

THE BRAZILIAN COURT OF AUDIT
General Secretariat of External Control
Secretariat of Auditing and Inspections

PERFORMANCE AUDITING MANUAL

SAUDI/SEGECEX

1998

THE BRAZILIAN COURT OF AUDIT

President:

Minister Homero Santos

Vice-President:

Minister Iram de Almeida Saraiva

Ministers:

Adhemar Paladini Ghisi
Carlos Átila Álvares da Silva
Marcos Vinícios Rodrigues Vilaça
Humberto Guimarães Souto
Bento José Bugarin
Antonio Valmir Campelo Bezerra

Auditors:

José Antonio Barreto de Macedo
Lincoln Magalhães da Rocha
Benjamin Zymler

Attorney General:

Walton Alencar Rodrigues

Deputy Attorneys General:

Jatir Batista da Cunha
Lucas Rocha Furtado
Paulo Soares Bugarin

Attorneys:

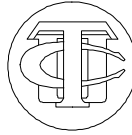
Maria Alzira Ferreira
Marinus Eduardo Vries Marsico
Ubaldo Alves Caldas
Cristina Machado da Costa e Silva

Permanent Commission on Internal Rules:

Minister Adhemar Paladini Ghisi (President)
Minister Humberto Guimarães Souto (Member)
Minister Valmir Campelo (Member)
Auditor José Antonio Barreto de Macedo (Substitute)

Permanent Commission on Jurisprudence:

Minister Carlos Átila Álvares da Silva (President)
Minister Marcos Vinícios Rodrigues Vilaça (Member)



THE BRAZILIAN COURT OF AUDIT
General Secretariat of External Control
Secretariat of Auditing and Inspections

PERFORMANCE AUDITING MANUAL

SAUDI/SEGECEX

1998

The Brazilian Court of Audit

Internet Address: *http://www.tcu.gov.br*

Mail Address: SAFS Lt. 01 – Brasília, DF, BRAZIL

ZIP Code: 70.042-900

General Secretary of External Control:

José Nagel

Secretary of Auditing and Inspections:

Cláudio Souza Castello Branco

Director of Norms and Procedures of Auditing and Government Programs:

Paulo Roberto Pinheiro Dias Pereira

Chief of the Government Programs Service:

Glória Maria Merola da Costa Bastos

Financial and External Control Analysts:

Carlos Alexandre Amorim Rocha
Carmen Pereira Rêgo Meireles

Translator from the Brazilian Edition:

Bradley Jay Dodge

657.63=03.81
=20
B823p

Brasil. The Brazilian Court of Audit.
Performance auditing manual. --
Brasília : TCU, Secretariat of Auditing
and Inspections, 1998.
74p.
Traduzido de: Manual de auditoria
de desempenho.

1.Auditoria de desempenho. I.
Tribunal de Contas da União (TCU).
II. Título.

Administrative Ruling nº 222, from April 28, 1998.

Approves the Performance Auditing
Manual of the Brazilian Court of
Audit.

THE PRESIDENT OF THE BRAZILIAN COURT OF AUDIT, exercising his legal and regimental attributions and taking into consideration the arrangement in article 2, III, of Administrative Resolution nº 72, from March 20, 1986, and article 35 of Normative Instruction nº 09, from February 16, 1995, determines:

Article 1º The Performance Auditing Manual of the Brazilian Court of Audit is approved, containing the operational procedures and the methodological strategies to be used in the performance of operational audits and program evaluations.

Article 2º This Administrative Ruling takes effect on the date of its publication.

HOMERO SANTOS

PRESENTATION

The necessity to make governmental actions more effective and transparent has presented innovative initiatives of work in the area of the Supreme Audit Institutions. A common trait between these initiatives has been the emphasis on the evaluation of results reached by the programs, projects, activities, organisations and institutions of the public administration.

Without abandoning its historical attributions of carefully overseeing the fulfilment of the applicable legal norms for good administrative practice, the Supreme Audit Institutions have been seeking to amplify their area of performance, exercising a more conclusive control over the actions of the government.

In harmony with this international trend, the Brazilian Court of Audit, as far back as the eighties, began to practice the so-called operational audits. Its objective was to verify if the actions developed by the public administration have obeyed the management principles of economy, efficiency and efficacy.

In February of 1995, following the Capacity-Building Project to Evaluate Public Programs, through the pioneering initiative of the administration of the Honourable Minister Marcos Vinícios Rodrigues Vilaça, a new dimension in the realm of this Court was created. It was directed toward the development of necessary methods for the evaluation, together with the society, of the impact of the governmental functions, programs, projects and activities.

Nowadays, we have many examples of public administration actions that, although they satisfactorily fulfil the expected aims, do not succeed in modifying the adverse social condition of the population. Furthermore, it is not rare that these actions have, unintentionally, produced negative effects.

This new modality of control, called program evaluation, has been being applied by the Supreme Audit Institutions of renowned technical competence, such as the United States General Accounting Office, the Office of the Auditor General (Canada), the National Audit Office (United Kingdom) and the Australian National Audit Office, among others.

It is within this framework that this administration presents the Performance Auditing Manual. It integrates and consolidates the principal methods used in program evaluation with the knowledge and practices regularly adopted by the Brazilian Court of Audit in the work of operational auditing, guaranteeing, thereby, the continuity of the technical development of this Court.

This manual, developed by the Secretariat of Auditing and Inspections - SAUDI, counted on the collaboration of eight executive-technical units that tested the methods cited here in the scope of pilot-projects. These projects included eight distinct themes, which were work, defence, health, public revenue, education, infrastructure, housing and the environment.

To conclude, it is important to mention the emphasis on results by the guidelines that orient the present reform and modernisation of the Brazilian State. The higher flexibility and autonomy of the public managers, cited by these guidelines, should be monitored by a model of control directed toward the examination of results, potentials and limitations of governmental actions.

Homero Santos
President

TABLE OF CONTENTS

	Page
LIST OF ILLUSTRATIONS.....	vii
LIST OF ABBREVIATIONS	viii
INTRODUCTION	09
1. DEFINITIONS AND CONCEPTS.....	11
1.1. Operational Auditing	11
1.2. Program Evaluation.....	11
2. STEPS OF PERFORMANCE AUDITING	15
2.1. Preliminary Study	15
2.1.1. Elaboration of the Preliminary Study Plan	15
2.1.2. Preliminary Analysis of the Subject of the Audit	16
2.1.2.1. Logical Framework	17
2.1.2.2. Input-Output Model	19
2.1.2.3. Environmental Conditions Model	19
2.1.3. Collection of Performance Data.....	20
2.1.4. Specification of the Audit Criteria	21
2.1.5. Preparation of the Preliminary Study Report	23
2.2. Operational Auditing/Program Evaluation Plan.....	24
2.2.1. Auditing Questions	25
2.2.2. Information Required	27
2.2.3. Information Sources.....	28
2.2.4. Methodological Strategies	29
2.2.4.1. Case Study.....	30
2.2.4.2. Survey	33
2.2.4.3. Field Experiment	34
2.2.4.4. Quasi-Experimental Design	36
2.2.4.5. Non-Experimental Design	38
2.2.4.6. Use of Existing Data.....	39
2.2.5. Data Collection Methods	40
2.2.6. Data Analysis Methods.....	43
2.2.7. Constraints	44
2.2.8. What the Analysis Will Allow us to Say	45
2.3. Execution	45
2.3.1. Development of Fieldwork	46
2.3.2. Pilot Test.....	47
2.3.3. Final Report.....	47
2.3.3.1. Table of Contents.....	48
2.3.3.2. Summary	48
2.3.3.3. Introduction	48
2.3.3.4. Main Chapters.....	49
2.3.3.5. Responsible Officials' Comments.....	50
2.3.3.6. Conclusion	50
2.3.3.7. Matters for the Court's Consideration	50
2.3.3.8. Appendixes	50

ANNEX I: GENERAL ORIENTATION FOR THE PRELIMINARY ANALYSIS OF THE SUBJECT OF THE AUDIT	51
I.1. Background.....	53
I.1.1. Legal Basis	53
I.1.2. Institutional Background	53
I.2. Planning	54
I.2.1. Guidelines	54
I.2.2. Priorities, Objectives and Goals	54
I.2.3. Monitoring.....	55
I.3. Target Population.....	55
I.4. Actuation Environment.....	55
I.4.1. Political-Social Context.....	55
I.4.2. Social-Economic Characteristics	56
I.5. Operational Characteristics	56
I.5.1. Human Resources	56
I.5.2. Financial Resources	56
I.5.3. Physical Resources	57
I.5.4. Functioning	57
I.6. Constraints.....	57
ANNEX II: DESIGN MATRIX MODEL.....	59
GLOSSARY	63
BIBLIOGRAPHY	67
SUGGESTION SHEET	69

LIST OF ILLUSTRATIONS

	Page
1. Example of the Logical Framework Applied to a Hypothetical Project of Water Well Drilling in a Rural Zone.	18
2. Example of an Input-Output Model for Structured Skills Training Funding	19
3. Example of a Simple Environmental Model for Skillshare	20
4. Example of Appropriate Criterion to Audits on Internal Systems of Evaluation of Institutional Performance	22
5. The Problem and the Auditing Questions of the Audit Plan of the 3 ^a SECEX Regarding the Brazilian Continental Platform Program - LEPLAC.....	26
6. Instance Selection in Case Study.....	32
7. Diagram of Field Experiment with Pre and Post-Tests.....	35
8. Diagram of Field Experiment with Post-Test	36
9. Diagram of the “Non-Equivalent Groups with Pre and Post-Tests” Design.....	37
10. Diagram of the “Time Series with Control Group” Design	37
11. Diagram of the “Time Series without Control Group” Design	38
12. Diagram of the “Before and After” Design	39
13. Synopsis of Methodological Strategies	42

LIST OF ABBREVIATIONS

ANAO	Australian National Audit Office
BID.....	Interamerican Development Bank
GAO.....	United States General Accounting Office
INCOSAI.....	International Congress of Supreme Audit Institutions
INTOSAI	International Organisation of Supreme Audit Institutions
NAO.....	United Kingdom National Audit Office
OAG.....	Office of the Auditor General of Canada
SAI.....	Supreme Audit Institution
SECEX	Secretariat of External Control (Technical Unit of the Brazilian Court of Audit)
SIAFI.....	Electronic System of Financial Management of the Brazilian Federal Government
TCU	The Brazilian Court of Audit

INTRODUCTION

The Performance Auditing Manual integrates and consolidates the principal methods used in program evaluation with the knowledge and practices regularly adopted by TCU in operational auditing. It is divided into two chapters: the first is dedicated to the conceptual distinction between operational auditing and program evaluation, modalities of performance auditing, whereas the second deals with the steps of the development of the performance auditing, consisting of planning and carrying out activities.

The planning step was divided into two successive phases and deserved broad and detailed treatment in this manual. In the first phase, called preliminary study, some methods used in program evaluation are presented. Among these is the logical framework, widely disseminated by international development agencies working in Brazil, such as the World Bank.

In the second phase, called Operational Auditing/Program Evaluation Plan, the Design Matrix Model is presented. It is a methodological support instrument developed by the GAO. The matrix concisely presents not only the methodological strategies most used in program evaluation but also in operational audits, in addition to the other elements that make up the above mentioned plan.

In the execution step, the following is discussed: the analytical procedures necessary for the adequate characterisation of the audit findings; the necessity of making pilot tests when the complexity of the work and the costs involved are huge; and the structure to be adopted in the reports of performance auditing, in addition to the general orientation about its content.

In the process of writing this manual not only the best international experiences about the theme, but also the contributions from professionals of this Court were considered. However, the manual is not sufficient to endow the audit teams with all necessary knowledge involved in conducting a performance auditing. It is recommended, for its correct use, that the team members complete a specific training program as well as use the support material available regarding the methods explained here.

1. DEFINITIONS AND CONCEPTS

Performance auditing consists of the systematic evaluation of governmental programs, projects and activities as well as those of the organisations and institutions under the jurisdiction of this Court.

Performance auditing includes **operational auditing** and **program evaluation**.

1.1. Operational Auditing

The objective of operational auditing is to examine the governmental action regarding the aspects of economy, efficiency and efficacy. With this aim, the following aspects are examined:

- how the agencies and institutions acquire, protect and use their resources;
- the causes of uneconomical and inefficient practices;
- the achievement of foreseen goals;
- compliance with the appropriate legal provisions regarding the aspects of economy, efficiency and efficacy of the administration.

Therefore, operational auditing focuses the multiple aspects of the management process – planning, organisation, operational procedures and management supervision, including its results in terms of the goals reached.

To proceed with an operational auditing, you should approach, among others, these questions:

- the adequacy of the organisational structure to the objectives of the organisation or institution;
- the existence of adequate control systems, whose purpose is to monitor, based on valid and reliable performance indices, aspects linked to economy and efficiency;
- the adequacy of acquisitions regarding terms, quantity, type, quality and pricing;
- the safekeeping and maintenance of real estate and commodities;
- the existence of documented and updated work routines and procedures;
- the adequate use of human resources, installations and equipment used for the production and rendering of goods and services in the proportion, quality and times that are required;
- the extent to which the goals, predetermined by the administration and pertinent legislation, are followed.

1.2. Program Evaluation

The objective of program evaluation is to examine the impact of governmental programs, projects and activities.

In this manual, the impact of governmental action should be understood as the net result produced by a program, project or activity, or, in other words, the verified changes in the subject of the action which can be specifically and exclusively attributed to those modalities of state intervention.

