

PROGRAM TO STRENGTHEN THE MANAGEMENT OF PUBLIC CREDIT

(TC-96-03-23-5)

EXECUTIVE SUMMARY

REQUESTER: Ministry of Finance

EXECUTING AGENCY: The Ministry of Finance, through the Department of Public Credit

BENEFICIARIES: The United Mexican States, Ministry of Finance, Department of Public Credit (DGCP)

FINANCING: IDB: US\$1,200,000 (FSO non-reimbursable - in local currency)

Local counterpart contribution: US\$ 200,000

Total: US\$1,400,000

TERMS: Implementation period: 2 years

Disbursement period: 3 years and 6 months (includes the funds earmarked for ex post evaluation, to be disbursed 12 months later)

ENVIRONMENTAL CLASSIFICATION: At its meeting of December 3, 1996, the Environment Committee classified this project as a Category II operation.

OBJECTIVES: The overall objective of the program is to support the government's efforts to improve efficiency in the management of the public debt by strengthening the DGCP's public debt management capacity. Attainment of this objective would resolve one of the major problems of the current public debt management system, which is operating without a fully systematized data production capability and without the procedures needed for participating efficiently in the international financial markets.

The specific objectives proposed for the program are:

(a) To provide for comprehensive management, administration, and analysis of the public debt. Upon completion of the project, a debt management and analysis system (SIGADE) will be installed and operational in the DGCP.

(b) To support the design of a liability portfolio management system. A diagnostic study will be conducted and a plan of action proposed for future implementation of a debt risk management system in the DGCP.

**DESCRIPTION:**

Attainment of the proposed objectives requires the following components:

1. Installation of the debt management and analysis system (SIGADE) in the DGCP. This component will include the following activities: (i) procurement and installation of the necessary equipment; (ii) installation of the SIGADE program; (iii) transfer of the present database to the new system; (iv) organization of various training courses for system users and maintenance technicians; and (v) preparation and adoption of the administrative reforms and procedures necessary for SIGADE.

2. Liability portfolio management. The principal activities of this component will be: (i) a diagnostic study on current procedures for management of liability portfolio risk; (ii) design of a risk management system adapted to the specific conditions of the country's external debt; and (iii) a specific proposal for implementing the system.

**BENEFITS:**

Implementation of a single, comprehensive information system will enable the DGCP to obtain timely, reliable information for effective decision-making in debt management. The system will include all of the functions currently under the responsibility of the Public Debt Bureau (DDP), with the consequent economies of scale. In addition, the Department of Public Credit (DGCP) will be provided with a diagnostic study and a proposed action plan constituting the first step toward implementation of a debt risk management system.

**RISKS:**

The current public debt management system has contributed to a lack of proper coordination among the units of the DGCP. For the project to be successful, both as regards implementation of the SIGADE debt management and analysis system and its long-term maintenance, communication and smooth coordination among the units involved must be ensured. One program risk is that this requirement might not be met. To minimize this risk, the program calls for the appointment of a general coordinator responsible for coordinating the efforts of the various units during the implementation phase in such

a way that, by the end of the program, coordination mechanisms will have been put in place.

**EXCEPTIONS TO  
BANK POLICY:**

For implementation of the first component, it is proposed that the United Nations Conference on Trade and Development (UNCTAD) be hired directly to act as specialized agency for installation of the SIGADE system. This decision is justified for the reasons set forth in chapter III, section C, of this plan of operations.

**CONTRACTUAL  
CONDITIONS:**

The technical cooperation agreement will include the following conditions:

1. Conditions precedent to the first disbursement:
  - a. presentation of the signed contract between the executing agency and UNCTAD for implementation of the first component, to the Bank's satisfaction (paragraphs 3.13 and 3.14); and
  - b. appointment of the general coordinator of the program and designation of the members of the technical team (paragraphs 3.11, 3.16 and 3.17).
2. Conditions to be fulfilled during program execution: Within four weeks following completion of the second component, presentation of the final consultants' report with the comments of the executing agency (paragraph 3.15).

The agreement will include also the Bank's standard conditions pertaining to auditing, progress and final reports, inspection, project evaluation, hiring of consultants, and procurement of goods, and other matters.

**THE BANK'S  
COUNTRY STRATEGY:**

This operation will provide for more efficient and integrated management of the public debt through the establishment of a mechanism for more systematic and integrated management of the liability portfolio, thereby contributing to a consolidation of Mexico's return to the international capital markets. This is consistent with the Bank's country strategy, which calls for a variety of activities to support modernization of the State.

