

**HAITI**  
**POTABLE WATER AND SANITATION SECTOR REFORM AND INVESTMENT PROGRAM**  
**(HA-0014)**

**EXECUTIVE SUMMARY**

**BORROWER AND GUARANTOR:** Republic of Haiti

**EXECUTING AGENCIES:** Ministry of Public Works, Transport and Communications (MTPTC)/Sector Reform Unit (SRU)

**AMOUNT AND SOURCE:**

IDB/FSO:	US\$45,000,000
IDB/MIF:	US\$ 965,000
ICDF (Taipei, China):	US\$10,000,000
Local counterpart funding:	<u>US\$ 5,000,000</u>
Total:	US\$60,965,000

**FINANCIAL TERMS AND CONDITIONS:**

Amortization period:	40 years
Disbursement period:	5 years
Interest rate:	1% first 10 years, 2% thereafter
Inspection and supervision:	1%
Credit fee:	0.5%

**OBJECTIVES:**

The goal of the proposed Program is to improve and sustain potable water service across the country while establishing an institutional framework for the gradual development of waste water service.

The specific objectives of the proposed Program are therefore to: (i) support the establishment of the independent Potable Water and Sanitation (PWS) regulatory agency and the privatization of service provision in Port-au-Prince and other urban centers; and (ii) enhance and sustain the quality and coverage of potable water service in approximately ten urban centers and fifty rural and peri-urban communities.

**DESCRIPTION:**

The proposed Program will be a five-year multiple-works operation consisting of three components: an institutional component to support the implementation of the sector reform; an investment component to finance the rehabilitation and expansion of water systems; and a private sector participation component to finance part of the transaction costs involved in fostering private participation in the management of rehabilitated systems.

The reform implementation component (US\$1,515,000) will finance technical assistance to: (a) finalize the regulatory framework; (b) help establish the regulatory agency (to be known as CREPA); (c) help

regulatory agency (to be known as CREPA); (c) help strengthen the environmental capacity of the sector's institutions; (d) finalize the Government's investment policy and establish public sector capital expenditure mechanisms for the sector; and (e) help restructure and merge the two existing potable water public utilities into one entity (to be known as ONEPA).

Activities (a), (b) and (c) above aim at the establishment of a regulatory framework that facilitates private sector investment in the PWS sector, which is one of the priorities of the MIF Technical Cooperation Facility. It is therefore proposed that these activities be financed by the MIF.

The investment component will finance up to US\$48.45 million for the rehabilitation and expansion of potable water and sanitation infrastructure in urban, peri-urban and rural areas, according to pre-agreed eligibility criteria. The foremost criteria have to do with ensuring the institutional and financial sustainability of rehabilitated systems.

**Urban projects** will be financed through loans granted to project sponsors through a fiduciary fund administered by a private firm. A total of eight to ten urban projects (US\$39.1 million) benefiting about 400,000 people are expected to be financed. For each project, the following items will be eligible for financing: (i) the preparation of a potable water and sanitation master plan; (ii) institutional, technical, environmental and social, financial and economic feasibility studies; (iii) project appraisal; (iv) execution and supervision of works [rehabilitation/expansion of the potable water system + remedial drainage infrastructure + pilot waste water project]; (v) community outreach initiatives; (vi) institutional strengthening of the local PWS board; (vii) technical assistance to the service provider (except when the service provider is an international private company); and (viii) overall project evaluation.

**Rural and peri-urban projects** will be financed through a demand-driven grant system managed by ONEPA. A total of fifty small projects (US\$9.1 million) benefiting about 75,000 people are expected to be financed. For each small project, the following items will be eligible for financing: (i) pre-project community development activities leading

to the establishment/strengthening of a local water board; (ii) simple technical designs and financial analysis; (iii) the execution and supervision of works [potable water system + simple sanitation infrastructure]; (iv) training of and technical assistance to the system's operator; and (v) project evaluation.

The private sector participation component (US\$5.5 million) aims at enabling the privatization of PWS operations in the capital city (and possibly other large urban centers) through a leasing/service contract. This component will finance three years of technical assistance to train ONEPA in the supervision of the private operator. It may also contribute up to US\$4 million to finance part of the operating deficit that the leasing/service contract is expected to generate over the initial years. Finally, this component will finance the implementation of a severance payment and retraining plan to help rationalize sector staffing.

**RELATIONSHIP OF  
PROJECT IN BANK'S  
COUNTRY AND  
SECTOR STRATEGY:**

The Bank's strategy in Haiti revolves around two complementary objectives: the improvement of living conditions and the development of the productive economy. The present Program will essentially serve the first objective.

The Bank's sector strategy is to contribute to the restructuring of the institutional framework of the water sector, in order to shift from a set of uncoordinated, sub-sector specific water resources development strategies towards an integrated water resources preservation strategy. Within this new approach, the proposed operation aims at improving the efficiency of the potable water and sanitation sub-sector. Because of (i) the urgency to improve potable water services and (ii) the present non-existence of an institutional framework for sanitation services, the proposed operation focuses deliberately on potable water services. As part of the reform to be implemented with support from this operation, however, it is proposed to initiate a major move to organize and develop sanitation services.

**ENVIRONMENTAL AND  
SOCIAL REVIEW:**

The Committee on Environment and Social Impact approved the Environmental and Social Impact Report together with the Program's Environmental Impact Assessment at its meeting of July 11, 1997 (see paragraphs 4.27 and 4.28). This report was subsequently sent to the PIC on July, 18, 1997.

**BENEFITS:**

The potable water sector reform is expected to produce even greater benefits than the investments in physical works. Through increased pricing and management efficiencies, reform will create momentum for further expansion, bringing the proper incentive structure to reduce physical losses, wasteful consumption and commercial losses. The result will generate the necessary revenue stream to finance maintenance; cause present water losses to be converted into surplus water for new consumers; defer investments for rehabilitation and expansion due to premature deterioration and excess demand; and release funds to expand coverage to new consumers. Loan repayment by users to the Government will allow public funds absorbed by sector subsidies to be released to meet other needs.

