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Waste Management Value for Money Audit

Strategic Paper by
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CHILE • CANADA

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EXHIBIT I: Office of the Comptroller General of the Republic - Control of Solid Waste - 1999 Report's Conclusions

EXHIBIT II: National Waste Management Structure

BIBLIOGRAPHY

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Introduction

This special project is a contribution to the new auditing approach in the Office of the Comptroller General of the Republic of Chile. It seeks to improve value-for-money audit systems and practices and to encourage the formation of multidisciplinary professional teams to carry out value- for- money audits.

The project involves a plan for a value-for-money audit. The objectives of the audit are to

- verify the effectiveness of public investments in waste management programs,
- verify the implementation of environmental regulations,
- enhance government accountability, and
- enhance the trust the public places in its government.

The issue

Waste management has become a major problem in Chile as well as in other countries of the world. New landfill sites face strong public opposition and can be costly to site, build, and operate properly. Meanwhile, the production of waste is continuously increasing.

Having a proper waste management system is a great concern to Chilean people, taxpayers, organizations, government, and legislators because of its impact on the environment and human health.

There are many significant public concerns that require the assessment of the legal, technical, and financial compliance for a majority of waste sites.

These concerns include

- whether the actions taken by the municipalities and public services in charge of supervision of waste operations fulfill their legal obligations;
- whether management is effective and efficient and carried out with a view to protection of the environment;
- whether information registers on the quantity and location of dumps and landfills, and on waste origin and volume, are properly maintained; and
- whether environmental assessments have been conducted.

Considering the relevance and significance of this matter, both for the community and the government, I have chosen to develop a process of value- for- money audit for waste management programs.

International context

The INTOSAI working group on environmental auditing has chosen waste management as the topic on which to focus its training efforts over the next few years. A training manual will be prepared and made available to those countries requesting it. This will provide valuable support for ongoing efforts in Chile to put VFM into practice for various aspects of our audit.

The mandate of the Office of the Comptroller General of the Republic

The *Political Constitution of the Republic of Chile* sets out in articles 87 and 88 the nature of the institution and its essential functions.

Article 87: “An independent organisation referred to as *Contraloría General de la República* (Office of the Comptroller General of the Republic) shall carry out the control of compliance of the acts of the Administration; shall oversee the incomes, expenditures, investments of fiscal funds, municipal funds and of the public funds assigned to the organisms and public services determined by law; shall examine and judge the accounts of people in charge of the resources and patrimony of those entities; shall carry out the general accounting of the Nation, and shall hold such others functions that the organic constitutional law shall establish.”

The *Organic Constitutional Act* N° 10,336, amended by the *Organic Constitutional Act* N° 19,817, in force from July 26, 2002, authorizes the Comptroller General, among other things, to carry out audits to survey compliance of laws, the safeguarding of the public patrimony, the ethical conduct of the Administration, and the application of the *Financial Administration Act*, and to examine the regularity of public expenditures and investments and verify supporting evidence.

The Comptroller General shall establish the provisions that shall determine the modalities and terms to carry out audits.

It should be noted that the value-for- money audits the Comptroller General is authorized to carry out cannot question the merits of the government’s policies.

The *Political Constitution of the Republic of Chile* establishes fundamental rights the government must protect. Article 19, n° 8, establishes the right to live in an environment free of pollution. The State must defend this right and ensure the conservation and protection of nature.

The Law N° 19,300 *Fundamental Environment Law* establishes the obligation to carry out a prior environmental assessment for all the activities that directly or indirectly may produce environmental damage.

According to its constitutional mandate, the Comptroller General of the Republic must oversee and require the due accomplishment of constitutional and legal principles, dispositions, and obligations by public services and institutions.

It is important to note that the mandate conferred on the Comptroller General of the Republic of Chile to carry out audits was the subject of many and long (nearly 10 years) discussions in the Congress on the scope of a such mandate.

