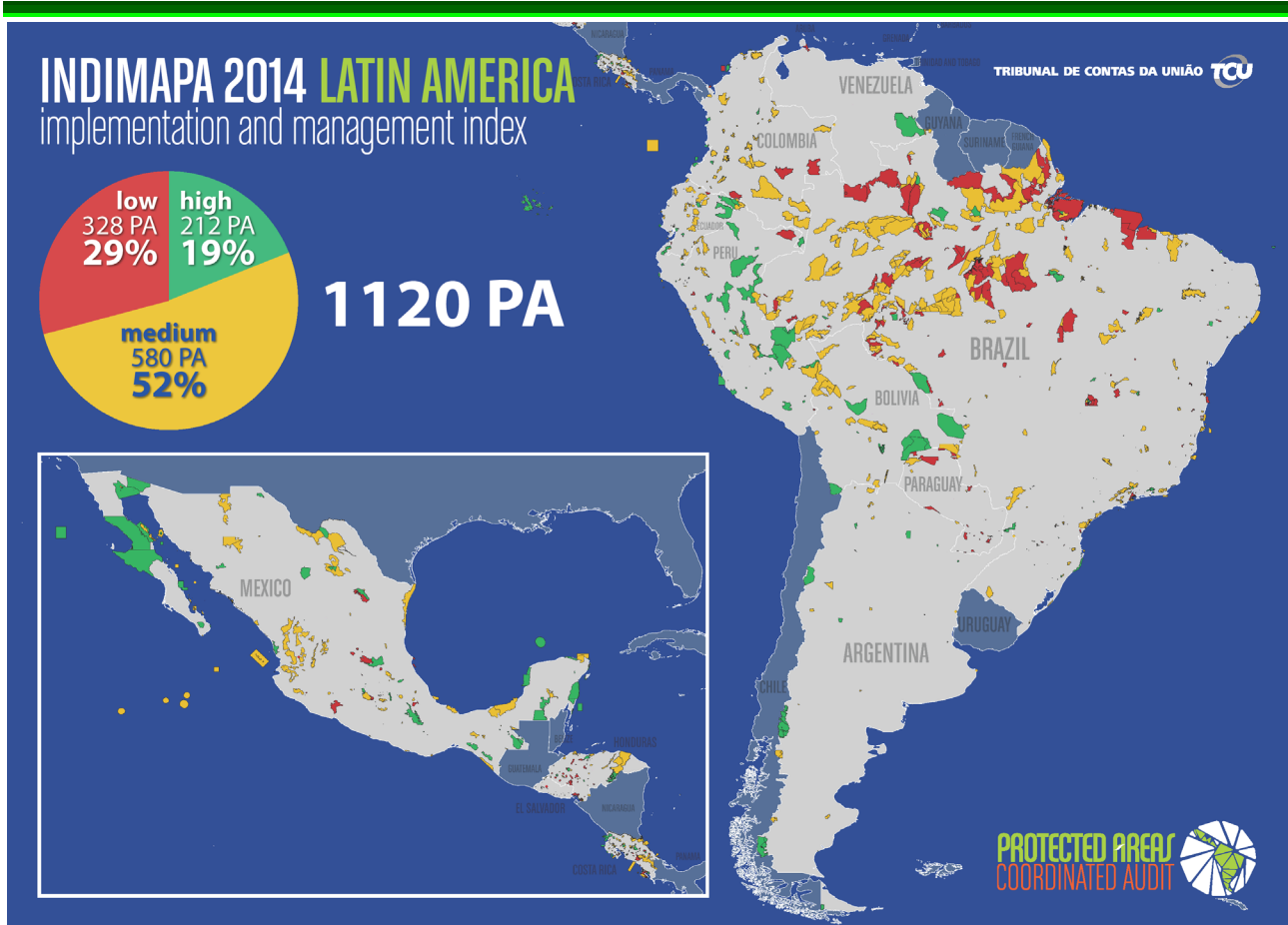


Figure 2: Implementation and management index for certain protected areas in Latin America.

Accomplishments from the 14th Steering Committee Meeting

(continued from p. 1)

In his remarks, Harry Azhar Azis, Ph.D., Chairman of WGEA and of the Audit Board of the Republic of Indonesia, emphasized the importance of balancing economic, ecological, and social aspects of economic activities—especially those that require intensive use of natural resources—in order to keep development sustainable. He also stated that certain environmental issues are a global problem that the SAI community can examine together through cooperative audits, joint research, updated audit guidance, and shared experience on environmental audits.