Physical works will improve access to potable water for about 400,000 people in urban areas and 75,000 in rural areas. This will translate into increased consumption benefits for groups with house connections and resource savings for low income groups whose consumption remains low but for whom the price of water drops significantly. From an environmental standpoint, the systematic introduction of micro-metering will be a significant first step towards a global strategy for water resources preservation.

**RISKS:**

The main risks involved in the proposed operation are institutional; (1) at the global level, these risks relate to the capacity of the main institutional actors to develop ownership for and commitment to the proposed reform; (2) at the local level, they pertain to the capacity of municipalities and communities to internalize the new approach and assume its financial consequences.

(1) Ever since the return of the constitutional government in October 1994, Haiti has been asked to engage in a number of far-reaching structural reforms. While these reforms are a pre-requisite to restoring growth and eradicating poverty, they require a tremendous institutional capacity that the country simply does not have. It is therefore essential to conceive new ways to accompany the country through these reforms while building up its reform-implementation capacity. This is what this operation will attempt to do, by providing the newly established institutions an opportunity of learning by doing. (See paragraphs 4.30 to 4.32.)

(2) Experience shows that the performance of PWS systems is generally a growing function of ratepayer ownership. By contrast, lack of user involvement is often responsible for inadequately dimensioned projects, high occurrence of illegal connections and low cost recovery rates. Based on the experience gained during the preparation of the first-year projects, the proposed Program foresees the implementation of a series of actions to develop community ownership, notably in low-income communities, at all stages of the project: project identification; project design; project construction; and project operation. (See paragraphs 4.33 and 4.34.)

**SPECIAL  
CONTRACTUAL  
CONDITIONS:**

For the proposed Program to achieve its objectives, a clear link must be established between the financing of investments, the technical assistance made available to support the sector reform and the actual progress achieved with reform implementation. It is therefore recommended to apply the following conditions to the proposed Program:

- (a) **before first disbursement**, the Borrower must present evidence that: (i) SRU has been mandated to initiate program execution and has been adequately strengthened; and (ii) the Program's operating regulations (including the environmental criteria and enforcement procedures specified in the Environmental and Social Impact Report) have entered into effect in a form satisfactory to the Bank;
- (b) **before the signature of the first works contract** to be financed with resources from the proposed loan, the Borrower must submit evidence that: (i) the Parliament has approved legislation intended to: (1) establish an independent regulatory agency with strong powers over all potable water and sanitation authorities; (2) progressively decentralize responsibility for services and promote community participation; (3) authorize private sector participation in operations and management, through concession, leasing and/or management contracts; and (4) establish a tariff policy designed to recover the costs of potable water and sanitation services, as well as the costs of water resource preservation; (ii) CREPA and ONEPA have been created with adequate powers, their management structure has been put in place and their key staff have been appointed; and (iii) a private firm acceptable to the Bank has

been recruited to administer the urban projects fiduciary fund;

- (c) **before the signature of any works contract other than that for the first-year projects**, the Borrower must present evidence that: (i) the main regulations pertaining to tariffs, service standard regulations, decentralization and private participation regulations have entered into effect; (ii) an institution has been created at the national level to conceive and implement integrated water resources management; and (iii) a contract for the management of the supply of potable water in the Port-au-Prince area, transferring all or part of the commercial risk to a private operator, has been signed; and
- (d) **before the first disbursement of resources corresponding to the private sector participation component**, the Borrower must obtain the Bank's non-objection for Port-au-Prince's leasing/service contract.

**POVERTY-TARGETING  
AND SOCIAL SECTOR  
CLASSIFICATION:**

The proposed Program is a poverty targeted investment (PTI) as defined in document GN-1964-3 since an estimated 80% to 85% of Program benefits will be captured by households with income under the Bank's poverty level (see paragraph 4.18). Because it is expected that the Program will be cofinanced by ICDF, it is not anticipated to make use of the additional 10% of Bank financing allowed by paragraph 2.93 of the Eighth Replenishment document (AB-1704). However, should ICDF's expected financing not materialize, paragraph 2.93 of document AB-1704 would be applied and the total amount of Bank financing, unchanged in absolute terms, would now represent 90% of the Program's overall amount.

**EXCEPTION TO  
BANK'S POLICIES:**

None

**PROCUREMENT:**

Contracting of works and acquisition of goods and services will be governed by the Bank's procurement procedures. International public bidding will be used to award works contracts in excess of US\$1 million and to purchase goods and services in excess of US\$350,000. For amounts below these thresholds, Haiti's procurement regulations will be applied and national public bidding will be organized.

## I. FRAME OF REFERENCE

### A. The water and sanitation sector: present situation

#### 1. The water sector institutional framework

- 1.1 Haiti's water sector is characterized by the lack of a global water resources management policy: the different sub-sectors that make use of water resources (potable water and sanitation, hydro-power, irrigation, industry and tourism) are managed in a fragmented way, which may soon have largely irreversible impacts on the quality and quantity of water available, in particular for drinking purposes.
- 1.2 Potable water services are presently provided by two public entities placed under the authority of the Ministry of Public Works (MTPTC), the "Centrale Autonome Métropolitaine d'Eau Potable" (CAMEP), covering Port-au-Prince's metropolitan area, and the "Service National de l'Eau Potable" (SNEP), serving the rest of the country. The overall problem facing the potable water sub-sector is the extremely low level of services provided, characterized by the lowest coverage in the Western hemisphere, an extreme degree of unreliability, and a highly variable and generally untested quality of water.
- 1.3 Sanitation services are virtually non-existent. According to a 1982 decree, municipalities are in charge of operating and maintaining the drainage and sewage facilities, but they have no resources to do so. The existing infrastructure is limited to a few drainage channels in Port-au-Prince and in the largest secondary cities, which get maintained very erratically by a central department of the MTPTC. The majority of waste water tends to be evacuated either through gullies and roads or through individual facilities such as latrines. Only a very small proportion of the population is believed to have access to a comprehensive waste water system such as septic tanks.
- 1.4 A series of actions is being initiated to restructure the institutional framework of the water sector, in order to shift from a set of uncoordinated, sub-sector specific water resources development strategies towards an integrated water resources preservation strategy. This new approach foresees the establishment of a National Water Council, whose functions will be to develop and enforce national water resources conservation policies, allocate and regulate water rights, and arbitrate water use conflicts. <sup>1/</sup>

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<sup>1/</sup> Among the actions initiated is an IDB-financed US\$300,000 Technical Cooperation which aims at the definition of the mandate and structure of the National Water Council. Managed by the Ministry of Environment, this TC involves the two line-ministries responsible for the various sub-sectors, as well as the Ministry of Planning.