The Office of the Comptroller General of the Republic has stated in the numerous reports sent to the Congress and in the presentations made to the Commission of Constitution, Law and Justice of the Congress that the text of the proposed articles of the amendment to the organic constitutional law ratifies the mandate conferred by other acts. These acts include the *Organic Constitutional Fundamental Administration Law* N° 18,575 related to public ethic (prudence, due diligence, probity, integrity, and equity), the effective, efficient, and cost-conscious management of public resources, the implementation of laws and regulations; and the *Financial Administration Act*, D.L. N° 1,263 of 1975, related to the budget, income, and expenditures and investment of public funds. These provisions provide a sufficient basis for carrying out audits to verify the due accomplishment of laws. The Comptroller General of the Republic is responsible for the supervision of the legal aspects of the Administration with respect to procedures, competitions, formalities, production concepts, and the sound management of public finances. This oversight implies reviewing the extent to which public funds are used efficiently and effectively, which are central values to the integrity and performance of the Administration.

Legal responsibility for waste management

Waste management involves national, regional, and municipal public services. It also involves private enterprises that have been granted the concession to manage landfills and to collect, store, and/or transport waste.

According to the Organic Constitutional Law of Municipalities, local governments are in charge of collection, storage, transport of waste, and management of landfills within their territorial jurisdiction. Because of the high cost of managing solid waste and the lack of technical and financial resources, municipalities may grant private enterprises the concession to manage landfills and to collect, store, and transport waste. The requirements to carry out these tasks include having sanitary permits, authorization to change land use, and approved environment assessments, among other aspects.

Previous audit work on waste management

The 1999 report on “Control of Solid Waste” observed numerous contraventions to laws and regulations on human health and environment, either by the municipalities or by private enterprises granted the concessions to manage landfills. The most significant observations were the following:

- 98 percent lacked environmental assessments to manage waste.
- 72 percent of 277 waste disposal sites examined did not have the required sanitary authorization.
- 82 percent of sites operated without the authorization to change land use.
- 42 percent of municipalities did not exercise the technical control of waste sites; nor did they verify the accomplishment of contracts’ commitments.
- There is a lack of co-ordination between Municipalities, Regional Commissions for the Environment, and Regional Public Health and

Environment Services to supervise compliance with laws, regulations, policies, and standards.

- Pollution of soil and of surface and ground waters was noted in Antofagasta, Tocopilla, II Region; Caldera, Vallenar, Copiapo, III Region; Coyhaique, XI Region; and Punta Arenas, XII Region.
- There is a lack of data banks of waste sites and of financial statements.

Risk assessment

In light of the above-noted observations this audit will address the following risks:

- Inappropriate waste management may adversely affect municipalities' accountability.
- Inappropriate waste management poses environmental and public health risks. The right measures at the right time must be taken by the local governments to manage these risks.
- The lack of a waste management framework leads to a high probability of negative environmental impact.
- Proper information and proper co-ordination between municipalities and the regional public services can potentially reduce waste problems and their negative consequences.

The audit

The value of value-for-money audit

Value-for-money audit deals with the results of the management of public resources and with the accountability of public managers, making public services more responsive to the public and more accountable. Value-for-money audit is an essential instrument for developing good governance by improving public management and the accountability of authorities and public employees.

Conducting a value-for-money audit requires professional judgment and individual initiative throughout the entire audit process. It requires adequate organization, and development and training of multidisciplinary teams with the appropriate skills and techniques.

The phases of value-for-money audit are planning, examination, and reporting.

Planning the audit

Before starting field work, it is necessary to determine the areas and the issues of waste management to be audited. For this purpose, those regions and local governments covered in the 1999 audit where waste management programs represented the most significant issues in dealing with public health and environment have been considered as areas of interest and significance.

Overview stage

In the overview stage, the auditor undertakes a situational analysis of the project to give an understanding of it (how big, how complex) and to determine which external factors will need to be considered.

The audit team should collect information about

- the municipalities' role: mandate, regulations, and organization;
- accountability of waste management contractual programs;
- performance of control systems;
- applicability of the Fundamental Environment Act, Sanitary Code, Organic Constitutional Fundamental Administration Act, Financial Administration Act, and national waste regulations and international agreements in force in Chile;
- technical knowledge of waste management such as the definition of waste; life cycle of a product; kinds of waste and their properties; collection, storage, and transport of waste; waste management systems; and the international context;
- the impact on public health and environment; and
- control of public services mandate: Regional Health and Environment Service (SESMA) and the National Commission for the Environment (CONAMA).

To obtain the necessary background information, consultations would take place with the audit team responsible for municipalities and with environmental control public services affected by the audit. This knowledge would provide the basis to make the initial scoping decisions and to define the lines of inquiry.