Chairman Aziz also noted that, at the global level, WGEA was established to encourage the use of auditing standards and best practices in the field of environmental protection policies, both by members of the Working Group and non-member SAIs. Chairman Aziz said he was confident that the meeting would not only lead to important and useful products for WGEA and other INTOSAI communities but would also serve as a starting point for the 2017-2019 Workplan.

Prior to Chairman Aziz's speech, Counselor Hesham Genena, President of ASA Egypt, also conveyed his welcoming remarks. He said that the meeting was a unique occasion to exchange views and share experience between SAIs from all over the world in handling trans-boundary environmental issues. He also said that he was certain that the meeting would help SAI members and other experts form strong bonds through their mutual interests in certain environmental issues.

The 14th Steering Committee Meeting of INTOSAI WGEA resulted in the following:

- The approval of the drafts of six research projects, one guidance material update, and four ISSAIs reviews. One additional research project will be submitted to the Secretariat in January 2016;
- The discussion of possible topics for the 2017-2019 Workplan.
- The scheduling of the 17th INTOSAI WGEA assembly meeting for October 2016. The host will be announced later.

The next steps to be undertaken are:

- Project leaders submitted their final drafts based on input from the meeting to the Secretariat in mid-December 2015, and the Secretariat will send the final drafts to all Steering Committee Members for final approval by the end of January 2016. Projects are expected to be complete in April 2016.
- With regards to the 2017-2019 Workplan, the Secretariat will define objectives for the topics under consideration based on the results of the meeting and the 8th Survey of WGEA members. The draft Workplan will be sent to all Steering Committee members for input and will be presented during the 17th Assembly meeting in 2016.

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The Delegates of 14th Steering Committee Meeting of WGEA in Cairo, Egypt

Continuation of Chairman's Message

(continued from p. 1)

In addition to the Steering Committee Meeting, other activities have taken place within the INTOSAI WGEA community. We successfully conducted the 2nd Dissemination of Forestry Audit in Indonesia in September 2015, while the 3rd International Training on Environmental Auditing was just concluded in November 2015 at our Global Training Facility in India. There were also regional WGEA meetings, including the EUROSAI WGEA Meeting held in Malta in October 2015 and the AFROSAI WGEA Meeting held in Senegal in November 2015. All of these meetings included training sessions and seminars on environmental and cross-cutting issues in their respective regions.

All in all, it is very encouraging to see so many activities going on in the INTOSAI WGEA community, making us the most active Working Group in INTOSAI. I would like to thank everyone involved, and I hope that we can carry on our active participation in INTOSAI WGEA in 2016.

Thank you,

Harry Azhar Azis, Ph.D

Chairman of the Audit Board of the Republic of Indonesia

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News Briefs from Around the SAI World



AUSTRALIA: ANAO audits permit management in the Great Barrier Reef

The Australian National Audit Office (ANAO) recently audited the Great Barrier Reef Marine Park Authority (GBRMPA) to assess how effectively the authority regulates permits within the Great Barrier Reef Marine Park. GBRMPA was established by legislation to ensure the long-term protection, ecologically sustainable use, and understanding and enjoyment of the Great Barrier Reef Marine Park. One means by which GBRMPA manages the sustainable use of the Marine Park is by granting permits for most commercial activities and the installation and operation of structures, and by monitoring and enforcing compliance with permit conditions.

The audit found that while GBRMPA has well-established arrangements for processing and assessing permit applications against regulatory requirements, there were weaknesses in the quality and completeness of the assessments undertaken. In general, the permit assessments GBRMPA and its partner agencies have undertaken were insufficient to determine permit holders' compliance with permit conditions. Until recently, many instances of permit holders' non-compliance—most of which were related to the provision of required documentation—were not identified by GBRMPA staff and not recorded centrally for assessment and possible enforcement action. The causes of these weaknesses included fragmented and incomplete guidance for staff, incomplete records, insufficient consideration of relevant assessment requirements, and limited assurance from quality control processes. The limited guidance for the authority's investigators on how to determine appropriate enforcement responses to non-compliance, coupled with poorly documented reasons for enforcement actions, also made it difficult for GBRMPA to demonstrate the basis for its enforcement decisions.