- 1.5 Within this new approach, the proposed operation aims at improving the efficiency of the potable water and sanitation sub-sector (hereafter "the sector"). Because of (i) the urgency to improve potable water services and (ii) the present non-existence of an institutional framework for sanitation services, the proposed operation focuses deliberately on potable water services. However, as part of the reform to be implemented with support from this operation, it is proposed to initiate a major move to organize and develop sanitation services.

## 2. Major problems facing potable water services

- 1.6 **Symptoms.** The extremely poor performance of Haiti's potable water sector is reflected in the pervasive prevalence of waterborne diseases. It is estimated that 68 children in every 1000 die before reaching the age of five because of diarrhea. The ill-management of potable water services may be summarized by:

(a) **very low coverage rates**<sup>2/</sup>, which stagnate when sources of capital investment are always directed to existing systems due to their accelerated deterioration; and

(b) **the extremely poor quality of service**, characterized by: (i) rates of unaccounted for water of up to 90% in some systems, due mostly to illegal connections; (ii) a low reliability, with water often available only a few hours a day -- sometimes two hours every three days as is the case in Port-de-Paix; and (iii) an untested (except in Port-au-Prince) and generally poor quality of water due to the fact that networks, when they are not under pressure, serve as drainage systems.

- 1.7 **Causes.** The causes that lead to these symptoms are only too well-known: operation and maintenance practices are unsatisfactory and cost-recovery mechanisms do not work. This situation is allowed to remain unchanged because SNEP and CAMEP have access to central budget resources to cover financial losses, eliminating any incentive to improve performance. When the financial deficit cannot be dealt with due to lack of government funds to cover basic operating expenses other than salaries, this translates into a deficit in services rendered.

- 1.8 **Root causes.** This classic example of low-level equilibrium originates from the very institutional structure of the sector, which has concentrated all the powers of the sector in the hands of an unaccountable, centralized bureaucracy. This excess of centralization is rooted in the following three factors: (a) **political interference**, in management, employment policy and tariff policy; (b) **lack of independent regulation and lack of competition**, which suppresses the incentive to minimize costs and optimally

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<sup>2/</sup> About 50% of the 3 million urban residents and 30% of the 4 million rural residents are presently covered.



allocate resources; and (c) **lack of users' and communities' involvement**, which means that systems are usually designed with little knowledge of and no consideration for what end clients want -- and can afford -- and explains why services have been allowed to reach such a poor level and why users feel so little concerned by issues such as resource preservation, cost recovery and infrastructure maintenance.

- 1.9 The most disturbing feature of this low-level equilibrium is that it hits the poor particularly hard while subsidizing access to services for higher-income groups. Indeed, for historic reasons linked with the urbanization patterns of most Haitian cities, SNEP and CAMEP services are usually limited to the nicest urban areas while marginal zones have to rely on informal systems characterized by huge productive inefficiencies. As a result, low-income groups get water of a questionable quality at prices of up to US\$10 per cubic meter.

### 3. Overview of the two existing service providers

#### a. CAMEP

- 1.10 CAMEP covers the metropolitan area of Port-au-Prince only, where it serves less than 40% of the estimated two million population. CAMEP employs about 300 persons, of whom 250 are involved in operations, 20 in planning, and 30 in support services. The institution has not received any current transfers from the central government since 1986, but has current liabilities to the State in excess of US\$100,000 per year for unpaid taxes and electricity. CAMEP's accumulated deficit and current debts represent 91% and 64% of its reported capital respectively. Its external debt amounts to US\$15 million and is assumed by the State.
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- ▲ CAMEP manages an estimated 38,000 connections, of which 10,000 have been disconnected for late payment. Four thousand connections have a meter but three meters out of four are out of order. Billing is based on a fixed estimate of consumption.
- ▲ According to a recent diagnostic, CAMEP's technical losses -- which are hard to measure given the absence of meters and the fact that the network is seldom under pressure -- are in the range of 70%. Actual billings are further reduced by the high number of illegal connections. The bill collection rate is lower than 60%, with outstanding receivables representing about two years of annual billings. In total, less than 15% of the water produced is paid for.
- ▲ The employee-to-active-connection ratio exceeds 11 employees per 1,000 connections.
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- 1.11 Recently however, things have started to improve. Benefiting from programs financed by the Caisse Française de Développement (CFD) and the World Bank (WB), CAMEP is undergoing restructuring and has initiated three important programs: (i) a leak detection program, to be completed by February 1999; (ii) a metering program, which will increase the number of metered connections to 6,000 and provide CAMEP with data on overall water production, to be completed by February 1999; and (iii) a users' registration program, which will provide CAMEP with a comprehensive register of

both present and potential clients, to be completed by October 1998.