When the overview stage is completed, an overview report would be produced to determine the municipalities to be audited, the issues to be selected, an initial estimate of costs, and the time required for the audit process; to develop a list of entities, officers, and stakeholders that will be consulted during the audit; and to determine the team and professional skills needed to carry out the audit.

Initial decisions on audit scope

The following factors should be considered to identify the municipalities' waste management programs to be audited:

- **Poor management.** Quality of control systems and related management should be measured against laws, regulations, instructions, and contracts.
- **Environmental impact.** This is a very sensitive area considering that people's health and welfare are affected.

- **Resources committed.** High - cost programs and negative impacts should be considered.
- **Inaction on previously reported observations.** This area is of visible interest to government and people. The inaction implies contravention of laws and integrity. It would also include civil responsibilities.

Based on a review of documents available, the following initial scoping decisions can be made. This value-for-money audit will cover the regions and municipalities within their jurisdiction, and the significant waste management and environmental issues from the 1999 Report. Further, it will cover dumps and landfills for non-hazardous and hazardous waste. Hospital waste and radioactive waste are excluded because they are subject to special regulations.

To verify the progress since 1999, it is proposed to audit the municipal waste programs developed within the jurisdiction of the following regions:

- III Region: Municipalities of Copiapo, Caldera, and Vallenar
- V Region: Municipality of Valparaiso
- VII Region: Municipalities of Talca and Cauquenes-Pelluhue
- IX Region: Municipalities of Melipeuco, Angol, Traiguen, Collipulli, and Victoria
- X Region: Municipalities of Valdivia and Ancud
- XI Region: Municipality of Coyhaique

The above-mentioned local governments have been selected in accordance with Exhibit I), that the waste management practices represent a high risk to human health and environment. Further, most of the governments are regional capitals, their tourist and industrial activities are significant, and their population are over 100,000 inhabitants.

The 1999 report found

- a lack of environmental assessment,
- contravention of sanitary regulations,
- a lack of authorization to change land use, and
- contravention of contractual commitments.

Survey stage

The purpose of this step is to develop an audit plan that will provide a basis for the orderly, efficient, and cost- effective conduct of the audit.

The survey is a broad appraisal of the operations that will be the subject of the audit. It is the information-gathering step in order to propose the audit objectives, criteria, areas for a detailed review, and examination approach.

Gathering the necessary information will require the following:

- interviews with municipal officers and other public officers working on or controlling waste management programs;
- review of waste management policies, directives, and regulations;
- review of the framework for public request for proposals, contracts, and documents;
- review of municipalities' performance, priorities, reports, plans, and programs;
- review of dump and landfill management reports;
- review of result commitments;
- analysis of waste control procedures;
- assessment of risks for human health and the environment: soil, superficial water, and ground water;
- consultations with experts and outside organizations to identify best practices and opportunities to improve waste management;
- previous audits and studies conducted by others;
- survey of the use of technology; and
- review of spending trends.

Survey report

The results of the survey stage are documented in a survey report. This should contain a plan including the audit's objectives and a description of the audit scope, the rationale for the scoping decisions, the eventual audit risks, links to the Office's priorities, the audit criteria and their sources, a discussion of quantification plans for each line of enquiry, and a description of the planned audit approach and methodology.

In this step it is necessary to identify the audit staff, including regional and functional staff; the estimated costs of the audit in terms of hours and human resources; time frames for the audit and the control points; the schedule of meetings; and reporting of the strategy.

Audit objective

Our objective is to determine if the dumps and landfills in the municipalities that we audited

- have completed environmental assessments,
- have complied with all sanitary regulations,
- have a registry identifying sites and a database for waste management's financial resources, and
- have a framework of legal and technical requirements for public proposal to operate the sites.

Audit criteria

Audit criteria are reasonable and attainable standards of performance and control against which compliance, the adequacy of systems and practices, and the economy, efficiency, and cost effectiveness of operations can be evaluated and assessed. These standards must be mandatory, measurable, and realistic.