## I. BACKGROUND

### A. Evolution of the public debt

- 1.1 After the debt crisis at the start of the 1980s, Mexico engaged in several rounds of negotiations beginning in 1982-1983 and continuing in the subsequent years. During this period, amortization schedules were restructured, the medium- and long-term debt was renegotiated, and debt was swapped for 20-year United States Treasury-guaranteed bonds.
- 1.2 By 1988, however, it became apparent that capital flight was a constraint on the benefits of the structural reforms. In 1990, progress achieved in economic stabilization and structural reforms allowed Mexico to apply for coverage under the Brady Plan. The resulting agreement led to a significant reduction in the flow of interest payments and improved the prospects for the country's economic performance.
- 1.3 The external public debt entered into a sharp decline in 1988, dropping from 46.7% of GDP to 22% in 1994. It should be noted that in 1995, as a result of the financial crisis of December 1994, Mexico had to pay off short-term domestic debt by obtaining external financing, mainly from the IMF and the United States Treasury. The resultant conversion of domestic to foreign debt increased external debt to nearly 40% of GDP at the close of 1995.
- 1.4 Internal debt, however, declined appreciably for two reasons. Firstly, fiscal discipline brought public finances into balance, thus eliminating the need for public-sector financing. Second, the resources obtained through the privatization process were used to pay off internal debt. As a result, internal debt, which represented 22% of the GDP in 1988, dropped gradually to 13% in 1994 and 8% in 1995. The 1995 reduction of internal debt was also due to the above-mentioned conversion of internal debt instruments, primarily Mexican Treasury bonds, into foreign debt.
- 1.5 Close to 10% of the foreign public debt is owed to commercial banks and 19% to multilateral institutions; 26% is bilateral debt, including the recently-established exchange stabilization fund (10%); and the remaining 45% consists mainly of bonds. The importance of the bond component in the foreign debt is attributable to the menu of options resulting from the debt agreement under the Brady Plan, as well as to Mexico's gradual return to the international capital markets.

### B. Public debt administration

- 1.6 The agency that regulates government borrowing is the Department of Public Credit (DGCP), a unit of the Ministry of Finance (SHCP). Reporting to the DGCP is the Public Debt Bureau (DDP), which is

responsible for the management of credit operations through six principal units: credit authorizations, accounting, statistics, budgets, states, and municipalities.

- 1.7 The systems providing support for these units have evolved through a number of still ongoing stages since 1980. The latest began in 1990 with the design and subsequent partial implementation of an integrated public debt system (SIDP), the purpose of which was to build a relational database that would provide for comprehensive management of every phase of the project cycle, from authorization to the payment of debt service and final settlement. Implementation was suspended, however, and the system is currently only being partially used in the accounting, statistics, and budgets units. This was due to the use of untested software, as a result of which there was no adequate logistical support and no clearly written manuals for implementing the system. The services of the consulting firm in charge of the SIDP system were terminated, and because of the absence of technical documentation and trained support personnel, implementation cannot be completed.
- 1.8 The authorities have requested the support of the United Nations Conference on Trade and Development (UNCTAD) for installation of the SIGADE debt management and analysis system (see description of the system in Annex II) as a possible replacement for the SIDP. The DDP is of the opinion that SIGADE would allow for unification of all debt information, the inclusion of short-term loans, greater speed and reliability in the production of reports, automated validation and control, and streamlining of administrative procedures as the system is implemented.

C. Liability portfolio management

- 1.9 Risk management is a relatively new activity in the capital markets which enables financial institutions to control risk in their portfolios of assets and liabilities. Risk management includes the systematic identification of the type and level of financial risk faced by an institution. With this information, senior management can use financial techniques for the management of assets, liabilities, and derivatives to control the level of financial risk. An excessive or undesirable level of risk can be transferred by means of various financial instruments to other institutions that are better qualified to handle such risks, enabling each institution to establish an appropriate risk profile.
- 1.10 The need to establish a risk unit in the SHCP was amply demonstrated during the crisis at the end of 1994, which was preceded by a 200-basis-point increase in United States interest rates, raising the cost of servicing the dollar debt subject to floating interest rates. The attractive interest rates in the United States led to a drawdown of foreign exchange reserves as investors in search of better yields moved their funds to other markets, thereby weakening the Mexican peso. Another factor that placed Mexico in a highly

vulnerable position toward the end of 1994 was the increase in domestic debt, mainly in the form of Mexican Treasury bonds, which were short-term paper indexed to the United States dollar.

- 1.11 The combined effect of higher international interest rates, dwindling reserves, and pressure on the peso precipitated the crisis of late 1994. To deal with this rapid sequence of events, the authorities would have needed risk assessment models capable of depicting the complex impact of these inter-related events and providing full, timely information on their impact on the liability portfolio.
- 1.12 Management of this liability portfolio by the SHCP is a complex matter, given the variety of risks involved. The amount of the service on the debt is subject mainly to changes in interest rates, exchange rates, and oil prices. The SHCP has engaged in some swaps in an effort to reduce its exposure to floating interest rates or to currencies other than the dollar. The number of such risk reduction operations should increase as they prove useful. However, swaps are complex instruments that need to be assessed continuously on a market-to-market basis. It is important, also, to evaluate correctly their interrelation with other swaps and with the liability portfolio. This requires the installation of a valuation model known as a "value at risk" model to enable the authorities of the SHCP to establish risk limits and be certain that steps are being taken to stay within those limits.