While operational auditing verifies, in addition to operating efficiency, to what extent the goals are being carried out by comparing predetermined goals with those that have been accomplished, program evaluation seeks to verify to what extent implemented actions failed to produce the effects that the administration intended.

An example will clarify the argument. An operational auditing on an infant nutrition program seeks to verify how successfully the proposed goals were met, suggesting, eventually, the increase in the efficiency of the program through a more adequate selection of the beneficiaries and an improvement in the systems of acquisition, distribution and selection of foods. But one can not assess if these corrections diminish malnutrition. On the other hand, program evaluation seeks to establish to what extent the program can improve the nutritional situation of the target population – if there were changes, the magnitude of these changes and what segments of the target population were affected.

Therefore, operational auditing focuses on the management process, whereas program evaluation prioritises the effects produced by the governmental intervention. In the first case, one investigates the functioning of the programs, projects and activities and how well the goals that can be quantified were met (for example, the number of schools constructed, vaccines given, employees trained or roads paved compared to the goals of the governmental plans or stated by specific legislation). In the second case, aspects that permit the team to articulate itself should be added to the analysis, for example, concerning the reduction of school evasion, the eradication of contagious diseases, the quality of services rendered by the administration or the reduction in the number of traffic accidents.

It is important to distinguish between these two approaches, since the fulfilment of a physical goal or the availability of a service might be a necessary condition, but not sufficient one for a specific problem to be effectively resolved or for a certain necessity to be taken care of. Many times, the expected effect might not occur or it could be insignificant.

In addition, a specific governmental intervention might provoke unexpected effects, negative as well as positive. In both situations, the program evaluation procedure should search for the **relationship of subjacent causes and observed phenomena**, seeking to identify the effects attributable exclusively to the program, project or activity. Therefore, it deals with assessing to what extent the observed effects, intentional or not, were caused by this specific intervention, using an appropriate methodological strategy.

According to the INTOSAI Working Group on Program Evaluation, a program evaluation is distinguished from that of an operational auditing because it allows questions not approached by the operational auditing to be answered (INTOSAI, 1995, p. 2). The program evaluation is, as a rule, more ambitious in relation to the analysis of the objectives and the results of the governmental intervention. This modality of performance auditing uses methodological strategies rarely employed in operational audits, such as, surveys, field experiment and quasi-experimental designs.

Although operational auditing and program evaluation can be carried out in an independent manner, the information gathered by each one of them provides a complete analysis of governmental activities, as much in relation to the operational aspects as in relation to the impact of the implemented actions. In this context, the two approaches of performance auditing complement each other.

Some of the more important aspects to be examined through program evaluation in programs, projects and activities are:

- their logical conception;
- the adequacy and the relevance of their objectives, whether they are declared or not, and the consistency between these and the previously identified necessities;
- the global consequences to society;
- the effects not explicitly included in their objectives;
- the causal relation between observed effects and policies proposed;
- the factors that inhibit their performance;
- the quality of the impacts reached;
- the existence of other alternative actions, considered or not by the administration, and the respective costs involved (analysis of cost effectiveness);
- the upholding of legal provisions applicable to their nature, objectives and target population.

Nevertheless, a program evaluation might not necessarily deal with all the aspects mentioned above. The emphasis on one or another of these aspects will depend on the specific questions that will be examined as long as the methodological rigor is present.

2. STEPS OF PERFORMANCE AUDITING

To carry out a performance auditing, the following steps should be observed:

- 2.1. Preliminary Study
- 2.2. Operational Auditing/Program Evaluation Plan;
- 2.3. Execution.

2.1. Preliminary Study

Performance audits should be preceded by a preliminary study on its subject (program, project, activity, organisation or institution).

The preliminary study seeks to determine if a proposed job assignment is feasible and relevant. If these requirements are met, the preliminary study should offer an overall view of the subject to be audited, providing sufficient elements so that the audit team chooses one of the two modalities of performance auditing **at the end of the preliminary study phase**: the operational auditing or the program evaluation. Furthermore, based on this picture, the team will determine the objectives, the extent and the methodological strategy to be used in the audit.¹

The preliminary study should contain the following steps:

- 2.1.1. Elaboration of the Preliminary Study Plan
- 2.1.2. Preliminary Analysis of the Subject of the Audit;
- 2.1.3. Collection of Performance Data;
- 2.1.4. Specification of the Audit Criteria;
- 2.1.5. Preparation of the Preliminary Study Report;

2.1.1. Elaboration of the Preliminary Study Plan

At the beginning of the preliminary study, the team should elaborate the Preliminary Study Plan, consisting of the following elements:

- the size of the team, period of the preliminary study and estimated costs;
- the scheduling of visits;
- the strategy for the data collection and analysis;
- the list of themes that will be debated with the responsible officials of the subject of the audit;
- the date for the presentation of the Preliminary Study Report.

It is worth stressing that the success of preliminary study depends on the careful organisation of the visits with the responsible officials of the subject of the audit. The establishment of good relations with these responsible officials is of the utmost importance. The initial contact should be by telephone, followed by a written document, specifying the nature of the work to be done.

¹In this manual, the terms “audit” and “performance auditing” have the same meaning.

During the elaboration of the Preliminary Study Plan, the team should observe, as much as possible, the content of the other sections of this chapter, which deal with the elaboration of the Operational Auditing/Program Evaluation Plan and with the development and documentation of the field work.

It is the responsibility of the team Co-ordinator to guarantee that the work has been correctly planned and that the other team members and the responsible officials of the subject of the audit are sufficiently informed about the purpose of the preliminary study.

2.1.2. Preliminary Analysis of the Subject of the Audit

The preliminary analysis of the subject of the audit seeks to understand how this subject is structured, allowing the team to identify questions that deserve to be examined in more detail. With this in mind, the team should look for information such as²:

- the objectives (general or specific, depending on the extent of the work);
- the actions developed, the fixed goals, the clients served, the procedures and resources used, the assets and services offered and the benefits provided;
- the interested parties (real or potential) and the characteristics of the external environment (dynamic or static; predictable or unpredictable);
- the restrictions faced (legal imposition and constraints presented by competition, technology, resource scarcity or by the necessity to co-operate with other institutions).

This information can come from the sources described below, among others:

- pertinent legislation;
- pronouncements and decisions made by the competent authorities;
- declared mission, strategic plans and management reports;
- diagrams which show the organisational structure, internal guidelines and operational manuals;
- management information systems;
- interviews with the responsible officials and specialists;
- internal and external audit reports and evaluations of institutional performance.

It is the responsibility of the team Co-ordinator to guarantee that the other members of the team have investigated, documented and understood in depth the central aspects of the program, project, activity, organisation or institution that is being audited.

The data collected should be organised in explicatory models to facilitate the syntheses and the visualisation of the dynamics of its relationships. There are three types of models that can be used:

2.1.2.1. Logical Framework;

²Annex I ("General Orientation for the Preliminary Analysis of the Subject of the Audit") contains a more extensive relation, although not exhaustive, of the information that should be collected regarding the subject of the audit.

2.1.2.2. Input-Output Model;

2.1.2.3. Environmental Conditions Model.

The last two modes are less complex than the first, because the complete application of the Logical Framework presupposes the existence of complete management information systems. As these systems are not always available, the Input-Output Model and Environmental Conditions Model, **employed together**, can provide the necessary data for the planning of the work to be executed.

2.1.2.1. Logical Framework

This model seeks to portray how the activities developed by the subject of the audit are logically structured. To do this, the hierarchy of responsibilities is defined, describing the objective of each hierarchical level and its relationship to the objective of the level immediately above it. The Logical Framework makes the evaluation of the performance of the subject of the audit easier by responding to questions such as:

- Do the stated objectives have a clear relation to the purpose of the subject of the audit and precisely define the goods and services that will be rendered as well as the clientele that will be benefited?
- Do the objectives of each hierarchical level have plausible causal relationships?
- Is the impact (or benefits) sought clear and measurable?

To obtain objective answers to the questions, the Logical Framework deals with the functions, programs, projects, organisations and institutions as complex wholes of structured organisational processes that should reach not only final objectives, but also intermediate ones. These objectives can be structured as indicated below:

- activities: tasks that should be executed so that the components are obtained;
- components: goods and services offered (stated goals);
- aims: outputs directly associated with the use of the components;
- purpose: expected outcome.

The structure described above represents the **hierarchy of objectives**, in ascending order of importance. The fulfilment of the objectives of each level is a necessary condition to reach the next level. When the hierarchy is put in descending order, you have something similar to the following illustration.

Illustration 1: Example of the Logical Framework Applied to a Hypothetical Project of Water Well Drilling in a Rural Zone.

Purpose: Reduction of the incidence of diseases caused by the consumption of non-potable water.

Aim: Adoption of hygienic practices by the benefited population.

Components:

- extension of access to potable water to 60% of the local population;
- better training of the health care workers.

Activities:

- First Component:
 - ⇒ select locations for the drilling of wells;
 - ⇒ mobilise the local workers;
 - ⇒ drill the selected wells.
- Second Component:
 - ⇒ prepare a training program for employees from the area of health;
 - ⇒ recruit employees from the area of health;
 - ⇒ administer a training program for the recruited employees.

Source: BID, 199-, p. 16.

In addition to organising the organisational processes into a hierarchy, the Logical Framework should:

- define practical, objective, measurable and independent indicators for each level, which should be expressed in quantitative, qualitative and temporal terms;
- indicate the sources that contain data concerning the indicators;
- identify the exogenous factors (assumptions) that can affect the subject of the audit at each level, evaluating the risks that exist and formulating alternative strategies of action.

If this approach is chosen, the team should verify if the facts discussed in the previous paragraphs were contemplated in the planning step of the actions developed by the subject of the audit. The way these actions are logically structured can be obtained from internal audit reports and from the evaluation of institutional performance. However, as these documents can be incomplete and not up-to-date, it is important to obtain the opinion of the responsible officials for the structure in question.

When the necessary data is collected, the team should emit judgement concerning the consistency of the existing planning system. It is worth noting that, the more consistency there is, the higher are the chances of success of those audits whose aim is to evaluate the effectiveness of governmental actions (program evaluation). In the case of the lack of necessary management information, the teams should opt for the verification of the aspects linked to the economy, the efficiency and the efficacy of the actions mentioned earlier (operational audits).

2.1.2.2. Input-Output Model

This model seeks to describe how the subject of the audit develops its activities by identifying:

- the information and the human, physical and financial resources required (input);
- the process of transformation of the inputs into outputs;
- the goods and services rendered or offered (outputs);
- the benefits achieved (impact);
- the possible performance indicators;
- the demand that exists for the products;
- the desired benefits (scale of preference).

The illustration below shows the simplest version of the model, which demonstrates the four primary elements indicated above.

Illustration 2: Example of an Input-Output Model for Structured Skills Training Funding

INPUTS	PROCESSES	OUTPUTS	OUTCOMES
<ul style="list-style-type: none"> • Funding applications; • Resources used to process applications. 	<ul style="list-style-type: none"> • Promote schemes; • Evaluate applications; • Distribute funds; • Monitor performance. 	<ul style="list-style-type: none"> • Number of training courses; • Number of people trained. 	<ul style="list-style-type: none"> • Number of trainees who achieve employment or further training who would not have done so without the training.

Source: ANAO, 1992, p. 58.

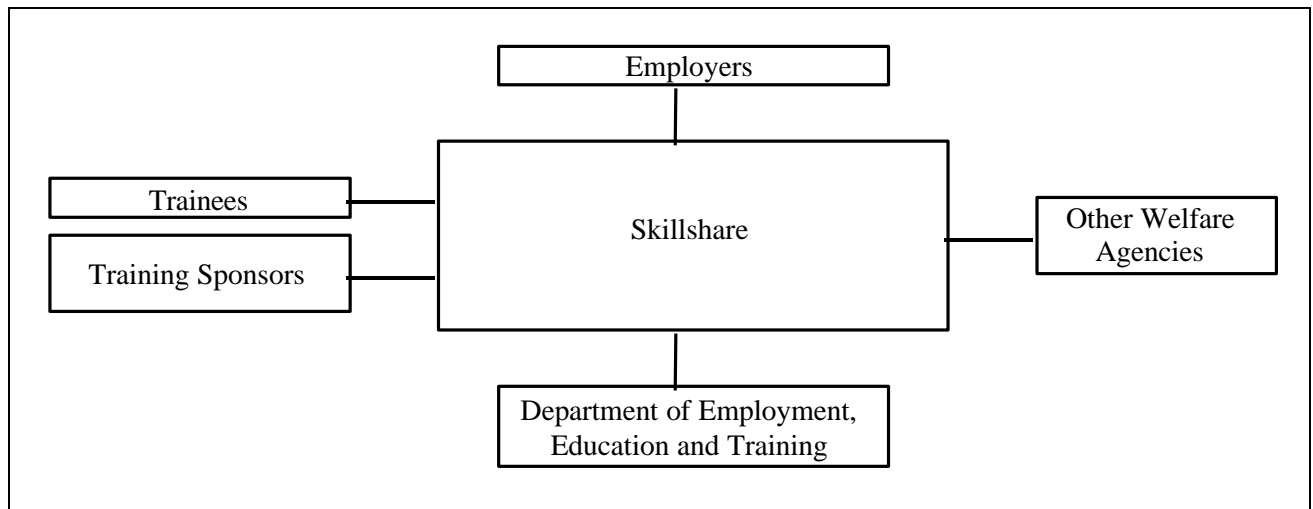
The Input-Output Model makes easier the analysis regarding the aspects of economy, efficiency, efficacy and effectiveness of the subject of the audit. Furthermore, the identification of the principal processes permits the team to verify the control that the responsible officials have over these processes.