The ANAO made five recommendations to strengthen the processing of permit applications, the rigour of permit application assessment and decision-making processes, the effectiveness of permit conditions, the effectiveness of permit compliance monitoring, and the response to instances of non-compliance.

A copy of the ANAO Report 2015–16 Regulation of Great Barrier Reef Marine Park Permits and Approvals can be found at <http://www.anao.gov.au/Publications/Audit-Reports>.

For further information, please contact Grant Caine at grant.caine@anao.gov.au.



BOTSWANA: OAG audits management of the Gamodubu landfill

In September 2015, Botswana's Office of the Auditor General (OAG) completed an audit of the Environmental Health Division's (EHD) management of the Gamodubu landfill. The Gamodubu landfill and others are part of the government's initiative to fulfill the country's Vision 2016 Pillar of "ensuring a clean and safe environment" and contributing to enhanced waste management. The audit assessed how the Gamodubu landfill complied with waste management policies and operational guidelines as well as environmental requirements to reduce the effects of inappropriate waste disposal on the environment and human health.

The OAG found that the Gamodubu landfill had not been appropriately managed to ensure that the environment was protected from potential hazards. Additionally, the landfill had not met all design and operational standards; as a result, it did not receive a license 5 years after its commissioning, contrary to waste management and environmental statute and policies. Factors contributing to these findings included:

- The landfill did not have an incineration testing component, making it difficult for EHD to test the toxicity of gases emitted by the incinerator.
- Monitoring and sampling of landfill gases to detect their movement and prevent them from causing odor and potentially dangerous conditions was inadequate, leading to occupational hazards for landfill workers.
- Fully functioning landfill equipment and machinery was not available, leading to incomplete compaction and covering of waste, litter within the landfill, unsightly conditions, and adverse effects on the environment and human health.

The OAG also found that EHD had not been able to control the amount of waste deposited into the landfill. As a result, the average annual amount of waste deposited was about 77,600 tonnes, which far exceeded the expected maximum annual deposit rate of 65,000 tonnes. This may affect the landfill's expected lifespan of 20 years.

Overall, the OAG concluded that improper waste management may cause adverse health problems by spreading diseases as well as severe environmental effects by polluting air, soil, and surface and groundwater. As a result, it is important that EHD strive to follow proper waste management practices to promote environmental

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sustainability and the country's Vision 2016 Pillar of "ensuring a clean and safe environment."

The report will be available on the Botswana SAI website: <http://www.oag.org.bw>.

For more information, please contact: Ms Mmabatho Selotlegeng Kosie at mselotlegeng@gov.bw.



BRAZIL: SAI audits governmental initiatives related to land use and soil sustainability

In conjunction with the United Nations' International Year of Soils, the SAI of Brazil (TCU) recently examined non-urban soil and land governance in Brazil. Specifically, the audit evaluated government initiatives related to land use and soil and water sustainability. TCU used criteria for assessing governance from the newly edited TCU's Governance Assessment Framework of Public Policies. The audit focused on three aspects: (1) regulation; (2) planning and coordination, and (3) monitoring and evaluation.

The audit identified several regulations addressing land use and soil sustainability, as well as a wide range of governmental institutions acting on these issues without a clear delineation and separation of roles and responsibilities. Moreover, the audit found that the regulation of soil and water resources does not address these issues in an integrated manner. With regard to planning and coordination, the audit determined that government needs to devise a strategy to ensure that problems associated with soil and water issues are addressed. The audit also concluded that integrated, long-term planning of public policies should be coordinated among the various institutions involved. In addition, the audit found that Brazil has little baseline knowledge about the land use within its territories, soil conditions, and mapping, which makes it difficult to establish specific policies. Furthermore, the audit found that there is no monitoring and evaluation system in place.

To improve the quality of decisions, transparency, and social participation in public policies on soil and water, TCU made four recommendations to the government of Brazil: (1) consolidate laws and regulations related to land use and the sustainability of soil and water resources, including defining the responsibilities and mandates among relevant institutions; (2) establish a long-term planning process to integrate public policies and coordinate the actions of the institutions involved; (3) consolidate Brazilian territorial information and increase the amount of soil survey information available; and (4) establish and institutionalize monitoring and evaluation with clear performance indicators. According to TCU,

implementing these recommendations will establish an integrated public policy to deal with the land governance issues and help promote the sustainability of soil and water resources in Brazil.