D. Principal problems of the present system

- 1.13 In general, the present public debt management system is operating on the basis of only partly systematized information and without procedures that provide for effective participation in international financial markets.
- 1.14 In particular, the principal problems of the present system are: (i) there are defects in the conception of the modules and their integration, since the modules are updated on an individual basis and are subject to shortcomings such as redundancy in the database design, technical deficiencies in some software, especially forms, incomplete and outdated technical documentation, and obsolete software that is difficult to maintain; (ii) there are discrepancies in information flows and duplication of information in the units in charge of public debt records, administration, and control, owing to the absence of a common identification number for each loan, and duplication of efforts in data entry for each loan by the budget and statistics unit of the DDP and by the corresponding unit in Nacional Financiera (NAFIN); (iii) the system is sluggish, both in the production of reports and in the generation of projections; (iv) the information in the statistics unit does not cover the entire universe of the debt; (v) the system does not allow the development of new formats by users; and (vi) there are

no modules for such vital DPP activities as credit authorization and state and municipal debt information.

- 1.15 Given the magnitude and speed of international market reactions, the authorities need to have a prior indication of the exposure of their liability portfolio to changes in international interest rates and exchange rates. Without this information, no adequate planning can be done for a possible emergency. The DGCP does not possess the tools for ongoing assessment of the external debt from the global perspective of a liability portfolio. In particular, it does not have a system for feeding information on external debt and market developments (such as interest and exchange rates) into risk management models. Neither does it have any mechanisms for systematic evaluation of the risk involved in government-issued bonds, and it therefore cannot evaluate the potential impact of issues with different structures on the debt profile. The inability to measure these risks has made it impossible to identify risk management policies that would enable the DGCP to establish risk tolerance limits for interest or exchange rates.

E. Results of similar programs

- 1.16 SIGADE has been installed in several countries (see Annex II), including Argentina, where the results of its implementation have been successful in terms of expeditious, efficient management of the public debt. It has also provided extensive, timely information for proper planning of future activities. Two years after having implemented SIGADE, the Argentine Republic has saved an estimated US\$21.4 million as a result of better management of the foreign debt. In addition, errors have been detected in certain creditor institutions' calculations of outstanding balances.
- 1.17 Recently, partly as a result of the successful implementation of SIGADE in Argentina under a financial management reform program, the Bank has been giving consideration to financing the installation of SIGADE in other countries, including Panama. Technical cooperation programs are also being conducted in the public credit area which, while not directly financing SIGADE, consider it an essential input for the overall success of reforms, a case in point being a program in Nicaragua.

F. Strategy of the Bank

- 1.18 This operation will provide for more efficient and integrated management of the debt, along with a mechanism for systematic and integrated management of the liability portfolio, thus helping to consolidate Mexico's return to the international capital markets. This is consistent with the Bank's country strategy, which calls for a number of activities in support of modernization of the State.

## II. OBJECTIVES

### A. Overall objective

- 2.1 The overall objective of the program is to support the government's efforts to improve efficiency in the management of the public debt by strengthening the DGCP's public debt management capacity (see Annex I.)

### B. Specific objectives

- 2.2 The specific objectives of the proposed program are:

(a) To provide for integrated management, administration and analysis of the public debt. Upon completion of the project, SIGADE will be installed and operational in DGCP units and in other DGCP user units.

(b) To support the design of a liability portfolio management system. A diagnostic study will be conducted and a plan of action proposed for future implementation of a debt risk management system for use in establishing limits of risk and keeping within those limits.

## III. DESCRIPTION OF THE PROGRAM

### A. Components

- 3.1 Attainment of the proposed objectives requires the following components:
1. Installation of SIGADE in the DGCP
- 3.2 The objectives proposed for this component will be attained in two phases, the results of which are described below. The activities leading to those results are indicated in the logical framework (Annex I).
- 3.3 In **phase one**, to be implemented in year one, the focus will be on strengthening the debt records, management, and control capacity of the DDP through the installation of SIGADE in the Debt Statistics Office (SED). At the same time, the requirements will be identified for providing the Bureau of Coordination and Procurement of External Credit (DCCCE) with access to the SIGADE database.