2.1.2.3. Environmental Conditions Model

This model identifies the internal and external factors (clients, suppliers, competitors, unions, professional associations, related authorities, etc.) that influence the activities developed by the subject of the audit. The model should exhibit the interaction and inter-relationships that exist between the various groups of interested parties, indicating if they are or are not stable, complex or competitive.

The diagram shown below illustrates the model in question, identifying the parts involved in the achievement of a hypothetical program. However, it is worth emphasising that the team should, in addition to identifying the parts involved, qualify the relations that exist between them, as indicated in the previous paragraph.

Illustration 3: Example of a Simple Environmental Model for Skillshare



Source: ANAO, 1992, p. 59.

2.1.3. Collection of Performance Data

Performance data is fundamental for the evaluation of the aspects of economy, efficiency, efficacy and effectiveness of the subject of the audit, occupying a central position in the preliminary study, although in obtaining this data several difficulties arise, such as:

- the definition of obscure objectives;
- the frequent use of multiple and inter-related indicators;
- the effects of exogenous factors, making it difficult to identify the correct results of the actions of the subject of the audit;
- the heterogeneous character of the results reached;
- the presence and the subjectivity inherent in the indicators of qualitative performance.

In this way, the team should verify the following:

- Are the procedures for gathering of performance data sufficient and adequate?
- Are the performance indicators used valid, complete and justifiable in light of the cost-benefit ratio?
- Are the performance indicators an essential part of the decision making process?

In addition, it is worth noting that, when appropriate, the performance of the responsible officials of the subject of the audit are evaluated based on the following:

- Is the legal basis of their activities clear to the responsible officials?
- Did the responsible officials define objectives that are compatible with the measurement of impacts and did they determine what will be proportioned, who will be benefited and the motive of the benefit?
- Did the responsible officials evaluate the extent, the nature and the actuality of the demand for the goods and services offered?
- Did the responsible officials study alternative strategies of actions?

- Are the carried out activities and the effort spent opportune and consistent with the objectives sought?
- Does the subject of the audit have comprehensive objectives, standards, plans and organisation charts?
- Were the resources used in an economic and efficient manner?
- Is the financial position of the subject of the audit adequately controlled and registered?
- To what extent were the stated objectives reached without producing unfavourable collateral effects?
- Do the goods and services offered meet the expectations of the clientele?
- Did the responsible officials verify the level of satisfaction of the clientele?
- Has the subject of the audit been capable of adapting to the changes in the competition, the technological standards, the expectations of the beneficiaries and other external factors?
- Has the human resources policy stimulated professional development, commitment and initiative as well as job satisfaction?
- Are the key resources of the subject of the audit (personnel, patents, equipment, natural resources and strategic suppliers) preserved?
- Are the obtained results monitored and compared with the expected results, making decisions on the basis of the observations made?
- Did the responsible officials establish effective auditing and internal evaluation systems, insuring that the activities were executed with economy, efficiency, efficacy and effectiveness?

The characteristics mentioned above should serve as a basis for the delimitation of the extent of the audit, which should focus on the questions that have the highest probability of providing significant conclusions given the pre-established budget.

It is the responsibility of the team Co-ordinator to ensure that the objectives of the audit are decided upon in light of the performance data available.

The team should strictly employ the time and the effort necessary to conclude whether a proposed audit should or should not be conducted. In general, this requires the carrying out of all the steps of the preliminary study. Nevertheless, it is possible that the team already has the required elements in order to define the feasibility and the relevance of an audit as well as its objectives and extent and the methodological strategy to be used. In this case, the team can bypass the current step and begin the development of the audit criteria and the preparation of the primary study report.

2.1.4. Specification of the Audit Criteria

Audit criteria are essential for every type of audit, except when descriptive questions are considered. Criteria can be conceptualised as the “...*standards used to determine whether a program meets or exceeds expectations.*” (GAO, 1994b, p. 67)

Audit criteria are decided upon during the preliminary study. They should be sufficiently precise and detailed so that they will:

- define a basic conceptual framework, making communication between the team members easier as well as between the team and the responsible officials of the subject of the audit;

- restrain the extent of the audit, making clear its objectives;
- guide the data collection, indicating how to obtain significant evidence;
- set parameters for the conclusions and recommendations of the audit.

The following illustration shows the relationship that should exist between the audit criteria and the indicators. Naturally, the indicators should be objectively measurable.

Illustration 4: Example of Appropriate Criterion to Audits on Internal Systems of Evaluation of Institutional Performance

Criterion: The results of program effectiveness measurement should be considered for use in making program decisions.

1^o Index: Program effectiveness measures should be presented in a form that is useful to decision-makers.

Measures:

- Performance measures should be analysed and information summarised for users;
- Summaries of performance information should be in a form that is easily understood, permitting significant changes, trends or variances to be readily observed;
- The degree of confidence that can be placed in the performance information should be identified.

2^o Index: Program effectiveness measurement reports should be provided on a timely and consistent basis to meet the information needs of relevant department or agency decision-makers.

Measures:

- The program effectiveness measurement client should receive a copy of planning reports and studies in time to be considered for program decisions.
- Action plans to implement decisions made by the measurement client on the recommendation arising from the effectiveness measurement should be prepared on a timely basis.
- Effectiveness measurement reports should be available to ministers in time for their consideration in making program decisions.

3^o Index: Each department and agency should, as appropriate, report promptly the results of program effectiveness measurement to officials outside the department.

Measures:

- Summaries of findings and actions to be taken as a result of effectiveness measurement planning reports and studies should be reported in strategic plans, as appropriated to the major policy thrusts of the plan;
- Effectiveness measurement findings should be reported in the operational plans, where relevant to the result statements.
- Effectiveness measurement information should be made available to Parliament.

Source: ANAO, 1992, p. 77-8.

The audit criteria vary depending on the objectives of the proposed job assignment. Already existing performance auditing reports, within the country or abroad, can provide valuable indications of what criteria can be used in a given situation. Other sources can be found in the pertinent legislation, in the internal norms of the subject of the audit, in the information given by the responsible officials and in the performance observed in the past or in similar situations. Furthermore, as these criteria limit the conclusions of the audit, the responsible officials should be consulted regarding their pertinence.³

It is the responsibility of the Co-ordinator to ensure that the team decides upon appropriate criteria for each relevant dimension of the subject of the audit.

2.1.5. Preparation of the Preliminary Study Report

At the end of the preliminary study, the team should prepare a report, which will be submitted, for approval, to the Responsible-Minister. The report should synthesise the data collected and the conclusions reached, indicating if the proposed assignment is or is not feasible and relevant and recommending whether or not the audit should be carried out. If it should be carried out, the team should propose an Operational Auditing Plan or a Program Evaluation Plan, depending on the modality of performance auditing most adequate to the subject of the audit, as indicated in the following section.

The Preliminary Study Reports should obey the formal structure indicated below, similar to the structure of the Performance Auditing Reports (see item 2.3.3).⁴

- Table of Contents;
- Summary;
- Introduction;
- Main Chapters;
- Responsible Officials' Comments;
- Conclusion;
- Matters for the Court's Consideration;
- Appendixes;
- Operational Auditing/Program Evaluation Plan, when appropriate.

In the "Introduction", the team will discuss the characteristics of the work and the subject of the audit, which are:

- characteristics of the work:
 - ⇒ Court's decision that determined the carrying out of the preliminary study;
 - ⇒ reasons for the decision (significance of the amount involved, of the actions attempted or of other factors linked to the performance the subject of the audit);
 - ⇒ deficiencies and errors referred by rendered accounts or by audits and inspections carried out in the recent past;

³Concerning the contacts with the responsible officials of the subject of the audit, it is opportune to point out that these contacts should be regular, permitting, among other things, to confirm the exactness of data obtained from other sources and to verify the officials' opinion regarding the evidence found.

⁴The topics not dealt with in the following paragraphs should obey the specifications contained in the item here indicated.

- ⇒ the responsible team (list of the members and of the units in which they work) and the period of the work;
- ⇒ the extent and the strategy of the preliminary study and the period examined;
- characteristics of the subject of the audit:
 - ⇒ the identification of the subject of the audit (denomination, legal nature, address, SIAFI code, when appropriate, and the list of responsible officials);
 - ⇒ the structure, purpose, principal activities and environment in which it operates;
 - ⇒ pertinent legislation and appropriate governmental guidelines;
 - ⇒ the control systems and existing performance indicators;
 - ⇒ the process of decision making and human, physical and financial resources used.

In the main chapters, the team will identify all possible audit criteria and compare them to the conditions observed throughout the preliminary study. Other aspects that should be considered: the reliability of the control system and of the management information system and the consistency of the hierarchical lines of subordination.

In the topic “Responsible Officials’ Comments”, the team will analyse the opinion of the management regarding the content of the Preliminary Study Report.

Based on the above comparison and analyses, the “Matters for the Court’s Consideration” will contain the recommendation regarding the carrying out of the audit work. This topic can contain yet other recommendations that deserve to be brought to the attention of the Responsible-Minister. In this way, the Preliminary Study Report can provoke determinations on the part of the Court. This procedure will be especially useful when the team concludes that the proposed audit should not be carried out due to the deficiencies verified during the fact-finding. In this case, the auditing action of the Brazilian Court of Audit will have the Preliminary Study Report as its final product.

It is the team Co-ordinator's responsibility to guarantee that the Preliminary Study Report contains the necessary information for the correct and opportune deliberation on the part of the responsible authorities.

2.2. Operational Auditing/Program Evaluation Plan

The Operational Auditing or the Program Evaluation Plan consists of the identification of the questions to be investigated and the methods that will be employed in the collection and analysis of data as well as the necessary means to implement them. Therefore, an organisation chart of the activities to be developed, with an indication of time limits and the composition of the team, in addition to the costs involved, should be included.

In order to facilitate the conceptual elaboration of the work and the decision making about the methodological strategy to be used, the team should apply the **Design Matrix** (see Annex II). This matrix shows, linearly, all the key elements of the planning of the audit work. These elements will be related to operational auditing and program evaluation discussed throughout this section.

The Design Matrix consists of the following elements:

- 2.2.1. Auditing Questions;
- 2.2.2. Information Required;
- 2.2.3. Information Sources;
- 2.2.4. Methodological Strategies;
- 2.2.5. Data Collection Methods;
- 2.2.6. Data Analysis Methods;
- 2.2.7. Constraints;
- 2.2.8. What the Analysis Will Allow us to Say.

2.2.1. Auditing Questions

Based on a **structured and integrated vision of the subject being audited**, given by the preliminary study, as well as on the **differences observed between the criteria and the conditions**, the team should **specify the problem** that the audit will focus on.

Since in most cases the audit requesting is formulated generically or very broadly, the work of the team will consist of defining the scope and addressing the problem in a clear and objective way that will guide all effort in the conception and execution of the audit. In order to do this, the information gathered in the preliminary study will be used.

After finishing the step described above, the team should elaborate the auditing questions, which will permit the investigation of the formulated problem. When the questions approach aspects concerning the economy, efficiency or efficacy of the governmental initiative they should be dealt through an operational auditing, whereas when the questions regard the aspect of the effectiveness they should be examined in the context of a program evaluation. In this way, the teams will come upon four situations:

- questions linked to economy, efficiency and efficacy: operational auditing;
- questions linked to effectiveness: program evaluation;
- questions interdependent linked as much to effectiveness, as to economy, efficiency and efficacy: program evaluation;
- questions linked as much to effectiveness, as to economy, efficiency and efficacy, but autonomous: the carrying out of a program evaluation or an operational auditing, depending on the relevance of the conclusions that could be extracted from each modality of auditing.

Therefore, the questions formulated will be the starting point of an operational auditing or of a program evaluation and will orient all the investigation.

The next illustration shows the relation between **problem** and **auditing questions**.

Illustration 5: The Problem and the Auditing Questions of the Audit Plan of the 3ª SECEX Regarding the Brazilian Continental Platform Program - LEPLAC

Problem: When Brazil signed the “Convention of the United Nations Regarding the Law of the Sea”, it subjected itself to its fulfilment. Taking into consideration that it could increase the Brazilian continental platform, the responsible officials began to worry about the use of internationally accepted techniques to gather all needed geomorphologic data within the stipulated timeframe.

Auditing Questions:

- 1ª - How sure may we be that the utilised techniques will be accepted by the international organisations?
- 2ª - To what extent can we say that the utilised techniques will permit the conclusion of the fact-finding within the stipulated timeframe?

Source: 3ª SECEX, 1997, p. 34.

Frequently, in order to be able to examine an auditing question, it should be divided into subquestions that will be dealt separately. Or in other words, each subquestion will give origin to a specific Design Matrix.

In formulating the questions and, when necessary, the subquestions, the team will be, at the same time, clearly establishing the focus of its investigation and the limits and dimensions that should be observed during the carrying out of the work.

The proper formulation of the questions is fundamental to the success of the operational auditing or the program evaluation. It is so because it will affect several decisions, such as to the types of data that will be collected, the collection method that will be employed, the analyses that will be made and the possible conclusions that will be reached.