The following are possible audit criteria for this value- for-money audit:

- Rules for environmental impact assessment are established by the *Fundamental Environment Law N° 19,300* and its regulations, specified in the COREMA's resolution.
- Sanitary requirements are in the Sanitary Code and its regulations for the proper operation of waste management activities.
- The framework of public request for proposal specifies appropriate legal commitments, and technical requirements for construction of dumps and landfills according to the appropriate legislation and environmental regulations.
- The framework defines the actions to ensure the fulfillment of contract commitments and to make managers' responsibility effective.
- The framework states a survey of risk at each stage of waste management and measures to manage these risks have been considered.
- Municipalities have appropriate co-ordination with COREMA in order to verify the due application of environmental mitigation measures.
- Municipalities have a registry including all the waste sites within their jurisdiction, the required authorizations, and timely technical controls.
- Monitoring of the water course is timely.
- There is adequate management of rainwater, daily covering of waste, and control and treatment of percolator liquids.
- Disposal sites comply with technical environmental standards.
- Disposal sites have the authorization to change land use.

- Disposal sites are located at the legal distance from human settlements.
- Hazardous and non-hazardous waste are managed adequately: the necessary and qualified workers are provided with the necessary tools and protection equipment.
- Employees are informed of the risks of their work, both to themselves and the environment.
- There are records of the origin and kind of waste received and its volume disposed in the various sites.
- Financial databases have been implemented efficiently and effectively.
- Investments and expenditures are documented and management reports are prepared.

Examination phase

The purpose of this stage is to gather necessary and sufficient information and audit evidence to allow the audit team to verify whether municipalities have

- completed environmental assessments,
- complied with all sanitary regulations,
- developed a registry identifying sites and a database for waste management's financial resources, and
- developed a framework of legal and technical requirements for public proposal to operate the site.

Audit evidence

Audit observations and conclusions regarding waste management that are included in the final report must support the critical examination of a municipality's waste performance. Evidence must be necessary, that is, the evidence must refer to the factors that exist for an observation to be true. Evidence must also be sufficient, that is, there must be evidence to support all findings. Further, evidence must be relevant to the waste management programs within the period of time encompassed by the audit. It must also be reliable, sound, consistent, objective, and lead to an independent confirmation.

Developing audit observations

The findings and evidence gathered should allow the audit team to make an objective evaluation about the extent of accomplishment of

- environmental assessment and mitigation measures,
- proper sanitary requirements,

- environmental standards for disposal sites,
- monitoring of soil and water,
- contractual commitments,
- a framework of public request for proposal of waste management: legal and technical requirements,
- implementing a registry for waste sites and a database on financial waste,
- determining whether waste management deficiency represents a generic or systemic problem, and
- identifying the cause of deficiency to assure the appropriate recommendations.

Developing audit recommendations

Audits include recommendations to prompt corrective actions where the potential for significant improvement in operation and performance is demonstrated by the reports findings.

This value-for-money audit on waste management can make a great difference by bringing professional analysis of the current situation to the attention of the audit entity, the government, the Congress, and the community, by considering the following:

- improving waste management;
- improving monitoring;
- enhancing the application of the contractual commitments;
- improving accountability practices;
- implementing sanitary regulations; and
- training municipal employees.

Reporting phase

This phase deals with the development of the report, which includes the audit observations and the recommendations related to municipal waste management in the III, V, VII, IX, X , and XI Regions as identified in the “ Audit Scope” of this project.

The report will be submitted to the approval of the Comptroller General. Once approved, it will be sent to the government and to each of the entities audited as well as to the Congress.

Required personnel for carrying out value-for-money audits

Carrying out the proposed value-for-money audit will require

- a multidisciplinary audit team with expertise on value-for-money audit;
- specialized technical expertise in the area being audited: waste and landfills management;
- a complete knowledge of the audited municipalities, its relevant objectives, constraints, resources, management process, and accountability relationships; and
- the knowledge and competence necessary to fulfill the requirements of the waste management value-for-money audit. (This will be obtained through training and experience.)

The accomplishment of the proposed waste management audit requires the training of professionals with competence in fields such as civil engineering, environmental engineering, architecture, law, and economics, among others. This broad competence is necessary to make appropriate analyses and assessments.

Auditors should also be trained in value-for-money audit on environmental issues.

This training should cover the following matters:

- planning and reporting techniques; and
- value-for-money methodology on carrying out the phases of the audit process in Chile, that is, planning, examination, reporting, and review.

It is important to note that the auditors already trained at the CCAF-FCVI and at the OAG of Canada would be part of the training staff. The hiring of external auditors, such as professionals of the OAG of Canada and CCAF-FCVI's technical support, should be also considered.