3.4 The expected results of this phase are:

- a. The existing database in the SED will be converted to the SIGADE format. Additional modules will be prepared according to the specifications developed jointly with DGCP staff through two workshops in Geneva.
- b. SIGADE will be installed in the computers procured by and/or assigned to the SED.
- c. SIGADE will be installed in the Credit Authorization Office and the State and Municipality Coordination Division, and a diagnostic study will be conducted on adapting SIGADE to the needs of those units.
- d. A standard identification method for all loans will be implemented, as a means of improving debt records, control, and management.
- e. The requirements for direct DCCCE access to the SED database will be drawn up.
- f. Phase one of the project will be evaluated, and implementation of the phase activities reviewed.

3.5 **Phase two**, to be implemented during year two, will have as its main objective the consolidation of integrated debt management.

3.6 The expected results of this phase are:

- a. The SED will be linked with the budget module installed.
- b. The SED will have access to the information in the database of NAFIN's Office of International Organizations.
- c. Private debt will be included in the database.
- d. New functions will be developed and assigned to the SED to increase its capacity to generate specific reports.
- e. Administrative procedures will be established for evaluating the changes in the integrated SIDP system.
- f. The DCCCE will have direct access to the SED database established so that it can obtain the public debt information it needs to make efficient use of the liability portfolio risk management system.
- g. SIGADE will be installed in the Financial Assets Office (SAI) and users trained in system use.

- h. The procedures manual will be approved, reflecting the changes in interoffice relations resulting from implementation of the project's two phases.
  - i. A final evaluation of the project will be conducted to review its activities, objectives, and the results achieved.
- 3.7 The program calls for holding two workshops in Geneva. The assistant director for information systems support and a programmer from that office will participate in the first workshop to provide support in identifying the requirements for converting and designing the database. The workshop will also provide training on the structure of SIGADE, its functions and design, and the generation of reports. The assistant director for statistics and a member of the technical staff of that office will participate in the second workshop to provide support in the design and development of reports and to receive training in database conversion, report preparation, and the modifications in SIGADE.

2. Liability portfolio management

- 3.8 The principal results of this component will be:
- a. A diagnostic study will be carried out on current procedures for managing liability portfolio risk.
  - b. A risk management system will be designed, reflecting the specific conditions of Mexico's external debt.
  - c. A concrete proposal will be prepared for implementing the system. The terms of reference for conducting the diagnostic study on liability portfolio management are available in the technical files of the program.
  - d. DGCP staff will travel to countries having experience with the risk management system, to familiarize themselves with it.
- 3.9 The draft consultants' report will be available no later than 30 days from the effective date of the contract. The final report will be ready no later than 10 working days from receipt of the comments of SHCP and the Bank.

B. Performance indicators

- 3.10 The performance indicators for this program are:
- a. institution of a single registration number for loans in order to eliminate the duplication of information (eight months);
  - b. inclusion of external and domestic, short- and long-term debt and private debt, in a single database (16 months);

- c. inclusion of credit authorization, state debt, and municipal debt modules (18 months);
- d. upon program completion, the amount of time needed to prepare reports will have been shortened; consolidation of all the debt, which formerly required some seven days, will take one day. The elimination of duplication in manual data entry will represent an estimated savings of 30% to 50% of the time currently needed for these tasks in the SED, the Credit Authorizations Office, the Division of States and Municipalities, and the Financial Assets Office; and
- e. identification of a methodology for market analysis and use of financial instruments for establishing an appropriate risk profile.

C. Execution mechanisms

- 3.11 The SHCP, through the DGCP, will be responsible for project execution. The DGCP will bear responsibility for approving work plans; making the necessary arrangements so that the counterpart personnel detailed in the following section is assigned to the project; coordinating and supervising the necessary administrative measures; ensuring coordination with other units involved, both within the DGCP and in other offices; approving progress reports submitted by UNCTAD; supplying needed information on a timely basis and logistical support required for the consulting services; and taking such other action as may be needed for the success of this operation.
- 3.12 The Director General for Public Credit will appoint a general coordinator, whose duties will be to support the DGCP in the performance of the functions described in the previous paragraph.
- 3.13 The DDP will be responsible for implementation of component I (SIGADE), and the DCCCE for component II (diagnostic study and proposal on liability management).
- 3.14 UNCTAD, which will be responsible for installing SIGADE, will also act as specialized agency in charge of implementing component I. This decision is justified by the following technical advantages: (i) as the developer of SIGADE, UNCTAD has recognized knowledge and experience in the provision of debt management systems which is unavailable from other firms or agencies; (ii) it has access to consultants who are specialists in SIGADE, and who are not available through other sources; and (iii) having implemented SIGADE in other countries, UNCTAD has demonstrated that it has the administrative infrastructure required for coordinating the various individual specialists effectively and preparing specialized reports.