When formulating the auditing questions, the following aspects should be taken into account:

- clarity and specificity;
- use of terms that can be defined and measured;
- investigative viability (possibility of being answered);
- articulation and coherence (the group of questions elaborated should be able to clarify the audit problem previously identified).

The formulation of the auditing questions should observe the following procedure (GAO, 1991, p. 11-4):

- 1º - consider the largest possible number of potential questions and the methods by which these questions can be answered, even if they don't seem, at first sight, plausible or doable;
- 2º - compare the potential questions with the available resources for the audit, defined in terms of cost, execution time limits and allocated personnel.

This procedure allows the verification of which questions can effectively be answered considering the level of difficulty involved and the resources required.

The criteria for the selection of any specific question are the viability of the methodological strategy needed to respond satisfactorily to the question as well as the relevance of the conclusions that can be reached.

Although the steps of the planning process are presented sequentially, the definition of the auditing questions and the choice of the appropriate methodological strategies happen simultaneously through the comparison of each question with all possible methodological strategies (see item 2.2.4).

2.2.2. Information Required

After the auditing questions and subquestions have been formulated and developed, it will be necessary to identify the information required to respond to them as well as the sources of the information.

To determine the type of information that can be obtained in the data collection work, the key terms of the auditing questions as well as their dimensions or variables should be identified. For example, in formulating a question concerning the impact of a governmental initiative that seeks to improve the level of teaching, what is understood by "improve the level of teaching" should be defined and the dimensions of this concept should be identified. The number of passing students per grade or the reduction in school absenteeism, among other variables, could be considered.

The task of translating abstract concepts into measurable variables is critical. It allows, through the definition of appropriate indicators, the measurement of the success of the objectives sought by the administration.

The collected information that is used to support the operational auditing or program evaluation findings is considered **evidence**. It can assume the following forms (ANAO, 1992, p. 110-30):

- physical: data collected through direct observation, represented by photographs, maps, graphics or other visual representations;
- oral: declarations generally obtained in interviews or surveys with users or beneficiaries of the governmental initiative as well as with specialists, supervisors or members of the technical team in charge;
- documentary: data registered on paper or computer processed (in general, the most commonly used in audit work);
- analytical: information generated from other evidence, generally involving calculations, comparisons or syntheses.

The use of more than one type of evidence is recommendable in order to strengthen the final conclusions.

The evidence, gathered through the observation of people, events or current material conditions, whenever it is vital for the fulfilment of the objectives of the audit, should be corroborated. Because of this, the direct observations should be done by a minimum of two members of the audit team, preferably accompanied by representatives of the institution being audited. If the team considers it necessary, they should prepare a

detailed description of the conditions observed and solicit formal consent from the representatives.

In the same way, oral evidence, normally obtained in interviews, is not treated as conclusive evidence. It needs to be supported by documentary evidence. In cases where declarations of the interviewee are critical for the audit and it is not possible to obtain confirmatory documentation, the team should try to obtain a written confirmation of the declarations made.

The reliability and the relevance of the oral evidence depend on the position, knowledge, experience and character of the interviewee or, in other words, on his/her credibility. Sometimes, the response of the interviewee to a specific question can reveal ambiguity, contaminating other elements of the deposition and, consequently, jeopardising the reliability of the whole testimony.

In summary, whenever possible, the depositions and other registers considered critical to the audit should be corroborated by documentary evidence.

It is worth adding that the reliability of the documentary evidence provided by the control system of the institutions being audited – for example, the accounting statements – will depend on the normal functioning of this system. The relevance of the documentary evidence, on the other hand, should be analysed in relation to the objective of the audit. In this way, for example, the existence of a procedures manual, in and of itself, does not guarantee that it is being used.

2.2.3. Information Sources

Information sources can be primary or secondary.

Primary sources are those in which the team has control over the manner in which the data is collected. For example, direct interviews with the beneficiaries of a program or original records and notes obtained by the team during a visit to the facilities of a project.

The secondary sources are those which were collected and systematised by others, for example (GAO, 1994a, p. 3.2):

- administrative registers, on paper or computer processed;
- available studies and researches;
- legislation, norms or procedures;
- official documents, such as memos, official letters, etc.

The main problems linked to the use of secondary data are the following: (GAO, 1994a, p. 3.3):

- the collection method may not have been adequate;
- internal controls may not be reliable;
- data may have been manipulated;
- data may not represent variables selected for analysis.

2.2.4. Methodological Strategies

At this point in the elaboration of the Operational Auditing/Program Evaluation Plan, the audit team should specify the methodological strategy to be adopted or, in other words, the methods of investigation required by the questions or subquestions formulated.

It is important to consider that the methodological strategy is directly related to the technical quality of the evidence that can be obtained, which, in turn, will influence the reliability of the conclusions of the work.

Whatever the methodological strategy adopted, each auditing question should be analysed following the four elements that form the audit conclusions or findings: **criteria, condition, cause and effect**.

In the questions linked to economy, efficiency and efficacy, usually handled by **operational audits**, the elements cited above can be defined as: (GAO, 1994a, p. 2.12-2.17):

- a) **Criteria:** The standards used to determine whether the program⁵ meets or exceeds expectations. The criteria provide a context for understanding the results of the audit. The audit plan, whenever possible, should state the criteria to be used. In selecting them, the auditors have a responsibility to use reasonable, attainable and relevant criteria. Some examples of possible criteria:
 - purposes or goals prescribed by law or regulation or set by management;
 - technically developed standards and norms;
 - expert opinions;
 - past performance;
 - performance of similar institutions.
- b) **Condition:** The current situation, established and documented during the audit.
- c) **Cause:** The reasons of the poor or good performance observed.
- d) **Effect:** The real consequences of the difference determined by the audit between condition and criteria.

Consequently, in the case of an operational auditing, the definition of the methodological strategy should take into account the following aspects:

- comparisons between condition and criteria;
- scope of the study (e.g.: target population, records, installations or geographical areas selected);
- period of the observation (e.g.: the observations are collected at a determined point or period in time or on different occasions).

⁵Beginning with this item, the expressions “program” and “subject of the audit” are treated as equivalent, indicating governmental programs, projects, activities, organisations and institutions.

In the questions linked to effectiveness and therefore discussed in the context of a **program evaluation** the elements previously identified can be defined as:

- a) **Criteria:** The nature or magnitude of the impact expected with the implementation of the program.
- b) **Condition:** The situation verified after the implementation of the program and the situation that would probably have been verified without this implementation.
- c) **Cause:** The program that is being evaluated. The assumption is that the program is responsible for the changes observed. The methodological strategy chosen will seek to guarantee, through plausible evidence, that no other factor beyond the program is responsible for the verified effects. In other words, the investigation should be planned in a way that eliminates or controls any exogenous factor that may be influencing the observed results (elimination of alternative interpretations).
- d) **Effect:** The extent to which positive or negative changes in actual conditions can be identified and attributed to program operations. Thus, it is the **difference** between the observed condition and the condition that probably would prevail if the program had not been implemented.

Consequently, in program evaluations it is almost always necessary to compare observations regarding beneficiaries or clients of the program being audited with observations regarding people not affected by the program. Naturally, the scope and the period in which the observations will be carried out should also be specified.

After analysing the auditing questions and the elements defined above, the team should decide on the most adequate methodological strategy to respond to each question. It is important to remember that each subquestion should be treated individually or, in other words, a specific methodological strategy should be established for each subquestion.

The methodological strategies most used are:

- 2.2.4.1. Case Study;
- 2.2.4.2. Survey;
- 2.2.4.3. Field Experiment;
- 2.2.4.4. Quasi Experimental Design;
- 2.2.4.5. Non-Experimental Design;
- 2.2.4.6. Use of Existing Data.

2.2.4.1. Case Study

The case study can be employed in both an operational auditing or in a program evaluation. It is the methodological strategy most widely used by the SAI that traditionally conduct performance audits, such as the GAO, the OAG, the NAO and the ANAO, in addition to others. In the work developed by these SAI, the case studies are frequently complemented by other methodological strategies, such as the survey and the utilisation of existing data.

According to the GAO:

*“A case study is a method for learning about a **complex instance** based on a **comprehensive understanding** of that instance, obtained by extensive **description and analysis** of the instance, taken as a whole and in its context.”⁶ (GAO, 1990, p. 14)*

The first element (complex instance) means that many facts can influence the events and that these influences can interact non-linearly, making it impossible to isolate the effects of the variables being studied.

The second (comprehensive understanding) indicates that the case studies seek to obtain a representation, as complete as possible, of what is happening and why.

The third (extensive description and analysis) involves the employment of dense descriptions or, in other words, of rich and complete information, derived from various sources, particularly direct observations. Furthermore, the analysis is ample, comparing data from different types of sources by means of the method called “triangulation” (see item 2.2.6).

The major characteristics of the case study are:

- it is more adequate to respond to the normative and descriptive questions⁷;
- the use of the qualitative approach in the collection and analysis of data;
- it does not use probabilistic sampling;
- it uses concomitant analysis of the collected data.

However, this method presents some limitations, which are:

- it is not generally used to respond to cause and effect or impact questions⁸;
- costs can be elevated and a large amount of time is involved in its implementation;
- it does not permit generalisations of the conclusions reached for the program taken as a whole, except when the number of cases or situations are big and diversified enough.

Based on its possible applications, this method can be classified in the following manner (GAO, 1990, p. 31-52):

- a) **Illustrative**: it has a descriptive character and aims at adding real and detailed examples to other information about the program;
- b) **Exploratory**: it also has a descriptive character, although it is more appropriate for the engendering of hypotheses that will be investigated afterwards;
- c) **Critical Case**: it examines an especially relevant situation or serves as a critical-test for statements made about the program;

⁶Bold type inserted by TCU. It indicates the key elements in the definition.

⁷Example of a normative question: Is the program achieving the pre-set goals? Example of a descriptive question: How does the program function?

⁸Example of a cause and effect question: Can the observed effects be attributed to the program?

- d) **Program Implementation:** investigates operations, generally in various locations and using a normative approach;
- e) **Effects of the Program:** investigate causal relations, generally examining various cases and utilising data analysis methods derived from qualitative studies (see item 2.2.6);
- f) **Cumulative:** combines findings derived from various case studies to answer an auditing question, whether it is descriptive, normative or of cause and effect.

The selection of the relevant cases is a critical aspect of case study. There are several selection criteria. They are related to the type of question that it shall answer. Since the employment of probabilistic sampling is not generally feasible, the purpose of the study should help determine the choice of the cases.

Frequently, few cases can be dealt with at a time. However, when conclusions for the program as a whole are planned, a larger number of cases should be dealt with so as to reflect its operational diversity. The chart shown below demonstrates the main basis of case selection.

Illustration 6: Instance Selection in Case Study

SELECTION BASIS	WHEN TO USE AND WHAT QUESTIONS IT CAN ANSWER
Convenience	"In this site, selected because it was expedient for data collection purposes, what is happening and why?"
Purpose	
Bracketing	"What is happening at extremes? What explains such differences?"
Best Cases	"What accounts for an effective program?"
Worst Cases	"Why isn't the program working?"
Cluster	"How do different types of programs compare with each other?"
Representative	"In instances chosen to represent important variations, what is the program like and why?"
Typical	"In a typical site, what is happening and why?"
Special Interest	"In this particular circumstance, what is happening and why?"
Probability ^(a)	"What is happening in the program as a whole, and why?"

Source: GAO, 1990, p. 23.

Note inserted by TCU: (a) The probabilistic criteria select cases randomly. However, the selected sample does not need to be statistically representative.

In case study, the information gathering has the following characteristics.

- emphasis on the qualitative aspect of the information, even if the data collected is quantitative;
- the use of non-structured or structured interviews with open questions and of direct observation;
- the use of multiple sources of data.

The principal advantages of case study are summarised as follows:

- it permits a detailed analysis of the program being examined;
- it permits the formulation of hypotheses to be tested in larger studies;
- it makes evident the strong and weak aspects of the operation of the program being examined.

2.2.4.2. Survey

Widely applied in program evaluation and operational auditing, the survey is a methodological strategy that allows the gathering of quantitative and qualitative information related as much to the operational and managerial aspects as to the expected results.

This strategy is often employed in the performance audits carried out by the GAO, the NAO, the OAG and other SAI. Frequently, it is used jointly with case studies as a support for the qualitative analyses made by this latter strategy. In general, it permits:

- to obtain descriptive information from a large population;
- to know opinions and points of view of the beneficiaries or executors of the program;
- to establish causal relationships in particular situations.

Furthermore, the survey is utilised to carry out exploratory studies in the preliminary study stage.

As a structured data collection method, the survey seeks to generalise for the entire population any information obtained from a sample.⁹ To guarantee this generalisation, the sample should reflect the characteristics of the target population. Any deficiency in the sampling technique utilised should be taken into consideration in the interpretation of the result of the survey and be duly reported. In this way, there are the following sources of potential errors (GAO, 1994a, p. 3.33):

- sampling error: if the sample is very small there is a high possibility that it does not reflect the characteristics of the population from which it was taken (statistical techniques can be utilised to estimate the size of the sample and, in this way, to control this type of error);
- non-sampling errors: low response rates, errors in measurement resulting from inadequate instruments or from poorly managed interviews or errors resulting from the absence, in the sample selected, of an important category of respondents (these errors can cause bias in the survey results).

⁹The survey whose subject is all the members of a population is called a census.