The first training course for a multidisciplinary audit team would be carried out over six months.

The training program shall be submitted for the approval of the Deputy Comptroller General, who is President of Training Committee, and for the approval of the Comptroller General.

In some instances it would be necessary to contract out for the expertise required to carry out the audit. The cost of recruiting this expertise must be taken into account.

Training facilities

The Comptroller General Office – Secretary General should provide technical resources and financial resources. All members of the training course should have access to the appropriate documentation and tools.

Conclusion

Municipalities, in co-ordination with regional public services in charge of supervision of environmental and sanitary regulations, have the responsibility to carry out appropriate, effective, and efficient waste management.

The actions taken by the municipalities and other public services involved in waste handling should have a positive impact on human health and the environment.

The Office of the Comptroller General of the Republic of Chile has a sufficient mandate to carry out value-for- money audits.

This proposal for waste management audit seeks to improve the audit process in the Office and the formation of multidisciplinary teams to develop environmental audit.

This new auditing approach will help to improve the waste management process and the investment of public funds. It will also help to enhance social welfare, the protection of human health and environment, and the trust the Chilean people and organizations place in their government.

EXHIBIT I**Office of the Comptroller General of the Republic-****Control of Solid Waste- 1999 Report's Conclusions**

- Environmental Assessment, Law N° 19,300: **98% of sites do not comply**
- Sanitary Regulations: **72% of sites do not comply;**
- Regions with significant risks include
 - II Region: Antofagasta (regional capital) and Tocopilla (mining activities)
 - III Region: Caldera, Vallenar, Copiapo (regional capital)
 - V Region: Valparaiso: 198 illegal sites (regional capital)
 - XIII Region: Lepanto (located in Santiago, national capital)
 - VI Region: Rancagua, (regional capital) and San Vicente de Tagua- Tagua
 - VII Region: Pelluhue (soil, surface water and ground water contamination)
 - VIII Region: Los Angeles and Yumbel
 - IX Region: Melipeuco, Angol, Traiguén, Collipulli, Ercilla, Victoria, Lumaco.
 - X Region: Ancud and Valdivia (water contamination)
 - XI Region: Coyhaique (regional capital)
 - XII Region: Punta Arenas (regional capital)
- Authorization to change land use: **82% do not comply**
- Contractual Commitments: **42% do not comply**. It is important to remark that contracts miss essential legal and technical obligations.
- Waste Programs:
 - 1995-1997: X Region: resources Ministry of National Planning and BID: **results unknown**
 - 1996: VI Region: regional resources: **no results**
 - 1999: VIII Region: in progress

EXHIBIT II

National Waste Management Structure

National level

- **National Commission for the Environment(CONAMA)**
 - Draws up environmental protection programs, management programs.
 - Establishes and approves mitigations measures on waste management projects or programs.
 - Supervises mitigation measures, environment protection, and implementation of laws, regulations and policies.
 - Monitors programs.
 - Co-ordinates the application of the Fundamental Environment Law and its regulations.
- **Ministry of Public Works and Regional Secretaries**
 - Instructs, monitors, and supervises the construction of landfills and the access ways.
- **Ministry of Housing and Urbanism and Regional Secretaries**
 - Authorizes the change of land us.

Regional level

- **Regional Commissions for the Environment(COREMA):**
 - Draws up regional environmental protection program, including management programs.
 - Approves or rejects, or establishes mitigation environmental measures.
 - Supervises environmental protection measures.
 - Implements and controls regulations and policies.
- **Regional Health and Environment Services (SESMA)**
 - Implements sanitary laws and regulations.
 - Confers sanitary permits and controls their implementation.
 - Supervises and controls of sanitary laws, regulations, and policies.

Local level:

- **Municipalities:**
 - Manages and controls collection, storage, transport, and final disposal of waste.
 - Applies and controls environmental and sanitary laws, regulations, policies, standards.
 - Draws up municipal environmental protection programs, included waste management plans.
 - Monitors and controls waste management concessions.
- **Private Sector:**
 - **Enterprises** may be granted through a public request for proposal, to collect, store, transport, and/or operate dumps or landfills, recycling facilities, and treatment facilities of non-hazardous waste and hazardous waste.

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Law n° 18,695 Organic Constitutional Law of Municipalities

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