- 3.15 Presentation to the Bank of the signed contract between the executing agency and the specialized agency for implementing component I, according to the terms agreed upon with the Bank, will be a condition precedent to the first disbursement of the funds earmarked for component I.
- 3.16 Component II will be implemented through consulting services over a period of approximately two months, in accordance with the terms of reference. Both the draft and the final versions of the report will be subject to approval by the DGCP and the IDB.

D. Local counterpart

- 3.17 DGCP will appoint a general coordinator to coordinate the national activities who must be a senior level DGCP official and work full time on the project. The DGCP will also designate the members of the technical team that will implement component I, namely: the Assistant Director of the Information Systems Support Center (CAI); a programmer analyst (CAI); the Chief of the Statistics Department (DDP); and various technical staff from the units mentioned above. Appointment of the general coordinator and designation of the counterpart staff will be conditions precedent to the first disbursement.
- 3.18 For the liability portfolio management component, the counterpart personnel assigned to the project will consist of a DCCCE official in charge of supporting the consulting services.

E. Procurement of goods and services

- 3.19 The specialized agency to implement component I will be hired directly, on the basis of the technical justifications cited above in section C.
- 3.20 The specialized agency will implement component I with its contract personnel, provided that they are from IDB member countries and have the technical qualifications required.
- 3.21 All procurement of equipment for the program and hiring of consultants for component II by the executing agency will be conducted in accordance with Bank procedures.

F. Disbursements of funds

- 3.22 In order to facilitate the implementation of the program, it was agreed to disburse the funds as follows: the funds for component I will be disbursed in three tranches of 35%, 50%, and 15%, respectively, upon request by the executing agency.
- 3.23 The funds for component II will be disbursed in three tranches: the first (40%) upon signature of the contract; the second (30%) upon submission of the draft report; and the last (30%) upon

acceptance of the final report by the executing agency and the Bank.

G. Reports and monitoring

- 3.24 For component I, UNCTAD will submit the following reports to the DGCP and the Bank for approval: (i) semiannual progress reports, indicating the progress made in carrying out the activities listed in the work plan (Annex I) and in the financial execution of the project and setting forth recommendations for optimizing its implementation; and (ii) a final report, one month after project completion, indicating the extent to which the specialized agency's terms of reference were complied with, the work plan was accomplished, and the proposed objectives were achieved.
- 3.25 At the end of phase one of component I, the project team, in coordination with an UNCTAD mission, will conduct a mid-term review to evaluate the results of phase 1 and agree on a work plan for phase two. Likewise, upon project completion, the project team will carry out a mission to participate in the meeting for the final evaluation of the program, to be held jointly with the executing agency and UNCTAD.

H. Audits

- 3.26 During program execution, the executing agency will submit audited financial statements on expenditures defrayed using program funds. The auditors will be designated by the Ministry of Administrative Control and Development (SECODAM) and acceptable to the Bank.

I. Cost and financing

- 3.27 The total cost of the program will be the equivalent of US\$1,400,000. The Bank's contribution will be US\$1,200,000 in local currency (FSO), on a nonreimbursable basis. The local contribution, to be provided by the government, will amount to the equivalent of US\$200,000 and will cover mainly the specialized agency's administrative expenses and use of counterpart staff in program activities. The specialized agency's administrative expenses will be charged to the program's counterpart funds.

**COST AND FINANCING OF THE PROGRAM**  
**SUMMARY TABLE**  
**(US\$)**

	IDB-FSO	MEXGOV	TOTAL
<b>1. CONSULTING SERVICES</b>	<b>824,544</b>	<b>84,196</b>	<b>908,740</b>
1.1 Specialized agency fees (SIGADE)	647,664	84,196	731,860
1.2 Consulting firm fees for liability management	176,880		176,880
<b>2. EQUIPMENT</b>	<b>257,500</b>		<b>257,500</b>
<b>3. SUPPORT PERSONNEL</b>		<b>100,000</b>	<b>100,000</b>
<b>4. SUPERVISION AND EVALUATION (Bank)</b>	<b>11,200</b>		<b>11,200</b>
<b>5. EX POST EVALUATION</b>	<b>21,716</b>		<b>21,716</b>
<b>6. CONTINGENCIES</b>	<b>85,040</b>	<b>15,804</b>	<b>100,844</b>
<b>TOTAL</b>	<b>1,200,000</b>	<b>200,000</b>	<b>1,400,000</b>

**IV. BENEFITS AND RISKS**

**A. Benefits**

- 4.1 Implementation of a single, comprehensive information system will enable the DGCP to obtain timely, reliable information for effective decision-making in debt management. The system will include all of the functions currently under the responsibility of the Public Debt Bureau (DDP), with the consequent improvement in efficiency. The Debt Statistics Office (SED) of the DDP will thus have a system enabling it to operate more flexibly and efficiently and to manage the entire universe of debt in a single database.
- 4.2 Greater efficiency will be achieved in the access of information from the federal government as a result of the linkage with the Budget Division and in data entry with regard to development banks, particularly the database of NAFIN's Office of International Organizations. In addition, the DCCCE and the Authorizations Office will be strengthened. The former will have direct access to the statistics database (for both reading and report generation) and will be able to feed this information efficiently into the liability portfolio management system.
- 4.3 Through component II, a diagnostic study will be conducted and an action plan proposed for the DGCP, as the first step toward the future implementation of a debt risk management system in the DGCP.