BULGARIA: Auditing national sustainable energy priorities

The Bulgarian National Audit Office (BNAO) carried out audits of the nation's sustainable energy priorities. Specifically, BNAO reviewed government policy encouraging the production of renewable energy. BNAO also reviewed implementation of energy-saving measures, such as high-efficiency co-generation of heat and electricity, metering and cost allocation of heat energy consumption, and renovation of residential buildings for better energy efficiency. BNAO found the following:

- To achieve national goals for efficient and sustainable use of energy, the Bulgarian government has established a number of incentives, including feed-in tariffs for renewable energy. As a result of the development of solar energy sources, the number of solar installations in early 2013 exceeded by 300 percent the target set for 2020. Overproduction of green energy along with the delayed liberalization of the energy market raised a number of challenges for the energy system.
- The main reason for an increase in the price of electricity was the sharp increase in the price of green energy sources—500 percent in 4 years—and its share of the electricity price, which rose to 7 percent in 2012.
- Heating companies have experienced losses, regardless of the measures taken to promote the high-efficiency co-generation of heat and electricity.
- Bulgaria has developed a system for encouraging efficient heat consumption, but the Ministry of Energy's oversight of companies engaged in metering and allocating costs of heat consumption was not effective.
- The implementation of projects to improve energy efficiency in residential buildings for the period 2012 through 2015 was ineffective.

For further information, please contact Detelina Hadjieva at d.hadjieva@bulnao.government.bg and Bulgarian NAO at intrel@bulnao.government.bg.

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ESTONIA: NAO completed two audits on management of hazardous waste

In 2015, the Estonian NAO completed two audits on hazardous waste management. The first audit examined the government's activities in managing hazardous waste treatment in oil shale mining and processing, and the second examined the management of hazardous and radioactive waste.

These two audits covered the total amount of generated and treated hazardous waste in Estonia. The purpose of the audits was to see whether the government has managed the treatment of hazardous and radioactive waste according to requirements, encouraged companies to decrease waste generation and dumping, increased waste reuse, and exercised efficient supervision of environmental permits.

Both audits revealed that the government has failed to reduce the generation of hazardous waste, increase waste recovery, or eliminate residual pollution. The government's waste reports do not recognise hazardous waste generation and treatment data correctly and adequate information systems are not guaranteed. In addition, there are significant omissions in the activities of the Environmental Board and the Environmental Inspectorate in controlling hazardous waste handlers and their associated data. The government has spent over 50 million euros to eliminate residual waste from the oil shale industry but has not ensured that more money will not need to be spent in the future. Further, the government has also failed to properly operate government-owned hazardous waste management centres; as a result, it has not been possible to landfill hazardous waste since 2012, and the surrounding environment has become polluted.

The NAO recommended that the government:

- Take actions to decrease hazardous waste generation and dumping and increase its reuse and recovery;
- Develop integrated information technology solutions to improve data on the environmental impact of waste; and,
- Make sure that the companies producing hazardous waste have the financial ability to clean up their waste management sites if they run into financial difficulties.

The full audit report with a summary in English is available on the NAO's website at www.riigikontroll.ee. For more information, please contact Viire Viss at viire.viss@riigikontroll.ee.



FINLAND: Considering the impacts of fine particle air pollution

The National Audit Office of Finland (NAOF) recently conducted a performance audit on fine particle air pollutants. Fine particles in outdoor air are the most harmful environmental exposure agent in terms of health impacts. The European Environment Agency has estimated that fine particles cause the premature death of about 2,050 people in a year in Finland. The economic losses caused by the health impacts of fine particles in Finland likely amount to billions of euros each year.

The purpose of NAOF's audit was to assess whether the emissions of fine particles and their associated health impacts were considered in the preparation of five government strategies for climate, energy, natural resources, transport, and social and health policy. The general principle governing the preparation of these strategies is that different options should be presented and assessed so that the option that provides the most feasible solution in terms of resources and operating environment can be selected. The preliminary assessment of the impacts on broadly based cross-administrative strategies should be particularly well-planned.

NAOF found that most strategies lacked preliminary impact assessments or the assessments were of a fairly general nature. There was little examination of the health impacts of fine particles. Moreover, the strategies did not contain any assessments of the costs arising from the health impacts of fine particles. Furthermore, no options were formulated or assessed as part of the preparatory work, and no cost-benefit comparisons of the options were produced.