The advantages of this strategy can be summarised as follows:

- it permits the collection of uniform data from a large quantity of elements surveyed;
- it permits the generalisation for the population of findings or conclusions obtained from a sample;
- it permits the handling of available data;
- it permits the examination of programs that involve many organisations and institutions;
- it permits the comparison of similar programs developed by other organisations and institutions.

The disadvantages commonly pointed out are the long duration of the surveys and the necessity of knowledge in specific areas, such as research methods, sampling techniques and the elaboration of data collection questionnaires, among others.

In the carrying out of the survey, the uniform collection of data is crucial to make possible the use of statistical techniques. So, structured interviews using open-ended questions or mail questionnaires are employed. These interviews can be conducted face to face or by telephone. The examination of administrative records and direct observation are alternative means of data collection. There are two forms of survey:

- cross section: the gathering of information is done at one point in time;
- panel: the gathering of information is done at two or more points in time;

In the second case it is possible to know the dynamics of the program evaluated and to compare changes in facts, attitudes and opinions. It is also possible to verify if two apparently related factors have a relation of cause and effect.

2.2.4.3. Field Experiment

Field experiment is a methodological strategy that seeks to test hypotheses. Its basic conception corresponds to experiments carried out in the laboratory. It is widely used in health and agricultural surveys.

This strategy is employed when the team plans to identify a causal relationship or, in the case of a program evaluation, when the team wishes to verify the causal relation between the program and the observed effects. For example, when we want to know if a professional training program is in fact increasing the chances of unemployed workers to enter the job market.

Field experiment is considered, therefore, the most adequate strategy to respond to the questions of impact or cause and effect, because it permits the control of the effects that are not attributable to the program, identifying its net results.

In a field experiment, to verify if a program is the cause of a specific effect we select two groups of survey units (people, schools, hospital, etc.):

- the experimental group, which will be exposed to the program;
- the control groups, which will not be exposed.

The differences observed in the results obtained by these groups, after taking the appropriate safeguards, can be attributed to the program.

The procedure explained above requires the random selection of the survey units of both groups. In other words, any unit should have the same odds of belonging to one or to the other group. It aims to strengthen the causal link, guaranteeing that most of the factors that are not treated by the program and that can influence its results are uniformly distributed between the two groups. In this way, only the effects of the program would explain the observed differences.

In the case of the evaluation of a professional training project, the random selection would uniformly distribute throughout the experimental and the control groups the individual characteristics that could increase or decrease the possibility of getting a new job.

Therefore, two characteristics define the experiment:

- the existence of a control group;
- the random designation of survey units for the experimental and control groups.

It is worth noting that the researcher should guarantee that each group will maintain the same composition throughout the experiment in order to preserve its integrity.

In relation to the moment when the selected variables are measured, the experiment can adopt pre and post-tests or only post-tests. In other words, the measurement is carried out before and after the implementation of the program or only after. The two options correspond to the diagrams shown below.

Illustration 7: Diagram of Field Experiment with Pre and Post-Tests

GROUPS	MEASUREMENT PERIODS			
	pre		post	
EXPERIMENTAL	R	O	X	O
CONTROL	R	O		O

Source: FITZ-GIBBON & MORRIS, 1987, p. 56.

Notation: R: random designation;
X: program or treatment;
O: observation.¹⁰

¹⁰According to C. T. FITZ-GIBBON & L. L. MORRIS (1987, p. 55), this notation was conceived by D. T. Campbell & J. C. Stanley, in the work *Experimental and quasi-experimental designs for research*, published in 1966.

Illustration 8: Diagram of Field Experiment with Post-Test

GROUPS	MEASUREMENT PERIODS		
			post
EXPERIMENTAL	R	X	O
CONTROL	R		O

Source: FITZ-GIBBON & MORRIS, 1987, p. 57.

Notation: R: random designation;
X: program or treatment;
O: observation.

The random designation for the experimental and control groups should not be mistaken by an aleatory sampling technique. The first procedure seeks to strengthen the causal inference, guaranteeing the internal validity of the interpretations, while the second one's objective is to generalise the sampling results for the whole population, guaranteeing the external validity of the investigation.

Although field experiment is the most rigorous strategy when dealing with questions that involve causal inference, it is admitted that it will unlikely be used by external control institutions. It is because the random selection requires that the audit teams control the selection process regarding the participants of the program being audited. However, in general, this control is a prerogative of the responsible officials. Even so, the teams should know this strategy, because it functions as a critical reference to evaluate the potential fragility of the causal inferences pointed out by the other strategies.

2.2.4.4. Quasi-Experimental Design

Field experiment involves practical difficulties, as discussed in the previous sub-item, like ethical ones (e. g.: exclusion of a group of potential beneficiaries from the program so that they could operate as a control group). This is why alternative methodological strategies were developed.

There are many situations in which it is not possible to resort to randomisation, but in which there are control groups available. Therefore, the groups of comparison are selected based on availability and opportunity. The strategies used in these cases are less robust than the field experiments. The greater the initial differences between the experimental and control groups, the more ambiguous the conclusions reached will be. To minimise this problem, groups that are as equivalent as possible or, in other words, groups that can be compared to each other should be chosen. In order to guarantee that these groups are equivalents, a pre-test is needed to verify the pre-existent differences and, in this way, to allow the interpretation and the control of the results of the study.

The quasi-experimental designs most cited are:

- non-equivalent groups with pre and post-tests;
- time series with control group;
- time series without control group:

In the first case (**non-equivalent groups with pre and post-tests**), the design has the same characteristics of a field experiment, except for the fact that the groups are not equivalent or, in other words, the groups were not randomly designated. In this case, the pre-test is essential to verify if the control and experimental groups are initially comparable.

The shortcoming of this model is that the selection of the groups presupposes the knowledge of all the relevant variables that can influence the result of the program, which is the objective of the investigation. The diagram for this design is indicated below.

Illustration 9: Diagram of the “Non-Equivalent Groups with Pre and Post-Tests” Design

GROUPS	MEASUREMENT PERIODS		
	pre		post
EXPERIMENTAL	O	X	O
CONTROL	O		O

Source: FITZ-GIBBON & MORRIS, 1987, p. 58.

Notation: X: program or treatment;
O: observation;
Dotted line: non-random designation of the groups.

In the second case (**time series with control group**), several measurements are taken before and after the implementation of the program. This option is adequate when a long-term perspective of the program is needed.

Comparatively speaking, this design is considered more effective than the last one, because it is capable of controlling most of the threats to the internal validity of the investigation. A negative aspect of this design is the large number of measurements to be taken and, consequently, the huge amounts of data that should be analysed.

If the audit team wants to compare two programs, one of the programs will operate as the control group, while the other will operate as the experimental group. The diagram of this design is shown in the illustration below.

Illustration 10: Diagram of the “Time Series with Control Group” Design

GROUPS	MEASUREMENT PERIODS						
	1	2	3		4	5	6
EXPERIMENTAL	O	O	O	X	O	O	O
CONTROL	O	O	O		O	O	O

Source: FITZ-GIBBON & MORRIS, 1987, p. 61.

Notation: X: program or treatment;
O: observation;
Dotted line: non-random designation of the groups.

In the third case (**time series without control group**), the measurement is taken at regular intervals, before and after the implementation of the program, based on

the same group of survey units. The following illustration contains the diagram of this design.

Illustration 11: Diagram of the “Time Series without Control Group” Design

GROUP	MEASUREMENT PERIODS					
	1	2	3	4	5	6
EXPERIMENTAL	O	O	O	X	O	O

Source: FITZ-GIBBON & MORRIS, 1987, p. 58.

Notation: X: program or treatment;
O: observation.

By graphically laying out the collected data, it can be verified if the program, upon being implemented, caused any alteration in the observed trends or, in other words, whether or not there was an impact on the population. In this case, the fragility of the design lies in the fact that the external variables of the program (context variables) are not controlled, making it impossible to isolate the effects attributable to the program.

Regardless of whether the time series has a control group or not, the measurements can be done by two different modalities:

- with the same survey units (longitudinal time series);
- with the same type of survey units - in other words, at each measurement the survey units may not be the same, but should have the same characteristics (time series of successive groups).

2.2.4.5. Non-Experimental Design

Many times it is impossible to use even quasi-experimental designs. In this case, the non-experimental designs most employed are:

- before and after;
- only after;
- only after with comparison group.

The inherent fragility of these designs is the lack of control over alternative explanations. In other words, the observed changes may have been caused by variables not related to the program. Even so, when the data gathering is carefully done, these designs may provide valuable information on the program being audited. Notwithstanding, they present considerable problems when the objective is to judge the performance of a program or to determine to what extent the results obtained can be attributed to it. Therefore, when dealing with a program evaluation, these designs should be supported by other methodological strategies.

The “before and after” design works only with the target population of the program, taking two measurements, one before and another after the implementation of the program, as the following diagram illustrates.

Illustration 12: Diagram of the “Before and After” Design

GROUP	MEASUREMENT PERIODS		
	pre		post
EXPERIMENTAL	O	X	O

Source: FITZ-GIBBON & MORRIS, 1987, p. 62.

Notation: X: program or treatment;
O: observation.

Once there is only one group to be monitored, the greatest possible amount of information should be sought, in addition to a detailed description of the program, of its operational characteristics and of its theoretical basis.

Another way to minimise the fragility of this design is to separate the information by category and to examine in what manner the program affected the survey units with different characteristics. In this way, it is possible to know for what type of unit the program seems to function better or worse. Two types of statistical treatment can be used in this situation:

- to compare the average results from various categories using statistical tests;
- to check the correlation between the characteristics and the observed results.

The second type of non-experimental design (**only after**) is even more limited than the former and consists of taking only one measurement after the implementation of the program. It is recommended only in cases in which it is possible to reconstitute the situation of the beneficiaries before the program through prior studies or interviews with the participants. In the last case, it is important to consider that retrospective data is not always reliable, since the beneficiaries tend to distort information about the past, normally trying to maintain coherence with the present situation.

The third type (**only after with comparison group**) is basically the former version strengthened by information from a comparison group whose participants should be as similar as possible to the beneficiaries of the program being evaluated. Since in this case, unlike quasi-experimental designs, it is not possible to use data of a pre-test, it is especially difficult to distinguish the pre-existing differences between the groups.

2.2.4.6. Use of Existing Data

The methodological strategies analysed up to this point have been almost always about the gathering of new data by the audit team. Since data collection is an expensive and time-consuming procedure, the possibility of the use of already existing data should be considered (see item 2.2.5).

The sources of available data, whether they are existing management systems or former research, should have been identified in the preliminary study. Depending on the question to be investigated, these sources can provide relevant and sufficient material for the development of the work.

To conclude, it is fundamental to take into account that any problem related to the use of this data and its possible limitations should be reported in the final conclusions of the audit report.

2.2.5. Data Collection Methods

Once the methodological strategy to be used has been defined, the data collection method to be adopted should be specified in the Design Matrix. The methods more commonly used are interview, mail questionnaire, direct observation and the use of secondary data.

When the option for a data collection method is being made, the convenience of using either structured or non-structured instruments should first be considered. Among the advantages of a structured instrument of data collection, the following are highlighted (GAO, 1994a, p. 3.36):

- it reaches a larger number of people;
- it makes the comparison of responses possible;
- it allows statistical analysis;
- it makes the generalisation of conclusions possible in the case of aleatory samples.

The disadvantages normally pointed out are (GAO, 1994a, p. 3.37):

- its development and pre-test are time consuming;
- it requires specialised knowledge;
- it is difficult to guarantee the accuracy of the information given.

Structured interviews allow greater control over the quality of the data collected when compared to the mail questionnaires. The use of this type of interview should be considered if at least one of the circumstances listed below is verified (GAO, 1994a, p. 3.38):

- the interviewee should be identified;
- the interviewee has a low educational level;
- the reaction of the interviewee should be observed;
- the questions deal with sensitive or complex subjects that need to be clarified;
- the order of the questions should be controlled.

Nevertheless, administrative restraints can make the use of **mail questionnaires** advisable. They have the following advantages (GAO, 1994, p. 3.38):

- low cost;
- there is no need for interviewers and training;
- there is no need to dislocate personnel;
- information from a large and dispersed sample can be obtained.

Direct observation is a widely used method in scientific investigation, especially in anthropological studies. It is a valuable source of information for operational audits and program evaluations. This method requires specific training and preparation

(e.g.: field annotation techniques) as well as the capacity of concentration and of selective perception. The trained observer should be able to verify the exactness, validity and reliability of the information collected.

It is also widely used in qualitative program evaluations, such as case studies. The advantages of this method can be summarised as follow (PATTON, 1987, p. 72-4):

- it allows the observer to understand the context in which the activities of the program are developed;
- it allows the observer to use an intuitive approach (on witnessing the facts, the impressions and opinions of the observer will be less dependent on any preliminary perception regarding the program);
- it allows a trained observer to perceive aspects that might escape the participants who are routinely involved in the program;
- it can capture aspects of the program which the participants do not wish to talk about in an interview owing to their sensitive or embarrassing nature;
- it brings out the observer's own perceptions for analysis, which, when confronted with the perceptions of the interviewees, provide a more complete picture of the program being studied;
- it permits the observer to form impressions that even the most detailed field annotations can not register and that may help in comprehending the program and its participants.

The use of secondary data or, in other words, of data collected for other purposes, requires special care on the part of the audit team. Among the questions to be raised, the following are highlighted (ANAO, 1992, p. 103):

- What type of data is available? Is it adequate to the question you plan to investigate?
- Is the data complete and is the time period covered sufficient for analysis?
- How is the data stored? What are the shortcomings of the storage method employed and how difficult is to get the data?
- What data collection activities are regularly carried out? Was a data collection carried out with a specific purpose?
- Are there other relevant data sources for the theme that is being investigated?