B. Risks

- 4.4 The implementation of SIGADE will require administrative and/or procedural modifications. One risk for the sustainability of the system is that the necessary modifications may not be made. The DGCP has expressed its commitment to taking such action as required for this purpose.
- 4.5 The present characteristics of public debt management have contributed to a lack of proper integration among the units of the DGCP. A successful outcome of the operation, both as regards the implementation of SIGADE and its maintenance over time, requires communication and smooth coordination among the units involved. One risk of the proposed project is that this requirement might not be met. The program seeks to minimize this risk by providing for the appointment of a general coordinator (see paragraph 3.11) responsible for coordinating activities by the various units.

V. EVALUATION

- 5.1 The executing agency will hire an independent consultant to perform an ex post evaluation, within 12 months after project completion, according to the terms of reference agreed upon with the Bank. The selection of the consultant must be supported by a statement of nonobjection by the Bank.

**LOGICAL FRAMEWORK OF THE PROGRAM**  
**TC-96-03-23-5**

STATE OF THE PROBLEM	OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<p>on of the external o's increasing the international markets, and the the financial ire more effi- ditionous management ic debt.</p>	<p>To increase efficiency and expeditiousness in public debt management.</p>	<p>a. Integrated debt system b. Timely availability of information c. Fluidity in debt registration and debt service operations.</p>	<p>Ex post evaluation reports  DDP progress reports</p>	
<p>management of the is operating ly systematized and without that would allow participation in tional financial</p>	<p>To strengthen the public debt management capability of the DGCP</p>	<p>a. Public debt system fully operational, including the units for credit authorization, accounting, statistics, budgets, states, and municipalities  b. Duplication in the records of credit operations eliminated  c. Integrated database including all information on domestic and foreign public debt  d. Reduction in the time required to consolidate all the debt from seven days to one  e. Identification of a market analysis methodology and use of financial instruments to reduce the costs of external public debt.</p>	<p>Supervision mission  Ex post evaluation  UNCTAD progress reports</p>	<p>Cooperation various units the system is installed</p>



STATE OF THE PROBLEM	OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<p>integrated public (SIDP) does not meet requirements of cause: (i) it does not have modules for all DDP activities, authorization, state municipal debt; shows duplication of because it does not have a single system for credit (iii) it only internal debt; does not allow for preparation of reports on debt in line with standard</p> <p>established analysis methodology financial instruments lower the costs of debt service.</p>	<p>1. Installation of the SIGADE debt management and analysis system in the DGCP</p> <p>2. Support for the design of a liability portfolio management system</p>	<p>1. SIGADE system installed and operational 18 months after program startup.</p> <p><u>Phase 1</u></p> <ul style="list-style-type: none"> <li>a. database converted to SIGADE format</li> <li>b. SIGADE installed in computers</li> <li>c. installation of SIGADE in Authorizations Office</li> <li>d. standard identification of loans</li> <li>e. requirements for DCCCE access to database</li> <li>f. first phase evaluated</li> </ul> <p><u>Phase 2</u></p> <ul style="list-style-type: none"> <li>a. interface between SED and the budget unit</li> <li>b. SED access to NAFIN database</li> <li>c. private debt added to database</li> <li>d. new functions developed and installed in SED</li> <li>e. administrative procedures established</li> <li>f. direct access of DCCCE to database</li> <li>g. installation of SIGADE in Financial Assets Office</li> <li>h. manual of procedures approved</li> <li>i. final evaluation of first component</li> </ul> <p>2. Report approved defining a liability management system and a proposal for implementing it.</p>	<p>Final UNCTAD report</p> <p>Final report received by the Bank and the DGCP.</p>	