NAOF recommended that the audited ministries should, under the auspices of the Ministry of Employment and the Economy, prepare an overall cost assessment of the health impacts generated by fine particles in Finland. In addition, NAOF emphasized that when ministries prepare or update climate, energy, natural resources, transport, and health strategies, they should give systematic consideration to the health impacts of fine particles and the costs arising from them. Furthermore, NAOF recommended that the expertise of the ministries in the field of preliminary assessment of environmental and health impacts should be systematically developed under the auspices of the Ministry of the Environment.

The English summary of the audit can be found at: http://www.vtv.fi/en/publications/performance_audit_reports/consideration_of_the_health_and_cost_impacts_of_fine_particles_in_the_preparation_of_strategies.5079.xhtml

For further information, please contact Markku Turtainen at markku.turtainen@vtv.fi

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IRAN: Environmental audit committee established in SAI

An environmental auditing committee at SAI Iran has been established by order of the Senior President of Supreme Audit Court of the Islamic Republic of Iran (SAC) to implement the environmental laws and regulations of Iran and play a more effective role in the sphere of environmental auditing at international organizations. The first activity of the committee was to create an environmental auditing road map. Other accomplishments of the SAC include:

- Preparing two audit reports in the first half of 2015 on air pollution in eight metropolitan areas (Tehran, Mashhad, Isfahan, Tabriz, Karaj, Shiraz, Yazd, and Kazvin).
- Preparing an audit report on coastal management in northern and southern provinces of Iran. The reports were presented to the Legislative and Executive branches of government.
- Holding a joint seminar on gas and oil auditing with an environmental perspective in Tehran with the Audit Board of Indonesia from 26 to 28 October, 2015. The seminar focused on the fact that environmental issues should be taken into consideration while conducting audits related to the oil and gas sector. Other topics covered in the same seminar included audits of the banking system and of information technology.

Also noteworthy, the Expediency Council approved the general environmental policies of the Islamic Republic of Iran. This will lead to significant development of environmental auditing in Iran.



South Africa: Environmental risk management in audits of municipalities

In 2015, the Auditor General of South Africa continued its initiative (started in 2012) to incorporate environmental risk management in its day to day auditing processes. The management of environmental risks was being examined at all 19 local municipalities in the North West province and included waste, sewer, and water management, as well as the overall environmental management, monitoring, and enforcement of environmental legislation and by-laws.

The goal of the initiative is to review how municipalities manage significant environmental risks and challenges toward improved service delivery and create a more comprehensive auditing approach by including this factor in routine audits and reports. The initiative expands the

Auditor General's mandate to include the review and reporting on environmental performance by state entities.

During fiscal years 2013-2014, environmental risk management was also included in the management and audit reports of all local municipalities in the province.

The findings highlighted the environmental risks and associated impacts caused by, among other things, poor service delivery; ailing, depleted, and improper maintenance of infrastructure; and inadequate local resources. Because most environmental risks can have significant financial impacts, it is important to examine and assess how they are managed and address through value-adding recommendations and reporting.



TANZANIA: NAO audited enforcement of environmental controls in the mining sector

In March 2015, SAI Tanzania completed an audit of the enforcement of environmental control systems in the mining sector. This was the first audit conducted in the mining sector using WGEA's 2010 Guidance for Supreme Audit Institutions on Auditing Mining. The audit's objective was to assess the extent to which the Vice President's Office (VPO) - Division of Environment, through the National Environmental Management Council (NEMC), enforces the implementation of environmental control systems to mitigate environmental impacts caused by mining operations in the country.

The audit found the following:

- There were weaknesses while planning for environmental enforcement. Plans did not address key risk factors for environmental enforcement in the mining sector, and there were no established guidelines, well-defined criteria, or indicators for enforcement purposes.
- Enforcement activities were inadequately funded. Consequently, the number of inspections was very low compared to the number of registered mining facilities. NEMC does not maintain a complete list of registered mining facilities in the country and, thus, NEMC has not inspected many small mining facilities.
- Sanctions issued to defaulting mining facilities were not an effective deterrent. As a result, continued pollution and non-compliance was prevalent at the mining facilities that were reviewed. In addition, follow-up and monitoring of mining operators' responses to address identified problems was very weak.

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- Coordination within and between NEMC and other government institutions was inadequate. For this reason, NEMC and VPO did not maintain an environmental compliance database for mining facilities in the country.
- No monitoring or evaluation of the enforcement of environmental control systems was conducted. Accordingly, environmental compliance status of mining facilities is unknown.