The relationship that exists between the data collection methods mentioned above and the methodological strategies are demonstrated in the following illustration.

Illustration 13: Synopsis of Methodological Strategies

METHODOLOGICAL STRATEGY	TYPOLOGY	METHOD OF SELECTION OF THE SAMPLE	DATA COLLECTION METHOD
Case Study	<ul style="list-style-type: none"> • illustrative; • exploratory; • critical case; • program implementation; • effects of the program; • cumulative. 	<ul style="list-style-type: none"> • convenience; • purpose; <ul style="list-style-type: none"> ⇒ bracketing; ⇒ best cases; ⇒ worst cases; ⇒ cluster; ⇒ representative; ⇒ typical; ⇒ special interest. • probability. 	<ul style="list-style-type: none"> • interview; • mail questionnaire; • secondary data; • direct observation.
Survey	<ul style="list-style-type: none"> • cross sectional; • panel. 	<ul style="list-style-type: none"> • probability. 	<ul style="list-style-type: none"> • mail questionnaire.
Field Experiment	<ul style="list-style-type: none"> • with pre and post-tests; • with pre-test. 	<ul style="list-style-type: none"> • probability or not. 	<ul style="list-style-type: none"> • test; • mail questionnaire.
Quasi Experimental Design	<ul style="list-style-type: none"> • non-equivalent groups with pre and post-tests; • time series with control group; • time series without control group. 	<ul style="list-style-type: none"> • probability or not. 	<ul style="list-style-type: none"> • test; • mail questionnaire; • secondary data.
Non-Experimental Design	<ul style="list-style-type: none"> • before and after; • only after; • only after with comparison group. 	<ul style="list-style-type: none"> • probability or not. 	<ul style="list-style-type: none"> • test; • mail questionnaire; • secondary data.
Use of Existing Data	—	<ul style="list-style-type: none"> • probability or not. 	<ul style="list-style-type: none"> • secondary data.

2.2.6. Data Analysis Methods

Data analysis method means the way the collected data is organised as well as the way the relationships between the variables that were selected to respond to the auditing questions are established. The description of this method is a fundamental part of the Operational Auditing/Program Evaluation Plan and should, therefore, be included in the Design Matrix.

Generally, the data analysis method is an interactive procedure or, in other words, a preliminary approach defined in the planning phase that is refined as the audit progresses.

The method used to organise the gathered information varies according to procedures adopted in the data collection.

In the case of mail questionnaires or structured interviews, a database can be generated and the collected information can be **handled statistically**. Currently, information technology made these tasks much easier, as much in terms of calculation, as in terms of graphic representation.

In the case of open interviews, field notes or printed material, such as reports, case studies or surveys, the team will cope with a huge volume of information that should be systematised before being interpreted. In this situation, the **content analysis method** should be adopted. It consists of a set of procedures that put the information in a standard format, allowing the team to make inferences on the basis of the characteristics of the written or recorded material.

The essence of the content analysis method is the specification of analysis categories, created from the identification of themes, standards or variables related to the auditing question. The textual information is then organised based on the predefined categories. This procedure does not follow a rigid pattern and depends on the creativity, intuition and experience of the audit team to identify what is relevant and significant in the gathered information. Simple formats, in order to summarise information or to count the frequency of determined items of analysis, or complex ones, in order to find subtle trends, tendencies or variations in the collected information, can be developed.

The minimum requirements for the creation of codified categories are listed below (GAO, 1989, p. 12):

- the categories should be complete in such a way that all information considered relevant in the material studied can be classified in the predefined categories;
- the categories should be mutually exclusive or, in other words, no item of analysis can be classified into more than one category.

Although content analysis is widely used in qualitative studies, such as case studies, the analysis categories can be codified and the data collected can be handled statistically.

Regarding qualitative studies, there are others data analysis methods, which are (PATTON, 1987, p. 155-64):

- a) **Triangulation:** the use of different research and/or data collection methods to study the same questions to strengthen the final conclusions. This method can assume the forms indicated below:
 - to collect data from different sources about the same question;
 - to utilise different interviewers and field researchers in order to avoid any bias in data collection;
 - to utilise multiple research methods to study the same question;
 - to utilise different theories to interpret the data collected.
- b) **Specific techniques for the handling of data involving multiple situations** (category matrix, graphic presentation of the data, table of the frequency of different events, chronological organisation of the data to analyse the time series and complex tables to check relationships).
- c) **Alternative interpretations:** once an interpretation has been formulated based on the principal relationships identified by the analysis, alternative interpretations should be sought; if no substantial evidence is found that supports these interpretations, the reliability of the originally formulated interpretation will be reinforced.
- d) **Negative case:** related to the previous item, it seeks to identify the situations that do not follow the main tendency or, in other words, the exceptions that confirm the rule and that help to clarify the limits of the principal interpretation.

The effectiveness of the procedures described above are firmly based on the intellectual honesty of the investigator, who should apply the same effort employed in the formulation of the principal interpretation when seeking negative cases or evidence that support the alternative hypotheses.

2.2.7. Constraints

When coping with this element of the Design Matrix, the audit team should specify the limitations of the methodological strategy adopted, the characteristics of the information that it plans to collect and the operational conditions of the work.

Regarding the methodological strategy, it should be considered that there is not an ideal strategy, but only one that, given the circumstances, is better to the question being investigated.¹¹ So, although a field experiment has prestige, symmetry and explicatory power, the quasi-experimental design has the unmatched virtue of being doable. This perspective is reinforced by the fact that it is not essential to avoid all the possible threats to validity. It is more effective to control only the probable sources of error in a given situation or, in other words, the audit team should be aware of the alternative

¹¹ Some authors, such as G. W. Fairweather, S. Raizen and A. Rossi, consider the studies that utilise methodological strategies that permit the investigator to make causal affirmations, in opposition to the correlation analysis, qualitatively superior. However, this criteria to evaluate the quality of a job has been questioned by other scholars, such as L. J. Cronbach and C. H. Weiss, who consider that a good study should be technically adequate and useful. See L. J. CRONBACH (1983, p. 22-30) for a discussion about this theme.

interpretations that the methodological strategy employed leaves open, seeking through analysis to refute them.

Therefore, when choosing a methodological strategy, the inherent limitations regarding its explicatory power or the possibility of generalising the results of the study should be pointed out.

As for the information that the audit team plans to use in the analysis, the problems expected to be found in relation to the accessibility of the data and to its quality and reliability should be mentioned. The operational restraints that could jeopardise the final result of the work, involving the availability of human and/or material resources, should also be specified.

2.2.8. What the Analysis Will Allow Us to Say

This element of the Design Matrix is intrinsically related to the previous element, since what is expected to be obtained from the analysis naturally depends on the previously identified limitations.

The purpose of this information is to re-establish the original subject of the auditing question or, in other words, to clarify which conclusions or results should be drawn by the methodological strategy adopted.

It should be recorded, for example: if the conclusions reached will answer the auditing questions entirely; if it will be possible to make conclusive affirmations about the subject of the audit; and if the conclusions will be limited to the cases examined or if it will be possible to generalise them. These clarifications are necessary in order to learn, while still in the planning phase, what can be expected from the effort that will be employed by the team and from the resources that will be allocated in the development of the work.

2.3. Execution

The following step of performance auditing involves the development of fieldwork based on the Operational Auditing/Program Evaluation Plan discussed in the previous section and the elaboration of the Final Report.

To guarantee the good quality of fieldwork and of the Final Report, it is essential that the audit team have a complete knowledge of its responsibilities and of the objectives of its job. In this sense, the role of the team Co-ordinator is crucial in the distribution of tasks and in the supervision of the work. Consequently, it is the Co-ordinator's responsibility to hold periodic meetings with the team in order to discuss the problems that have arisen during the fieldwork and the changes that have to be made in the Design Matrix.

It is important to remember that, unlike a compliance audit plan, which follows a reasonably stable and consistent standard, the Operational Auditing/Program Evaluation Plan is specific for each audit. So, it can be revised and adapted as the fieldwork is developed.

In this way, the Design Matrix should be considered a dynamic instrument, which allows the team to visualise the logical framework of the assignment. It may be

modified whenever necessary to guarantee that the objectives of the audit will be reached and that the appropriate evidence will be obtained.

2.3.1. Development of Fieldwork

The identification of the audit findings and of the corresponding effects begins, many times, in the planning phase, when the questions that will be investigated are being selected. The evidence found in the preliminary study (potential findings) is, therefore, examined in more detail during the fieldwork.

In **program evaluations**, the analysis should look for evidence related to the effects brought about by the implementation of the program being examined. According to the logical scheme proposed in item 2.2.4, the situation found after the implementation of the program (condition) should be compared with the impact expected (criteria).

Another fundamental aspect in the analysis of impact questions is the search for plausible evidence that invalidates alternative interpretations, guaranteeing that the effects observed were effectively caused by the program (cause).

In **operational audits**, the evidence collected is compared with the audit criteria previously selected and identified by the team. The differences observed constitute the audit findings.

Once the audit finding is established, the verification of the effects and the identification of the causes of the performance observed should be carried out. Usually, these procedures are only concluded at the end of the fieldwork. However, owing to the complexity of the subject being examined and to any evidence found later, the analysis can be extended until the report phase, when the team should arrive at a final decision regarding the findings.

Any effect associated with an audit finding should, whenever possible, be measured. In the case, for example, of anti-economic processes, poorly planned acquisitions or unproductive equipment, the effects can be estimated in monetary values. The effects of inefficient procedures, idle resources or deficient management can be measured, by their turn, in terms of lost deadlines and physical resources wasted. On the other hand, the qualitative effects should also be mentioned, such as the absence of control, the inadequacy of the decisions or the low quality of the goods or services offered. The effect should demonstrate the necessity of corrective action. It could have already happened, can be happening at the moment of the audit or may happen in the future.

The cause of an audit finding is the basis for the recommendations. If there are multiple causes for the same finding, the team should identify the cause that, if modified, can prevent similar situations. It should also be considered that the cause identified might be out of the control of the responsible officials. So, the focus of the recommendations may transcend the subject of the audit.

The recommendations that seek to improve the administrative or operational performance are the most important aspect of performance audits. Although the required improvements, and not the means to reach them, constitute the focus of the recommendations, it is proper that team indicates which aspects should be examined by the responsible officials in his/her search for a solution. Therefore, it is not enough to

declare that a program management requires improvement. Alternative actions should be indicated.

When formulating recommendations, the team should estimate the resulting net savings of resources, specifying the aggregate value and benefits of the performance auditing. This estimate will reinforce the necessity of change in the administrative or operational procedures. The difficulties in quantifying the potential benefits vary according to the type of benefit. However, in many cases, the financial impacts can be estimated with reasonable security.

2.3.2. Pilot Test

Many times, the complexity of the subject of the audit and the lack of precise information regarding it can jeopardise the result of a performance auditing. In this case, the team should consider the convenience in carrying out a pilot test. It should permit the verification of the robustness of the methodological strategy proposed and of the initial premises regarding the operation of the subject being audited as well as of the quality and reliability of the data that will be gathered.

The team should choose a location or aspect of the subject of the audit that presents potential difficulties for the carrying out of the work to conduct the pilot, permitting the team to anticipate the problems that it might confront. In addition, the data collected will allow the team to adjust the size of the sample and to certify that the selected methodological strategy will offer a conclusive response to the auditing question.

Therefore, the carrying out of a pilot test not only justifies itself, but is also highly recommended in the case of highly complex and high cost audits, because it reduces the uncertainties and increases the chances that the audit will reach the desired level of quality at the lowest possible cost.

2.3.3. Final Report

The Performance Auditing Report is the final product of the team's assignment. After being analysed by the competent administrative levels, it will be appreciated by the Responsible-Minister. Therefore, it is crucial that the team makes sure that the final result meets the desired standard of technical quality. In the same way, it is recommended that each topic or paragraph of the report begins with the main idea. Afterwards it should be developed in a logical and coherent way, avoiding the use of excessive adjectives and of interconnected phrases. Technical terms that make the comprehension of the text difficult should also be avoided (when indispensable, they should be explained).

The Performance Auditing Report should have the following structure:

- 2.3.3.1. Table of Contents;
- 2.3.3.2. Summary;
- 2.3.3.3. Introduction;
- 2.3.3.4. Main Chapters;
- 2.3.3.5. Responsible Officials' Comments;
- 2.3.3.6. Conclusion;
- 2.3.3.7. Matters for the Court's Consideration;
- 2.3.3.8. Appendixes.

2.3.3.1. Table of Contents

Attention should be given to the elaboration of the table of contents, which should allow the reader to have a general picture of the content of the report. Therefore, the choice of the titles of the chapters and sections should be done in a way that provides a clear indication of the subject examined. Furthermore, the table of contents should show that the information is logically connected. So, even though each chapter can be read independently, they should still form an integrated whole.

It is worth mentioning that the appendixes, containing, for example, glossaries, tables, graphics, illustrations and other documents or information necessary for the formulation of the arguments and conclusions of the report, should also be referenced in the table of contents.

2.3.3.2. Summary

The summary is a brief description of the key elements of the report, such as the objective and scope of the audit, principal findings and recommendations.

The purpose of the summary is to give the reader a concise picture of the theme investigated, of the principal findings or problems identified and of the recommendations made. Consequently, it is a text with the characteristics of an executive summary, which can be published on a large scale if the Responsible-Minister so chooses.