S OF THE PROBLEM	OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
	<p><b>1. INSTALLATION OF SIGADE DEBT MANAGEMENT AND ANALYSIS SYSTEM IN THE DGCP</b></p> <p><u>Phase 1</u></p> <p>a. Conversion of database.</p> <p>b. Geneva workshop, SAI</p> <p>c. Geneva workshop, SED</p> <p>d. Development SIDP reports</p> <p>e. Dev. settlement operations</p> <p>f. Dev. prepayment operations</p> <p>g. Inclusion econ. sector loan level</p> <p>h. Entry of amounts syndicated loan</p> <p>i. upgrading of equipment</p> <p>j. implementation of SIGADE in SED</p> <p>k. SED staff training</p> <p>l. SIGADE installation/training in Authorizations</p> <p>m. SIGADE installation/training in States and Municipalities</p> <p>n. Parallel operation of databases</p> <p>o. Standard identification of loans</p> <p>p. Define requirements for DCCCE</p> <p>q. Supervision/coordination mission</p> <p>r. Phase one evaluation mission</p> <p><u>Phase 2</u></p> <p>a. Development of Budget-Statistics interface</p> <p>b. Geneva Mission, Analysis Systems</p> <p>c. Interface implementation</p> <p>d. Adaptation of SIGADE for private debt</p>	<p>a. Month 8</p> <p>b. Month 3</p> <p>c. Month 3</p> <p>d. Month 4</p> <p>e. Month 5</p> <p>f. Month 6</p> <p>g. Month 7</p> <p>h. Month 7</p> <p>i. Month 7</p> <p>j. Month 9</p> <p>k. Month 10</p> <p>l. Month 9</p> <p>m. Month 10</p> <p>n. Month 10</p> <p>o. Month 8</p> <p>p. Month 8</p> <p>q. Months 8 and 11</p> <p>r. Month 11</p> <p>a. Month 16</p> <p>b. Month 17</p> <p>c. Month 18</p> <p>d. Month 16</p>	<p>UNCTAD progress reports</p> <p>IDB supervision missions</p> <p>DDP accounting records</p> <p>Executing agency report</p>	<p>Timely assign counterpart to project a</p> <p>No resistance implementing administrative procedural m</p>

S OF THE PROBLEM	OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUME
	<ul style="list-style-type: none"><li>e. Manual entry of private debt</li><li>f. Development World Bank forms</li><li>g. Development revolving credit monitoring</li><li>h. Implementation new functions</li><li>i. Establish administrative procedures: changes to system subject to committee approval</li><li>j. Development DCCCE intercommunication</li><li>k. SIGADE installation/training in DCCCE</li><li>l. SIGADE installation/training in Finan. Admin.</li><li>m. Review and approval Manual of Procedures</li><li>n. Supervision/coordination mission</li><li>o. Meeting for final evaluation of project</li></ul>	<ul style="list-style-type: none"><li>e. Month 19</li><li>f. Month 15</li><li>g. Month 14</li><li>h. Month 18</li><li>i. Month 19</li><li>j. Month 16</li><li>k. Month 17</li><li>l. Month 18</li><li>m. Month 19</li><li>n. Months 16 and 21</li><li>o. Month 21</li></ul>		
	<p><b>2. MANAGEMENT OF LIABILITIES PORTFOLIO</b></p> <ul style="list-style-type: none"><li>a. Diagnostic study</li><li>b. Development of a design for a risk management system</li><li>c. Concrete proposal for implementing the system</li><li>d. Travel by DGCP staff to familiarize themselves with the system</li></ul>	<p>Diagnostic study delivered to Bank within 30 days after effective date of consultant contract</p> <p>Final report delivered within 10 days of receipt of Bank's comments.</p>	IDB supervision mission.	

## EXPERIENCE IN IMPLEMENTATION OF SIGADE

In response to the debt crisis of the 1980s, UNCTAD developed a technical assistance package to strengthen the debt management and administration mechanisms of debtor countries, designed to: (i) develop administrative, institutional, and legal structures for effective debt management; (ii) establish an adequate information system to provide detailed and aggregated data on loan contracts and on past and future disbursements and debt service payments; (iii) improve national capacity to define and select appropriate debt strategies; and (iv) improve national capacity to record grants and projects financed through external sources.

The program is divided into three components: (i) installation of the latest version of SIGADE, developed using Oracle's relational database and its fourth-generation programming tools, to fulfill the operational, statistical, and analytical needs of debt managers and those involved in elaborating debt strategies; (ii) advisory services, to assess the implementation requirements and resolve technical, administrative, legal, and institutional issues and provide support for the installation and maintenance of the system; and (iii) training in the use of the system.

The implementation of this package in a number of countries has been financed mainly with the support of European countries, the UNDP and the Bank's Japan Fund. Projects of this type have been carried out or are under way in various African, Asian, and Latin American and Caribbean countries (Argentina, Bolivia, Costa Rica, El Salvador, Guatemala, Guyana, Haiti, Honduras, Nicaragua, Peru, and Trinidad and Tobago). Recently, partly as a result of the successful implementation of SIGADE in Argentina under a reform program cofinanced in stages with the World Bank, the IDB is financing the installation of SIGADE in a number of countries, including Panama. In addition, technical cooperation programs are being conducted for public credit which do not provide direct financing for SIGADE but in which SIGADE is considered an indispensable input for the overall success of reforms, a case in point being a program in Nicaragua.