To address these weaknesses, NAO recommended that NEMC:

- Establish performance profiles of those facilities where enforcement is important and use this information as the basis for planning enforcement activities;
- Ensure that sanctions are issued according to laws and regulations, and establish monitoring and evaluation indicators for enforcement of environmental control systems;
- Ensure that periodic monitoring and evaluation of enforcement activities is carried out and that results are used as the basis for further improvements; and
- Coordinate environmental enforcement activities by NEMC, Sector Ministries, and LGAs and increase communication between all stakeholders.

For further information, please contact Mr. George C. Haule at ghaule@nao.go.tz or Mr. Frank B. Mwalupale at ffmwalu@yahoo.com or visit www.nao.go.tz.



THAILAND: Auditing wetlands conservation

The Thai Government recently audited two Cabinet Resolutions pertaining to wetlands. The Government has become aware that wetlands play a major role in preserving ecosystems. In 1998, Thailand signed the Ramsar Convention and the Government later approved two Cabinet Resolutions on wetlands:

- Cabinet Resolution of B.E. 2543 (2000) on internationally and nationally important wetlands designation and measures on wetlands conservation, and
- Cabinet Resolution of B.E. 2552 (2009) on the revised version of measures on wetlands conservation including updated wetlands inventories and improved measures to cover wetlands at all levels.

In 2014, the Office of the Auditor General of Thailand (OAG) audited enforcement of these Cabinet Resolutions. The audit found that regulations and directions for putting the resolutions into action remained unclear, especially for government agencies. Most relevant government agencies used wetlands without action plans approved by authorised committees. In some cases, no environmental impact assessment had been done before launching projects that could affect wetland characteristics. In addition, the audit found a number of infrastructure projects had been built in wetlands where such uses were prohibited.

OAG has recommended that the Office of Environmental Policy and Planning—the national focal point of the Ramsar Convention—establish detailed regulations and clear directions or guidance regarding the resolutions for relevant agencies. Those actions would help assure effective conservation and sustainable uses of wetlands.



UKRAINE: Auditing implementation of 2008 recommendations to protect the Bug River drainage basin

In 2014, the SAIs of Belarus, Poland, and Ukraine started a coordinated international audit on the status of recommendations made in the 2008 audit report titled, *Protection of the Bug River Drainage Basin Waters Against Pollution*. The 2008 audit was initiated by the SAI of Poland.

Experts from the three SAIs held two meetings to determine common audit goals and objectives, methodologies, criteria, and reporting schedule. At these meetings, participants determined that they would follow INTOSAI standards, including ISSAI 5100-5199, *Guidelines on Environmental Audits*, as well as national audit standards. The SAIs plan to publish a report in 2016.



UNITED STATES: Further steps needed to enhance understanding of climate-related risks to public health

In an October 2015 report, the U.S. Government Accountability Office (GAO) completed an audit of the U.S. government's efforts to increase public health system preparedness for climate change. GAO found that federal government agencies are enhancing understanding of climate-related risks to public health by (1) supporting and conducting research, (2) providing data and informational resources, and (3) communicating about risks.

GREENLINES

GAO also asked state and local health officials to identify challenges they face in addressing and planning for the risks of climate change to public health and found three frequently mentioned themes. First, officials said they face challenges communicating about the public health risks of climate change due to limited public awareness and the complexity of the issue. These officials told GAO that enhanced federal leadership could help address this challenge. The U.S. Department of Health and Human Services (HHS) plans to develop a climate change communication and outreach strategy for state and local public health systems and others, but its development has been delayed by over a year. Also, HHS's Centers for Disease Control and Prevention currently does not have plans to issue climate change communications guidance, which state and local officials said would be helpful to have. Second, state and local health officials said they face challenges identifying health risks of climate change due to gaps in research and difficulties using climate data. Federal officials told GAO about actions they have taken or plan to take that could help address these challenges, such as issuing an assessment of climate change impacts on health and creating a national heat health information system to determine when to issue heat advisories and warnings. Finally, state and local health officials told GAO about other challenges they face that federal action may not be able to address, such as having insufficient local data on health outcomes because states may not collect or have access to such data, and having insufficient staff resources for these activities.

GAO recommended that the government develop a plan describing when it will be able to issue climate change communications guidance to state and local health departments.

GAO's full report can be found at:
<http://www.gao.gov/assets/680/672913.pdf>.

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