- 1.12 Overall, CAMEP's management is improving and bill collection rates have been increasing. For the first time since 1986, CAMEP generated a small running surplus in fiscal year 95/96.

b. SNEP

- 1.13 The efficacy of SNEP's institutional set-up is even more problematic. The issue of excessive centralization is acute because SNEP is supposed to manage more than 30 widely distributed networks. Out of SNEP's 300 staff, 50 are located at the central office from which no direct services are provided. With less than 20% of the staff, this office accounts for 50% of SNEP's total expenditures. Proceeds from tariffs are sent directly to Port-au-Prince. Whatever is not spent by the central office is then sent back to local offices, mainly to cover salaries. It is not uncommon for SNEP regional employees to wait several months for their salary. Non-salary expenditures in local offices represent less than 10% of total expenditures.
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- A few indicators illustrate this dire reality: the ratio of connections to inhabitants in secondary cities is less than one in 60; the employee-to-active-connection ratio exceeds 21 per 1,000; the amount recovered per connection in 1995 was less than US\$37. Assuming an average monthly consumption of 30 cubic meters per connection, this represents an average price of US\$0.10 per cubic meter... to be compared with the price of as much as US\$10 per cubic meter at which the less fortunate families get their daily water.
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- 1.14 According to a February 1996 diagnosis, twelve of SNEP's seventeen main local offices would be able to cover their present expenses (including a depreciation charge levied by the central office), if they could keep their revenues. All except three could cover their operation and maintenance (O&M) costs. Present expenditure levels, however, are inadequate to cover the most basic O&M needs.
- 1.15 None of SNEP's 15,000 connections are metered; billings are done based on estimates; outstanding collections represent about 1.75 years of annual billings. SNEP receives a US\$220,000 annual subsidy from the State, which represents about 25% of its current revenues. Fifty one percent of SNEP's total assets come from donations and SNEP's accumulated deficit represents 1.5 times its current budget.

4. Principles of the reform and achievements to date

- 1.16 Conscious of the necessity to radically restructure the sector in order to sustainably improve potable water and sanitation services, the Government of Haiti (GOH) has engaged in a reform process based on: (i) the separation of regulatory functions from service provision functions; (ii) the systematic involvement of users in cost-sharing; (iii) the gradual decentralization of ownership of, and responsibility for, water services to municipalities and other local actors; (iv) the transfer of systems management to the

private sector and/or communities; and (v) the initiation of efforts to build up sanitation services.

- 1.17 In the last two years, the Bank has been supporting the reform definition and preparation process through a number of technical cooperation operations, the most significant of which is the Potable Water Sector Reform Technical Cooperation [ATN/SF/BF-5271] for an amount of US\$900,000. This TC, which is 100% committed and 90% disbursed, seeks to design and prepare for the implementation of the Potable Water Sector Reform. In the present Haitian context, characterized by weak institutions and a strong resistance to structural reforms, the sector reform TC has been progressing very satisfactorily. The major achievements can be summed up as follows:

(a) The Sector Reform Unit (SRU) was established two years ago and is staffed with one national coordinator and one international adviser (both co-directors), four local professionals (one technician and three community development specialists) and two support staff. SRU is gradually building credibility. All government agencies and most donors involved in the sector have engaged in active collaboration with SRU.

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Although reform implementation was beyond the scope of the Sector Reform TC, SRU has also been able to obtain a few critical decisions from various administrations to get the reform moving:

(1) In July 1998, the Minister of TPTC granted complete financial autonomy to SNEP's local office in Les Cayes (one of the first-year projects) and SRU trained SNEP's local staff to use a new accounting system. Expected revenues are in the range of US\$7,500 per month, twice as much as the present level of expenditures of that office !

(2) The Office of the Auditor General recently agreed to modify the control it exerts on the finances of SNEP's local branches, from a ex-ante to an ex-post type of control.

(3) SRU also convinced the Minister to fund a US\$120,000 emergency rehabilitation project in Les Cayes. This small project, to be completed by end of August 1998, should enable those connected to the network to get water 24 hours-a-day and will turn presently free-water public taps into water-selling fountains.

(b) The study for Private Sector Participation has been successfully completed and its results were used in the draft Sector Reform Law. The Government has welcomed these recommendations and seems committed to their implementation.

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This gradual approach of improved services and tighter management is expected to have a very strong demonstrative effect and help promote the reform.

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(c) SRU's actions in the field have been focused on three pilot cities as vehicles to investigate and test different reform options. In two of them, a community-wide consensus has been reached with regard to the way potable water service could be improved. As a result, these two cities (Port-de-Paix and Les Cayes) have been selected as the Program's first-year investment projects. Citizens' committees have been established under the direction of the municipal council to interface between the engineers preparing the project and the communities that will benefit from it.

(d) Tariff studies have been carried out as part of the first-year pre-investment studies. They show an overwhelming willingness-to-pay for adequate service. They also show that people -- especially those who get water from informal systems -- feel they are presently paying too much for what they receive. Finally, they show that in most cases, users' contributions could cover not only the operation and maintenance costs but also a significant part of investment costs. (See chapter IV, financial feasibility).

(e) Significant progress has been achieved on the preparation of the new legal framework. A thorough public policy debate including the two parliamentary chambers was organized on the first draft of the Sector Reform Law. A finalized version was transmitted by SRU to the Minister of Public Works in June 1997, for consideration by the Cabinet. The present governmental crisis has made it impossible for the Government to present the draft law to the Parliament. It is strongly recommended that the presentation of the draft reform law to the Parliament be a condition prior to the initiation of any investment works under the proposed Program.