It is important to stress that SIGADE, in its current Oracle version, is very different from the package developed initially in COBOL, which was implemented with little success in several countries of the region. The COBOL version lacks a relational database structure, its production of reports is not flexible, and its information platform provides support for only one user. Since the first experience with the implementation of the "new" SIGADE in the Hemisphere has been the program in Argentina, it is important to describe the results obtained as a means of making this experience available to other countries.

The Argentine case 1/

The results obtained by the sector reform and implementation of SIGADE in Argentina have been characterized as optimal by authorities in the field and have led to an expeditious, efficient management of the public debt while also providing access to extensive, timely information for the proper planning of future activities.

Below is a brief description of some of the reports issued through SIGADE:

1. A "calendar of maturities" for the next 45 days is produced weekly, by loan, with amounts in the currency of origin and in local currency, and is sent to the Treasury and the Central Bank of Argentina in their respective capacities as "cash" programmer and payment agency, and as authorities in the area.
2. A statement of total public debt is prepared monthly. It includes:
  - a. stock of debt, by type of creditor, sector, type of debt, etc.;
  - b. the currency pool making up the total stock of debt;
  - c. interest rates on the total stock and analysis of each one;
  - d. flows (new disbursements, amortization, interest payments, etc.) during the period;
  - e. projections of alternative future scenarios, with the possible impact of variations in interest rates, exchange rates, etc.); and
  - f. profile of the total public debt through its maturity.
3. Information for the public debt section of the **Boletín Fiscal** [Fiscal Bulletin] issued by the Ministry of Finance, which encompasses every aspect of the government's financial operations during the period, is prepared quarterly.
4. Reports on the projected service on the public debt, both internal and external, are forwarded annually to the Budget Office for use in preparing the annual budget, which contains an analytical review of the debt.

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1/ Source: Organización del Sistema de Crédito Público - El Sistema de Gestión y Administración de la Deuda Pública [Organization of the Public Credit System - The Public Debt Management and Administration System], Argentine Republic, Ministry of the Economy and of Public Works and Services (MEOSP), 1996.

5. Information on the balances and flows of public debt during the fiscal year is submitted annually to the General Accounting Office of the country for inclusion in the "Investment Account" in keeping with Article 91, paragraph h, of Law 24,156.
6. Information required by international lending agencies such as the International Monetary Fund, the Inter-American Development Bank, and the World Bank is compiled periodically.
7. Information on the debt is provided annually to the External Debt Division of the World Bank in fulfillment of one of the responsibilities of the Ministry of Finance and the DADP to that institution. This information (obtained directly from SIGADE in the format required by the World Bank) includes the financial features of the new commitments assumed, as well as the balances and the flows of external debt during the year.
8. A statistical bulletin of the public debt is expected to be launched in the near future.
9. A direct connection (via modem) is maintained with the World Bank's accounting unit, which makes it possible to reconcile records with those of the Bank on an ongoing basis.
10. A direct connection (via modem) is maintained with the Central Bank of Argentina through a financial sector telecommunications system (STAF), which is used by the DDP to provide the entire financial system (both official and private) with current information, from its own information system, on interest rates in effect on each item of the debt, calculation of the service thereon, etc.
11. Up-to-date information is furnished to consultants or private firms specialized in this field.

A brief analysis of the results of the reorganization underscores some developments that confirm the foregoing assessment:

1. The total cost of implementing SIGADE through the end of 1995 will be US\$970,000. It should be noted that this includes only outlays to cover fees of the permanent consulting services and missions by UNCTAD specialists.
2. Since the implementation of SIGADE in September 1993, Argentina has saved US\$21.4 million by having made the payments on the debt to the World Bank on time (so-called "interest rate waivers").
3. Frequent unintentional errors have been found in the calculation by various foreign creditor institutions of outstanding balances, in amounts far greater than the total cost of the system implemented.
4. A total of 1,250 loans and subloans have been included in the database as of the date of the report.

PROPOSED RESOLUTION

MEXICO. NONREIMBURSABLE TECHNICAL COOPERATION FOR A PROGRAM FOR  
STRENGTHENING THE MANAGEMENT OF PUBLIC CREDIT

The Board of Executive Directors

RESOLVES:

1. That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such agreements as may be necessary and to adopt such measures as may be pertinent for the execution of the plan of operations referred to in Document AT-\_\_\_\_\_ with respect to nonreimbursable technical cooperation with the República de México for strengthening the management of public credit.

2. That up to the equivalent of US\$1,200,000, in pesos mexicanos, is authorized for the purposes of this resolution, chargeable to the net income of the Fund for Special Operations.

3. That the above-mentioned sum is to be provided on a nonreimbursable basis.