2.3.3.3. Introduction

The introduction should include background, objectives, scope and methodological strategy of the audit.

a) Background

The audit team should specify the nature of the subject of the audit and mention, when it is the case, any previous inspection of the subject in question. It is also wise to give a detailed description of the subject audited to permit the reader to understand its relevance and its principal characteristics.

b) Objectives and Scope of the Audit

The objectives of the audit, explained by the auditing questions, should be clearly stated to permit an evaluation of the results reached by the work. In describing the objectives and the scope of the audit, the team is, at the same time, defining the limits of the work developed and specifying the themes, the institutions, the systems or the aspect that were audited. Furthermore, whenever the team finds it convenient, in order to avoid ambiguity, the specific aspects that were not approached by the audit should be mentioned.

When informing about the audit scope, the team should mention the amplitude of the work, specifying, when appropriate, the relationship between the subject of the audit taken as a whole and the units effectively examined. The organisations and locations visited and the period covered by the audit should also be identified.

c) Methodological Strategies

The team should indicate the methodological strategies as well as the analysis and data collection methods employed, describing how they were used.

When dealing with an operational auditing, it is fundamental to indicate the procedures adopted to establish the audit criteria as well as the methods used to collect evidence and to define the findings and recommendations.

Whenever statistical methods or other quantitative approaches of data analysis are used, these methods should be duly detailed. In the same way, if the findings and conclusions are based on the examination of a sample, the team should report about the sampling technique used and justify its selection.

Finally, the restraints imposed on the audit work associated with the reliability or with difficulty in obtaining data as well as the limitations related to the scope of the work itself should be mentioned.

2.3.3.4. Main Chapters

The report can be organised in several ways. One of them is to discuss each auditing question in a specific chapter. Another option is to structure the chapters in a logical sequence based on the administrative, geographical or functional organisation of the subject of the audit. Regardless of the option adopted, the chapters should be ordered in a way that facilitates the reading and comprehension of the subject matter.

a) Introduction

Each chapter should have, as an introduction, a brief description of the subject discussed, containing the main ideas, conclusions or findings that will be developed in more detail in the subsequent paragraphs. Whenever possible, the subjects of the same nature should be grouped together and presented in a logical sequence.

b) Presentation of the Findings and Recommendations

The rest of each chapter should be dedicated to the detailed exploration of the points presented in the introduction, ending with the pertinent recommendations.

The observed causes of poor performance should be pointed out, indicating those linked to the operation or to the conception of the subject of the audit as well as, when it is the case, those that are out of the control or influence of the responsible officials. Therefore, it is necessary to include an analysis of the evidence employed to establish the causes.

In the same way, findings and recommendations should be supported by evidence. It is vital that a distinction between facts and opinions be made.

The chapters should be developed in a way that allows the reader to follow the logic of the arguments and the reasoning that supports the findings without being tedious

or repetitive. The excess of information or detail should be avoided, seeking to maintain a balance between precision and clarity. If there is a necessity for more detail, the appendix should be used.

2.3.3.5. Responsible Officials' Comments

In order to allow the responsible officials to add the comments that they find pertinent to the comprehension of the questions presented in the report, it is recommended that the team sends to them a preliminary version of the main conclusions of the audit. This should be done by an official document to be replied to in a period of time considered convenient by the team, according to the complexity of the theme. The response received will be analysed by the team and recorded in the proper chapter of the Final Report.

2.3.3.6. Conclusion

The objective of the conclusion is to offer a global and synthetic view of the aspects discussed in each chapter in order to obtain a comprehensive picture of the principal findings and appropriate recommendations.

The plausibility of the recommendations made should be the subject of a discerning analysis on the part of the audit team. The team should also examine the impact of the problems identified and how its recommendations can bring about improvements, quantifying, whenever possible, the potential effects on the cost and on the performance of the subject of the audit.

It is suggested, when appropriate, that the team adopts a positive approach, being aware of the difficulties faced by the responsible officials and highlighting the important initiatives outlined by him to improve the performance and to overcome the deficiencies pointed out.

Finally, the team may include in the report any issue not related to the objectives of the audit that they consider relevant, so that it can be examined at a later time.

2.3.3.7. Matters for the Court's Consideration

Based on the findings and recommendations presented in the report, the team should formulate a proposition, summarising the recommendations and, when appropriate, the determinations that, according to the team's judgement, should be validated by the Court. The team should indicate the sections that discuss the findings and recommendations that support the proposed recommendation.

2.3.3.8. Appendixes

The appendixes should include any detail necessary for the understanding and supporting of the arguments presented whose insertion in the main body of the text would harm the flow of the exposition.

ANNEX I

GENERAL ORIENTATION TO THE
PRELIMINARY ANALYSIS
OF THE SUBJECT OF THE AUDIT

GENERAL ORIENTATION FOR THE PRELIMINARY ANALYSIS OF THE SUBJECT OF THE AUDIT

This annex seeks to help the audit teams in the identification of the most relevant information for the preliminary analysis of the subject of the audit. Naturally, it is up to the teams, in light of the time and resources available, to decide upon the extent and the level of detail of the data that will be collected. Furthermore, the description presented below does not cover all the possible aspects of the governmental organisations, institutions, programs, projects and activities, whose peculiarities should be carefully studied by each team.

I.1. Background

I.1.1. Legal Basis

The legal basis that created the subject of the audit and regulates its operation is a primary source of information and allows, generally, the identification of the scope, of the general objectives, of the sources of financing and all other formal characteristics of the subject.

The information related to the discussion phase of the bill, which can be obtained in the responsible Parliamentary Commission, can point out divergent conceptions about the subject being audited, which could subsidise the analysis of the team in relation to, for example, its theoretical basis, the possible operational alternatives or the plausibility of the proposed objectives.

Identify:

- specific legislation:
 - the organisation or political party that had proposed the bill;
 - conflicting proposals;
 - aspects of the bill that prevailed;
 - aspects of the bill that were abandoned or modified.

I.1.2. Institutional Background

The information regarding the institutional history of the subject of the audit places it within the bounds of the governmental priorities and allows the identification of critical aspects or difficult points that have been or will be confronted.

Identify:

- the creation date;
- previous denominations;
- the origin and evolution of the resources;
- the governmental organisations, institutions, programs, projects and activities that operate in the same area;
- previous evaluations:
 - initiative;

- responsible officials;
- aspects evaluated;
- principal conclusions;
- unexpected effects;
- significant changes in the subject being audited:
 - objectives;
 - target population;
 - goals;
 - extent;
- position in relation to the governmental priorities.

I.2. Planning

I.2.1. Guidelines

The actions implemented by the subject of the audit should be consistent with the theoretical basis and values that had laid the foundations of its creation. If the guidelines are not documented, they should be obtained from the responsible officials or technical staff, in order to permit a better understanding of the relationship between cause and effect implied in the conception of the subject being audited.

Identify:

- principles or doctrines present in the creation of the subject of the audit;
- analysis of cost-benefit or cost-effectiveness that gave support to the decision to implement the subject;
- declared guidelines;
- implicit guidelines;
- the technical staff's level of awareness of the guidelines (explicit or implicit).

I.2.2. Priorities, Objectives and Goals

The actions developed by the subject being audited should be logically related to its goals and objectives. Therefore, the clear identification of the subject's priorities, objectives and goals is a fundamental fact-finding step.

Identify:

- preliminary study that gave support to the creation of the subject being audited;
- researches, technical reports or specialist's opinions:
 - specific necessities pointed out;
 - relationship between the priorities pointed out and the goals and objectives defined;
- explicitly stated objectives:
 - objectives related to the actions developed (what will be carried out);
 - objectives related to the intended results (effects on the target population);
- the most important goals and objectives;
- how the time is allocated among the objectives;
- the plausibility of the goals and objectives.

I.2.3. Monitoring

The monitoring of the subject of the audit, an essential management responsibility, should establish standards of performance that allow systematic evaluations to be carried out. The parameters of performance should satisfactorily reflect the general objectives of the subject being audited and serve as a basis for management decisions.

Verify:

- units of performance measurement used on a regular basis;
- adequacy of the units of performance measurements in relation to the objectives;
- level of performance considered adequate for each goal or action;
- other types of performance measurement.

I.3. Target Population

When appropriate, a detailed description of the target population of the subject of the audit should be obtained.

Identify:

- clientele of the subject being audited;
- selection criteria of the beneficiaries;
- significant differences between participants and non-participants;
- characteristics of the clientele related to the impact of the subject of the audit;
- groups not affected by other governmental organisations, institutions, programs, projects and activities that can be used for comparisons.

I.4. Actuation Environment

I.4.1. Political-Social Context

The political-social context of the actuation of the subject being audited is an important source of information to understand its operation.

“While such information is unlikely to appear in formal evaluation documents, only a naive evaluator works without an awareness of the political context – and does so at his or her own risk and at the risk of the evaluation.” (KING, 1997, p. 28).

Identify

- studies carried out by third parties;
- impact in the media;
- groups or organisations that support the actions of the subject of the audit;
 - motivations and intentions involved;
- individuals, groups or organisations that criticise the actions of the subject being audited:
 - main criticisms;
- principal sources of resistance to the actions of the subject of the audit on the part of:
 - the managers;

- the executors;
 - the target population;
 - the community in general;
- interest groups that operate in the environment of the subject being audited:
 - influences on the development of the subject being audited;
- communication channels between the subject of the audit and other organisational instances:
 - internal;
 - external;
- personnel or institutional difficulties that jeopardise communication inside the subject being audited.

I.4.2. Social-Economic Characteristics

Regional differences can explain significant variations in the operation of governmental organisations, institutions, programs, projects and activities.

Identify:

- in which regions the subject of the audit was implemented;
- social-economic characteristics of these region;
- relevant differences between these regions, including cultural differences.

I.5. Operational Characteristics

The description of the inputs and of the functioning of the subject being audited is a basic task of the preliminary study. It is essential to understand how the actions are being developed and to measure the efficiency and economy of the managers.

I.5.1. Human Resources

Identify:

- the parties responsible for the execution of the services;
- existence of own personnel;
- composition of the personnel in terms of:
 - academic and professional background;
 - technical functions of direction and of support;
 - salaries;
- hiring selection procedures;
- difficulties to fill specific positions;
- training activities;
- level of personnel motivation and engagement;
- employee turnover rate.

I.5.2. Financial Resources

Identify:

- principal cost items;
- developmental, implementation and operational costs;
- unit and/or per capita costs;
 - basis of calculation.

Describe:

- financial condition;
- management situation.

I.5.3. Physical Resources

Describe:

- characteristics of the physical facilities;
- equipment available.

Verify:

- the adequacy of the resources available in relation to:
 - the clientele;
 - the objectives of the subject of the audit.

I.5.4. Functioning

Describe:

- actions developed;
- the evolution of the actions in time and space (regional variations).

Identify:

- monthly or yearly cycles that affect the actions of the subject being audited.

I.6. Constraints

The technical quality of an audit should not be measured only by its capacity to conclusively respond to cause and effect questions. A good audit will take into consideration the existing limitations. In other words, *“... the technical quality of a study or method can be determined by the comparison between what was done and what was possible to do.”* (GAO, 1991, p. 8)

Verify:

- accessibility of the information regarding the subject of the audit:
 - computer processed databases;
 - central files;
 - decentralised files;
 - other means;
- data collection routines and procedures employed;
- policy regarding confidential information and access to the people, records and locations related to the subject being audited;
- availability of relevant groups or individuals for obtaining information;
- estimated timeframe;
- availability of human, physical and financial resources.

ANNEX II

DESIGN MATRIX MODEL

DESIGN MATRIX MODEL

PROBLEM: State in a clear and summarised manner the aspect to be focused on by the audit according to the preliminary study.

AUDITING QUESTION	INFORMATION REQUIRED	INFORMATION SOURCES	METHODOLOGICAL STRATEGIES	DATA COLLECTION METHODS	DATA ANALYSIS METHODS	CONSTRAINTS	WHAT THE ANALYSIS WILL ALLOW US TO SAY
<p>Specify the key terms and the scope of the question:</p> <ul style="list-style-type: none"> • period covered; • target population; • geographic area. 	<p>Identify the information needed to answer the auditing question.</p>	<p>Identify the sources of each item of information.</p>	<p>Specify the comparisons to be made and the sampling techniques to be used:</p> <ul style="list-style-type: none"> • case study; • survey; • field experiment; • quasi-experimental design; • non-experimental design; • use of existing data. 	<p>Specify the collection methods to be employed, which are:</p> <ul style="list-style-type: none"> • interviews (structured or non-structured); • mail questionnaire; • direct observation; • secondary data. 	<p>Specify the techniques to be used in the analysis of the data, which are:</p> <ul style="list-style-type: none"> • descriptive statistics; • qualitative analysis; • content analysis; • others. 	<p>Specify the limitations related to:</p> <ul style="list-style-type: none"> • the methodological strategy adopted; • the quality of the information; • the operational conditions of the work. 	<p>Clarify precisely which conclusions or results can be reached through the methodological strategy adopted.</p>

GLOSSARY

Activity: an action not time limited, generally repetitive, which generates a determined product (goods and services).

Closed Question: the possible answers are predetermined.

Correlation: interdependence between two groups of variables, such as when one variable changes and another changes in the same way (positive correlation) or in the opposite direction (negative correlation).