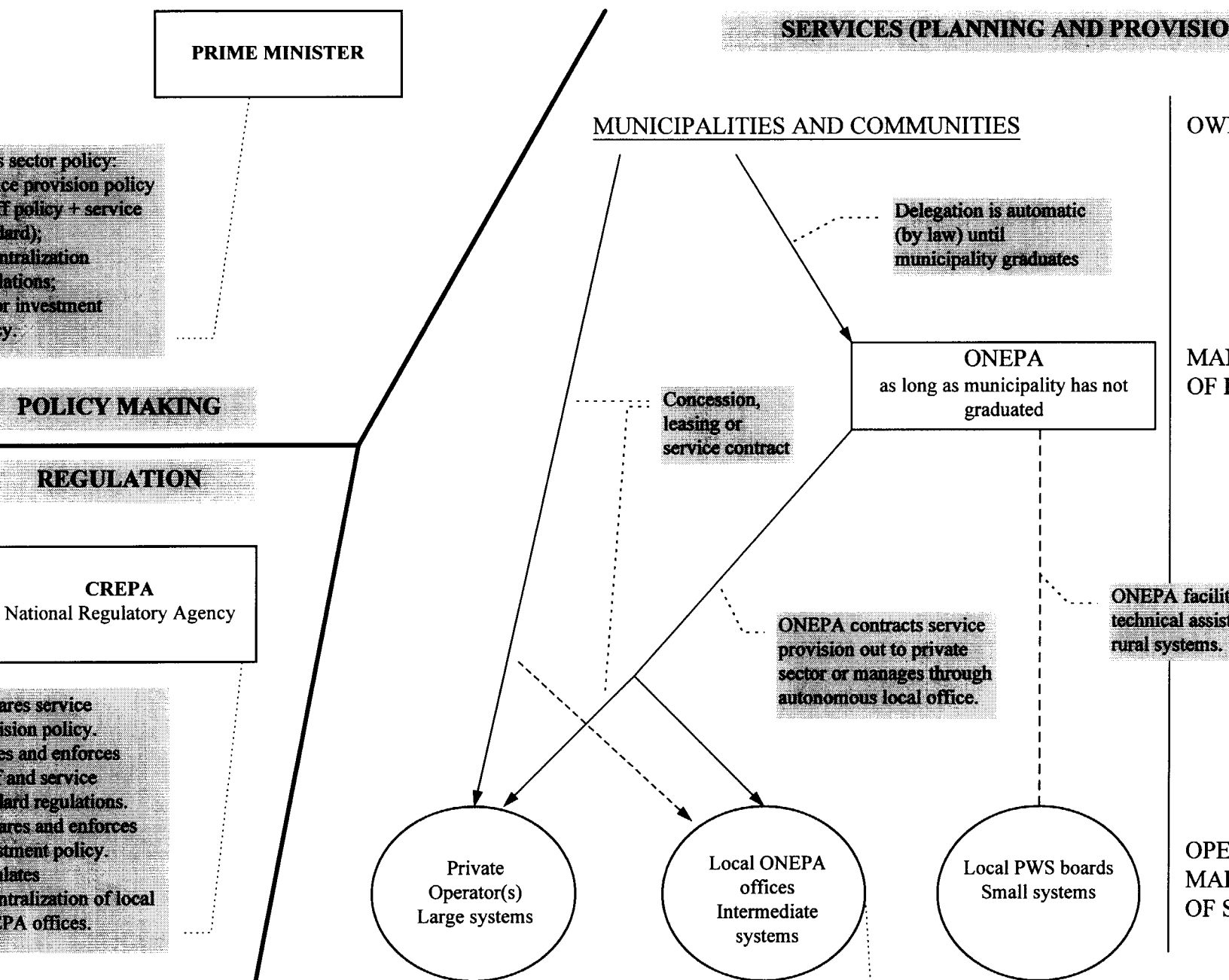
B. Proposed sector structure

- 1.18 This section lays out the principles of the sector structure to be established by the draft Sector Reform Law (see chart 1). The draft law has been written so as to facilitate the emergence of the most appropriate institutional option for each PWS system -- not to define ex-ante what this option should be. Similarly, the regulatory agency has been designed to encourage diverse, demand-driven options, while maintaining order over the process and ensuring its results.

1. Regulation

a. Regulatory functions

- 1.19 At the central level, reform implementation will start with the establishment of an independent regulatory commission, the Conseil de Régulation de l'Eau Potable et de l'Assainissement (known by its French acronym CREPA). CREPA's main functions will include policy preparation and regulation of services.
- 1.20 CREPA will be responsible for coordinating the preparation of the country's PWS sector policy with appropriate line ministries and state agencies. This policy will consist of: (a) the **service provision policy**, itself comprised of: (i) the tariff policy and its regulations; and (ii) service standard regulations such as environmental, sanitary, and technical norms; and (b) the **investment policy** and its regulations. The policy will be approved by the Government.
- 1.21 CREPA will enforce the **service provision policy** by regulating tariffs and quality of service. When PWS authorities choose to



for structure.

Functional functions (policy making, regulation, responsibility for services, actual service provision) will be shared between the Government, ONEPA, municipalities, communities and the private sector.

May:

- join with other local offices to operate under a multi-municipal arrangement
- become private and operate under contract to municipality or ONEPA;
- become a local public utility supervising the municipality.

contract out service provision to private operators, CREPA will check the contracts ex-ante for compliance with tariff and service standard regulations. CREPA will also be responsible for regulating the decentralization of urban systems: it will set specific criteria that municipalities or inter-municipal associations will have to meet in order to take over full responsibility for PWS (see paragraph 1.28).

- 1.22 CREPA will enforce the **investment policy** by regulating access of PWS authorities to public financing. Sector-wide investment coordination would not be necessary if all infrastructure financing were to come from private sources and if access were regulated by the market. This is however unlikely to be the case for the next twenty years and a centralized sector investment policy will continue to be needed to allocate the public financing made available to the sector.
- 1.23 The sector investment policy will have to specify that a PWS system which does not abide by tariff and service standard regulations will not be eligible for investment financing. CREPA's investment regulation mandate will therefore provide leverage to the enforcement of CREPA's service regulation mandate.

b. CREPA's structure

- 1.24 Five commissioners will sit on the regulatory commission. Four of them will be qualified experts in economics and finance, water works, environment, and public health, appointed by the Minister of Economy, the Minister of Public Works, the Minister of Environment and the Minister of Public Health respectively. The fifth commissioner will be a member-at-large appointed to represent the general public by the *Conseil Inter-départemental*, the highest Haitian institution representing local governments. The five-year appointments will be staggered so as to provide continuity to CREPA's work.
- 1.25 CREPA will be assisted by an Executive Secretariat of less than five professionals. CREPA's recurrent costs (about US\$200,000 per year) will be financed by a percentage charge on urban water bills.

2. Service provision

a. What the draft law says

- 1.26 The draft law stipulates that rural systems will be owned by communities and managed by elected users' committees, as is already the case in many instances. With regard to urban localities, the draft law distinguishes three basic functions associated with service provision: 1. ownership of assets and approval of investments; 2. financing and management of investments; and 3. operation and maintenance of systems.