Descriptive Questions: questions that seek to describe in detail the specific conditions of implementation of the program, examining its origin, history, established objectives, operational context, resources allocated and performance reached as well as identifying potential problems and areas in which the program can be amplified, modified or improved.

Direct Observation: data collection method in which the researcher utilises his/her own senses (touch, vision, smell and hearing) to obtain information.

Economy: the minimisation of the costs of the resources used in the development of an activity, keeping steady the quality standards.

Effectiveness: relationship between the results (observed impacts) and the objectives (expected impacts).

Efficacy: degree of success of the planned goals in a determined period of time, independent of the costs involved. It can be represented by the following equation:

$$E_c = \frac{M_R / T_R}{M_P / T_P} = \frac{M_R \cdot T_P}{M_P \cdot T_R}, \text{ where: } \begin{cases} E_c = \text{Efficacy;} \\ M_R = \text{Goal Reached;} \\ T_R = \text{Time Used to Obtain } M_R; \\ M_P = \text{Planned Goal;} \\ T_P = \text{Time Planned to Obtain } M_P. \end{cases}$$

Conclusions:¹²

- if $E_c > 1$, efficacy better than expected;
- if $E_c = 1$, efficacy identical to that expected;
- if $E_c < 1$, efficacy below than expected.

¹²The validity of the conclusions will depend on the validity of the programming data that will serve as a parameter.

Efficiency: relationship between the products (goods and services) created by an activity and the costs of the inputs employed in a determined period of time. The result expresses the unit cost of the final product in a given period of time. Analogous to the concept of efficacy, the degree of relative efficiency of a program, project or activity can be established by comparing it to the planned goals and costs or to data derived from other initiatives that seek the same objectives. In this last case, only initiatives that, beyond the objectives, have the same program characteristics can be compared. It can be represented by the following equation:

$$E_f = \frac{M_R / T_R \cdot C_R}{M_P / T_P \cdot C_P} = \frac{M_R \cdot T_P \cdot C_P}{M_P \cdot T_R \cdot C_R} = E_c \cdot \frac{C_P}{C_R}, \text{ where: } \begin{cases} E_f = \text{Efficiency;} \\ C_R = \text{Real Cost;} \\ C_P = \text{Planned Cost.} \end{cases}$$

Conclusions:

- if $E_f > 1$, efficiency is better than expected;
- if $E_f = 1$, efficient;
- if $E_f < 1$, inefficient.

Evidence: information gathered during an audit to support the findings, opinions and conclusions of the team. It may be classified as physical, oral, documentary or analytical.

External Validity: extent to which the conclusion of a study can be applied to people, contexts or periods that have not been the subject of the investigation.

Internal Validity: extent to which a study is capable of establishing a relation of cause and effect.

Mail Questionnaire: data collection method sent through the mail made of an ordered series of closed questions.

Measurement: procedure utilised to associate a number to a specific event.

Net Results or Impact: the modifications in the subject of the governmental action that can be attributed exclusively to the program. This requires the elimination of any external effect, which can be done by means of a field experiment or its adaptations.

Non-Structured Interview: type of interview that, being less formal than the structured interview, permits the interviewer to explore a subject more thoroughly. Generally it uses open questions.

Normative Questions: questions that seek to verify the program results through comparison with the expected performance, as foreseen in a specific law or planning instrument.

Open Question: there are not predetermined responses.

Program: set of projects and activities that concur for the same objectives.

Project: planned enterprise integrated by a group of interrelated and co-ordinated actions that seeks to reach specific objectives within the limits of a given budget and of a given period of time.

Qualitative Approach: methods used in the fields of cultural anthropology and ethnography that have as a characteristic the construction through in depth interviews and direct observation of an holistic view of the theme or phenomenon investigated.

Qualitative Data: information expressed in the form of words.

Quantitative Approach: statistical methods used to identify and explain behavioural patterns or relationships between variables.

Quantitative Data: information expressed in the form of numbers.

Structured Interview: type of interview in which the questions are predetermined, following a pre-established pattern. It is applied to selected people and provides comparable answers. So, any observed difference will reflect differences among the respondents and not in the way the questions were formulated.

BIBLIOGRAPHY

- 3ª SECEX (1997). **Relatório de auditoria operacional no programa de levantamento da plataforma continental brasileira (LEPLAC) e no programa de avaliação do potencial sustentável de recursos vivos na zona econômica exclusiva (REVIZEE)**. [*Report of the operational auditing on the preliminary research program on the Brazilian continental platform (LEPLAC) and on the evaluation program on the sustainable potential of live resources in the exclusive economic zone (REVIZEE)*]. Brasília. Mimeographed.
- ANAO (1992). **Performance auditing**. Canberra.
- BID (199-). **Marco lógico para el diseño y conceptualización de proyectos**. [*Logical framework applied to the design and conception of projects*]. [W.I.].
- CAMPBELL, Donald (198-). Quasi-experimental studies: effects of television. In: OSKAMP, Stuart (Ed.) **Applied social psychology**. Englewood Cliffs : Prentice-Hall. p. 98-123.
- COHEN, Ernesto; FRANCO, Rolando (1994). **Avaliação de Projetos Sociais**. [*Social Projects Evaluation*]. Petrópolis : Vozes
- CRONBACH, Lee J. (1983). **Designing evaluations of educational and social programs**. San Francisco : Jossey-Bass.
- FITZ-GIBBON, Carol Taylor; MORRIS, Lynn Lyons (1987). **How to design a program evaluation**. 2. ed. Newbury Park : Sage.
- GAO (1989). **Content Analysis**: a methodology for structuring and analyzing written material. Washington.
- (1990). **Case study evaluations**. Washington.
- (1991). **Designing evaluations**. Washington.
- (1994a). **Approach and methodology workshop**: instructor manual. Washington.
- (1994b). **Government auditing standards**: 1994 revision. Washington.
- INTOSAI (1995). Working Group on Program Evaluation. **Draft summary report presented during the XV Incosai**. Cairo. Mimeographed.
- KING, Jean A. et alii (1987). **How to assess program implementation**. 2. ed. Newbury Park : Sage.
- PATTON, Michael Quinn (1987). **How to use qualitative methods in evaluation**. Newbury Park : Sage.

ROSSI, Peter; COOK, Thomas (198-). Evaluation research: Sesame Street. In: OSKAMP, Stuart (Ed.). **Applied social psychology**. Englewood Cliffs : Prentice-Hall. p. 124-146.

SCRIVEN, Michael (1991). **Evaluation thesaurus**, 4. ed. Newbury Park : Sage

WEISS, Carol H. (1972). **Evaluation research**: methods of assessing program effectiveness. Englewood Cliffs : Prentice-Hall.

SUGGESTION SHEET

The Brazilian Court of Audit is concerned with the permanent improvement in the quality of its manuals and orientations. Because of this, we actively seek the valuable opinions of the target-public of this work.

The following questionnaire refers specifically to the Performance Auditing Manual, distributed beginning in March of 1998. It will be very useful to the Brazilian Court of Audit if the reader of this manual could take just a few minutes to respond to the questions on the above mentioned questionnaire and to mail it back to us (no postage necessary if mailed inside of Brazil).

Suggestions concerning this manual can be sent in the following ways:

E-mail: saudi@tcu.gov.br

Fax: 316-7538¹³

Telephone: 316-7379

Address: Tribunal de Contas da União - TCU

SAUDI/DINOP

Setor de Administração Federal Sul – Lote 01

70042-900 – Brasília – DF – BRAZIL

¹³Country code: **55**. City code: **61**, if dialling from outside of Brazil, or **061**, if dialling from inside.



**The Brazilian Court of Audit
Secretariat of Auditing and Inspections**

EVALUATION QUESTIONNAIRE

PURPOSE

The purpose of this evaluation questionnaire is to obtain the opinion of the readers regarding the **Performance Auditing Manual** for its improvement.

Please respond to the questions below by placing an "X" in the appropriate box. Thank you for your collaboration.

1. In which level of the government do you work?

- Federal • State or Federal District • Municipal

2. In which branch do you work?

- Legislative • Judiciary • Other (specify) _____
• Executive • Internal Control

3. What part of the manual did you read??

- All • Chapter I [all or part] • Chapter II [all or part]

4. Read attentively each indicator and choose the point on the scale that best describes your opinion about the Performance Auditing Manual. Mark with an "X" the option that best represents your judgement.

Totally Agree 5	Agree 4	Indifferent 3	Disagree 2	Completely Disagree 1
--------------------	------------	------------------	---------------	--------------------------

The manual is:

	5	4	3	2	1
Easy to read	•	•	•	•	•
Easy to understand	•	•	•	•	•
Logical	•	•	•	•	•
Succinct	•	•	•	•	•
Complete	•	•	•	•	•
Useful	•	•	•	•	•

5. How did you find out about the Audit Performance Manual?

- When you received it • Through the Internet
• Internal advertising of TCU • Through the press
• By a message from SIAFI • Others [specify] _____

6. How did you obtain the Performance Auditing Manual?

- Asked for it from TCU • Download it from the Internet • Others [specify] _____

7. Write down any comment or suggestion for the improvement in the quality of the Performance Auditing Manual. In case of suggestions for alteration/suppression/additions of verification items, please fill out the annexed form.



The Brazilian Court of Audit
Secretariat of Auditing and Inspections

SUGGESTION SHEET

PURPOSE

The purpose of this evaluation questionnaire is to obtain the opinion of the readers regarding the **Performance Auditing Manual** for its improvement.

Item number	Proposed Alteration, Suppression or Addition	Reason

PTR/BSB
880/92
UP-AC/TCU
DR/BSB

CARTA-RESPOSTA
NÃO É NECESSÁRIO SELAR

O SELO SERÁ PAGO POR
TRIBUNAL DE CONTAS DA UNIÃO
BRASÍLIA-DF

70099-999

UNITS OF THE GENERAL SECRETARIAT OF EXTERNAL CONTROL OF THE BRAZILIAN COURT OF AUDIT

General Secretariat of External Control	<i>José Nagel</i>
Secretariat of Auditing and Inspections	<i>Cláudio Souza Castello Branco</i>
Division of Gov. Auditing Norms and Procedures	<i>Paulo Roberto Pinheiro Dias Pereira</i>
Government Programs Service	<i>Glória Maria Merola da Costa Bastos</i>
Sec. of Gov. Accounts and Constitutional Transfers	<i>Carlos Nivan Maia</i>
Secretariat of Information Technology	<i>Antonio Quintino Rosa</i>
Secretariat of Planning, Organisation and Methods	<i>Mauro Giacobbo</i>
1ª Secretariat of External Control	<i>José Moacir Cardoso da Costa</i>
2ª Secretariat of External Control	<i>Evaldo Rui Rocha</i>
3ª Secretariat of External Control	<i>Sônia Lúcia Imbuzeiro</i>
4ª Secretariat of External Control	<i>Marília Zinn Salvucci</i>
5ª Secretariat of External Control	<i>Francisco Carlos Ribeiro de Almeida</i>
6ª Secretariat of External Control	<i>Antonio Newton Soares de Matos</i>
7ª Secretariat of External Control	<i>Cláudio Sarian Altounian</i>
8ª Secretariat of External Control	<i>Eduardo Duailibe Murici</i>
9ª Secretariat of External Control	<i>Jorge Pereira de Macedo</i>
10ª Secretariat of External Control	<i>Rosângela Paniago Curado Fleury</i>
Secretariat of External Control/AC	<i>Dion Carvalho Gomes de Sá</i>
Secretariat of External Control/AL	<i>Edmilson Monteiro Batista</i>
Secretariat of External Control/AP	<i>Carlos Martins dos Santos</i>
Secretariat of External Control/AM	<i>Helena Montenegro Valente</i>
Secretariat of External Control/BA	<i>Paulo Pereira Teles</i>
Secretariat of External Control/CE	<i>Paulo Nogueira de Medeiros</i>
Secretariat of External Control/ES	<i>Hamilton Caputo Delfino Silva</i>
Secretariat of External Control/GO	<i>Neusa Casado Martins Araújo</i>
Secretariat of External Control/MA	<i>Osmir da Silva Freire</i>
Secretariat of External Control/MT	<i>Luiz Guilherme da Boamorte Silveira</i>
Secretariat of External Control/MS	<i>João Andrade de Alencar</i>
Secretariat of External Control/MG	<i>Élsio Jeová dos Santos</i>
Secretariat of External Control/PA	<i>José Márcio Paulino Murta</i>
Secretariat of External Control/PB	<i>Raimundo Nonato Soares Araújo</i>
Secretariat of External Control/PR	<i>Maria José Menezes</i>
Secretariat of External Control/PE	<i>Ildê Ramos Rodrigues Theodoro</i>
Secretariat of External Control/PI	<i>José Maria Araújo Lima</i>
Secretariat of External Control/RJ	<i>José Augusto Pôrto Neto</i>
Secretariat of External Control/RN	<i>Marcos Valério de Araújo</i>
Secretariat of External Control/RS	<i>Antonio José Martins de Almeida</i>
Secretariat of External Control/RO	<i>Raimundo Nonato Coutinho</i>
Secretariat of External Control/RR	<i>Rainério Rodrigues Leite</i>
Secretariat of External Control/SC	<i>Rafael Blanco Muniz</i>
Secretariat of External Control/SP	<i>Eloi Carnovali</i>
Secretariat of External Control/SE	<i>Clímaco Romualdo de Carvalho</i>
Secretariat of External Control/TO	<i>Jacques Silva de Sousa</i>