- 1.27 The draft law grants the overall responsibility for PWS services to municipalities and provides that the first of the three functions associated with this responsibility (ownership of the infrastructure and approval of investments) cannot be delegated to a third party. With regard to Port-au-Prince, whose metropolitan area covers six municipalities, responsibility for services is granted to an autonomous state agency established by the law and known by its French acronym as ONEPA (see paragraph 1.32), until the creation of a metropolitan water authority.
- 1.28 Because most municipalities lack basic human and financial resources to actually exert this new responsibility, the draft law entrusts ONEPA with responsibility over functions 2 and 3 (financing and management of investments/operation and maintenance of systems), until such time as municipalities have been adequately strengthened. CREPA will regulate this decentralization process by defining and enforcing criteria which municipalities or inter-municipal associations will have to meet to "graduate" and take over these two functions.
- 1.29 The draft law further authorizes the party responsible for functions 2 and 3 (municipalities or ONEPA) to delegate them to private parties through concession, leasing or service contracts.

b. What is expected to happen in the next five years

- 1.30 In **Port-au-Prince and possibly other large urban centers**, operation and maintenance will be privatized. ONEPA (or a municipality declared fully responsible by CREPA) will enter into a lease agreement with a private operator selected through international competitive bidding (see paragraph 1.37 below).
- 1.31 With regard to the **urban systems which the private sector is not interested in managing**, ONEPA will initially be responsible for service provision through financially autonomous local offices. For such systems, medium-term options include the privatization of the local ONEPA office (which would then operate under contract with the municipality) or the formation of a municipal or inter-municipal water utility managed at arm's-length from the municipality(ies). It is expected that within five years of implementation of the reform, the three to five largest secondary systems in the country will have broken away from ONEPA.

c. ONEPA's structure

- 1.32 The draft law establishes ONEPA as an autonomous state agency and entrusts it with three distinct mandates: (i) ownership of Port-au-Prince's system until a metropolitan PWS authority is created; (ii) responsibility for investment in and management of PWS systems on behalf of municipalities until municipalities graduate -- as often as feasible, these two functions will be delegated to the private sector; and (iii) responsibility for facilitating technical

assistance to all decentralized systems, including rural ones. With the exception of the third one, these functions are therefore transitional and mechanisms will be built into ONEPA's internal regulations to ensure that ONEPA works towards rendering municipalities autonomous.

- 1.33 ONEPA will be placed under a board of five qualified professionals representing the Ministry of Finance, the Ministry of Public Works, Haiti's Chamber of Commerce, Haiti's Chamber of Industries, and the municipalities. The five board members will be appointed by the Prime Minister upon proposition by the organization they represent -- the *Conseil Interdépartemental* for the municipal representative. The draft law specifies that managerial experience will be the foremost criterion in selecting board members. ONEPA's executive director will be appointed by the President of the Republic -- as required by Haiti's constitution -- upon recommendation by ONEPA's board.
- 1.34 ONEPA will be made of two main directorates. The Contracts Management Directorate, with a maximum professional staff of 15, will be responsible for the administration of contracts with private providers (initially, the lease contract for the large systems). The Systems Management and Technical Assistance Directorate will be responsible for: (i) supervising ONEPA's local offices until these offices become fully autonomous and responsibility for PWS services is decentralized; and (ii) facilitating access to technical assistance for decentralized systems (including all rural systems). ONEPA will also rely on: (i) a five professional project management section, to manage large investment projects; and (ii) a five professional administrative and financial section.
- 1.35 ONEPA's entire current budget will be financed by the lease contract, which does represent a small cross-subsidy to the smaller systems. This is expected to have a 7% impact on tariff levels for the cities included in the lease contract, as opposed to 5% if only the lease contract-related activities were financed by the lease.
- 1.36 ONEPA will take over CAMEP's debts for ongoing investments. CAMEP's old debts will be split between ONEPA and the national budget, in proportions that still have to be decided upon -- which will influence the financial equilibrium of Port-au-Prince's lease contract. SNEP's debts will be transferred to the national budget. All recurrent subsidies from the State to the PWS sector will disappear.

d. Private sector participation

- 1.37 The various studies which have investigated the potential for private sector participation in PWS services have led the Government to embrace a strategy to increasingly involve the private sector in service provision. The first step of this "migration" strategy would consist of leasing out Port-au-Prince's



and possibly other large urban systems to a private operator. Outright asset divestiture and concession agreements have been ruled out due to the lack of investment security which characterizes Haiti. The last study, to be completed by year end, aims at determining the exact terms of the leasing/service contract. Its main features are presented in document EXE/1, available in the Program's technical files.

- 1.38 The foremost decision that remains to be made is the extent to which the international private sector can be expected to bear the risks associated with operating Port-au-Prince's system. Two factors may affect the viability of the lease arrangement: (i) the commercial risk is not known with enough precision for the international private sector to bid on the lease with a "reasonable level of information", which could lead to either a no-offer bidding process or to excessively high prices; and (ii) Haiti's present socio-political environment may not be considered stable enough for the international private sector to be willing to bring the working capital necessary to run the lease: the net cashflow of the lease is indeed expected to remain negative for about seven to ten years, leading to a maximum consolidated deficit of US\$3.5 to US\$12.8 million, depending on the portion of the present sector debt which will be passed on to the lessee.
- 1.39 Measures to mitigate these two concerns are being investigated. On the risk assessment side (which mostly concerns Port-au-Prince's system, representing, as it would, more than 90% of the expected turnover of the multi-system contract), CAMEP is currently carrying out leak-reduction, metering and customer registration programs with the assistance of an international operator. Reliable information on technical losses, bill collection rates and other key data will therefore be available by the end of 1998.
- 1.40 With regard to the working capital risk, an option could be for the public sector -- possibly the Bank through the proposed Program -- to finance part of the anticipated early-operating deficit, which would reduce the amount of risk born by the private operator. This would also lower the initial requirement for tariff increase generated by the privatization process. Under this scenario, the Bank's contribution -- the exact amount of which will be determined through the lease bidding process -- would be transferred by ONEPA to the lessee according to a schedule to be negotiated between the two parties. Because this contribution would be built into the bidding process, the net benefits it would generate would not be captured by the lessee but would be passed on to end users through lower tariffs.
- 1.41 Other options to reduce the risk taken by the lessee in carrying the initial operating deficit are being looked into. They include the provision by the Bank's Private Sector Department of a partial risk guarantee on the financing which the lessee will need to cover the deficit.

- 1.42 The terms of the lease contract will be finalized by year end and the call for tenders will follow thereafter. Port-au-Prince's system is therefore expected to be privately operated by end of year 1999. To the extent possible, the private operator will also take over the largest secondary cities after rehabilitation works have been completed.

C. Framework for donor coordination

- 1.43 As the official donor chair for the PWS working group of Haiti's consultative group, IDB has been leading donor coordination in this sector for the last three years. The colossal task of revitalizing the sector will be shared among major donors in the following way: (i) the Bank will concentrate on global reform implementation and will invest in the country's main cities; (ii) the French Development Agency, the ICDF and, to a lesser extent, the World Bank, will invest in Port-au-Prince's systems, and may be joined by IDB to support the privatization of operations there; and (iii) UNICEF, UNDP and bi-lateral cooperation agencies such as the Swiss Agency for International Development will concentrate on rural areas. Finally, KfW recently indicated its support for the reform and may cofinance the IDB investment program in the city of Cap-Haïtien.

D. Lessons learned

- 1.44 Proposals for profound reform must rest on the experience gained from similar programs. A thorough review of the Bank's and other donors' experience in Haiti and other relevant countries was therefore conducted at the outset of the reform preparation process. This review is available in the Program's technical files (TBW, March 1997). Its main conclusions are summarized below.

(a) **Reform design.** The recurrent lessons of past sector reforms constitute the basis of the principles laid out in paragraph 1.16 with regard to cost recovery, private sector involvement, decentralization and community participation. The major institutional elements used to build the proposed sector structure have been adapted from Ivory Coast for the privatization of large systems and Paraguay for the management of small systems by community boards, two countries where potable water sector reforms have taken place rather successfully.

(b) **Reform implementation.** The overwhelming lesson concerning the reform implementation process relates to the importance of developing a participatory approach and facilitating public policy debate to ensure the achievement of a nation-wide consensus. SRU's approach has been nourished by this lesson.

(c) **Program execution.** With regard to the proposed Program, the Bank's recent experience in Haiti emphasizes the need for flexibility in design, a strong emphasis on institutional

strengthening, and the explicit linking of the disbursement of investment funding to the progress of the reform.

E. Bank's strategy and rationale for involvement

- 1.45 Ever since the return of a constitutional government in Haiti in November 1994, the IDB has stood side by side with the Haitian Government in fostering the reform of the potable water and sanitation sector. This reform and the investments that will accompany it are crucial to improving the living standards of the average Haitian. But the reform will also be a long and difficult process. As the first three years of common work have shown, there are no easy solutions, no ready-made recipes. The IDB's commitment to the sector must therefore be oriented towards the long term.
- 1.46 In this perspective, the proposed Program is an essential step. It will enable a solid legal base to form for the development of the sector and will help establish the institutions that will be instrumental in its development. At the same time, by providing financing for much-needed investments, the proposed Program will give the newly established institutions a unique opportunity of learning by doing. The processing of Program investment within the new institutional structure will indeed provide a model for how to handle future public investment in the PWS sector.

## II. THE PROGRAM

### A. Objectives

- 2.1 The goal of the proposed Program is to improve and sustain potable water service across the country while establishing an institutional framework for the gradual development of waste water service.
- 2.2 The specific objectives of the proposed Program are therefore to: (i) support the establishment of the independent PWS regulatory agency and the privatization of service provision in Port-au-Prince and other urban centers; and (ii) enhance and sustain the quality and coverage of potable water service in approximately ten urban centers and fifty rural and peri-urban communities.

### B. Program description

- 2.3 The proposed Program will be a five-year multiple-works operation consisting of three components: an institutional component to support the implementation of the sector reform; an investment component to finance the rehabilitation and expansion of water systems; and a private sector participation component to finance part of the transaction costs involved in fostering private participation in the management of rehabilitated systems.

#### 1. Reform implementation component (US\$1,515,000)

- 2.4 This component will finance technical assistance and training to: (a) finalize the regulatory framework; (b) help establish the regulatory agency; (c) finalize the Government's investment policy and establish public sector capital expenditure mechanisms for the PWS sector; (d) help establish ONEPA; and (e) help strengthen the environmental capacity of the sector's institutions. Activities (a), (b) and (e) above aim at the establishment of a regulatory framework that facilitates private sector investment in the PWS sector, which is one of the priorities of the MIF Technical Cooperation Facility. It is therefore proposed that these activities be financed by the MIF (see annex II-1).

#### a. Finalization of the regulatory framework (US\$250,000)

- 2.5 The Program will finance legal consulting services to finalize the most important regulatory instruments needed to regulate the application of the Sector Reform Law, which includes: (i) the decrees establishing ONEPA and CREPA; (ii) the tariff decree; (iii) service standard regulations including water quality norms, quality control procedures and enforcement mechanisms; (iv) decentralization and private sector participation regulations (criteria by which CREPA will authorize the decentralization of PWS services and the privatization of operations).

b. Training and technical assistance to CREPA (US\$410,000)

- 2.6 CREPA, the sector's regulatory entity, will be created at the end of the Program's first year. The Program will finance consulting services to: (i) draft CREPA's internal operating regulations and set up its internal procedures; (ii) establish a country-wide database of PWS systems and design a simple tool to monitor service standards; (iii) design and implement a training program for CREPA's five commissioners and key technical staff; (iv) design and implement an information and training program to familiarize all actors in the sector (notably municipalities, providers and ONEPA) with the new rules of the game; and (v) devise a system to receive, process and expedite service-related complaints originating from users, municipalities or other parties.

c. Sector investment policy (US\$150,000)

- 2.7 The Program will finance a study to finalize the sector investment policy and to design and establish sector-wide capital expenditure mechanisms to allocate all domestic and external public financing made available to the sector. Such mechanisms will seek to institutionalize the Program's own financing mechanism as described in paragraph 3.7 to 3.10 below and will address the crucial issue of investment subsidies and how to direct them to poorer areas/users.

d. Training and technical assistance to ONEPA (US\$400,000)

- 2.8 ONEPA will be created at the end of the Program's first year. The Program will finance consulting services to: (i) design ONEPA's organizational structure; (ii) establish financial procedures, design, acquire and install a computerized accounting and financial reporting system, and train relevant staff; (iii) design and implement a comprehensive human resources management policy; and (iv) reinforce ONEPA's water quality control technical and institutional capacity.
- 2.9 Additionally, the Program will finance measures aimed at developing vocational training as an integral part of service quality enhancement. Such measures include: (i) the reinforcement of existing private technical institutes delivering training in the PWS field; (ii) the design and establishment of permanent vocational training programs for the technical and commercial staff of intermediate urban systems; and (iii) the design and implementation of training programs to help all parties involved in small systems get through CREPA's certification processes.

e. Environmental capacity strengthening (US\$305,000)

- 2.10 The Program will finance the implementation of an eleven-module training program to strengthen the environmental capacity of the sector's institutional and community-based actors. This training program includes two modules on integrated water resources

management (for policy makers, including CREPA staff), four modules on the definition, application and enforcement of environmental regulations (targeted towards ONEPA and CREPA technical staff), three modules on effective implementation of community outreach initiatives and utilization of community resources (for municipalities and service providers), and two modules on the environmental impacts of PWS works (for local contractors).

2. Investment component (US\$48.45 million)

- 2.11 The investment component will finance up to US\$48.45 million for the rehabilitation and expansion of potable water and sanitation infrastructure in urban, peri-urban and rural areas, according to pre-agreed operating regulations and selection criteria presented in chapter III.

a. Urban systems (US\$39.1 million)

- 2.12 All cities with a population above 5,000 will be eligible under this sub-component. Port-au-Prince's system may be eligible, but for an amount not to exceed US\$15 million over the life of the Program. A total of eight to ten urban projects benefiting about 400,000 people are expected to be financed. For each project, the following items will be eligible for financing: (i) the preparation of a potable water and sanitation master plan; (ii) institutional, technical, environmental, social, financial and economic feasibility studies; (iii) project appraisal; (iv) execution and supervision of works; (v) community outreach initiatives; (vi) institutional strengthening of the municipality; (vii) technical assistance to the service provider (except when the service provider is an international private company); and (viii) overall project evaluation.
- 2.13 The works to be financed will include the drilling and cleaning of wells, the supply and installation of pumping equipment, the construction, protection, reforestation and cleaning of catchment areas, the supply and installation of treatment facilities, the construction of adduction and distribution mains, the construction of secondary and tertiary distribution networks, and the installation of metered private connections and public standpipes. Small scale remedial sanitation infrastructure will also be financed to mitigate the impact on the environment of the increased supply of potable water.
- 2.14 For each urban project, the investment component will also finance the preparation and implementation of a pilot waste water project in selected low-income areas. The objective of these small-scale projects (typically less than 15% of the corresponding potable water project) will be to test innovative, low-cost waste water management technologies and establish appropriate institutional mechanisms for their operation. Open calls for tenders will be prepared with input from beneficiary communities, and turn-key projects will be selected based on their affordability for local

beneficiaries as well as on the potential for replicating the innovations they introduce. Successful arrangements may then be disseminated under the Sanitation Investment Loan currently under preparation (HA0039).

- 2.15 As far as possible, before financing the overall rehabilitation and expansion of a given system, the Program will fund a (very) small project for first-priority improvements. The current state of disrepair of most urban systems should indeed make it possible for small investments to significantly and rapidly increase the quality of service, which in turn should enable a well-run water utility to convince users to pay their bill. More significant investments would only be considered after specific pre-agreed objectives have been met as a result of the emergency project. (See paragraph 3.11 for more details on the link between the emergency project and the main project).

b. Rural and peri-urban systems (US\$9.1 million)

- 2.16 All population centers of less than 5,000 residents will be eligible under this subcomponent, both in rural areas and in marginal urban areas. A total of fifty small projects benefiting about 75,000 people are expected to be financed. For each micro-project, the following items will be eligible for financing: (i) pre-project community development activities leading to the establishment/strengthening of a local water board; (ii) simple technical designs and financial analysis; (iii) the execution and supervision of works (potable water supply systems and simple waste water disposal systems); (iv) training of and technical assistance to the system's operator; and (v) project evaluation.

c. Surveillance system (US\$250,000)

- 2.17 The investment component of the Program will finance the establishment of a surveillance system designed with PAHO/WHO to monitor the impact of urban projects on waterborne disease occurrence rates. Two data baselines will be established at the outset of the Program, one for the dry season and one for the fall rainy season. Surveys will then be carried out twice a year, once during each season.

3. Private sector participation component (US\$5.5 million)

a. Lease contract financing (US\$4 million)

- 2.18 If the ongoing lease contract study -- the results of which will be available before end of year 1998 -- indicates public financing is necessary to attract private sector participation, a maximum amount of US\$4 million will be allocated from the Bank's loan to be built into the lease contract. Bidders will be invited to compete by offering to accept a lesser amount, in which case the loan resources saved may be reallocated to the investment component.

The amount finally negotiated would be paid by ONEPA to the private operator according to a four-year schedule to be negotiated.

b. Staff rationalization package (US\$500,000)

- 2.19 Of the 600 staff currently employed by CAMEP and SNEP, an estimated 200 to 250 will not be reemployed in the sector following the implementation of the reform<sup>3/</sup>. The Program will therefore finance a six-month retraining program as well as severance allowances consisting of a year of base salary for present CAMEP's and SNEP's staff which will be left without a job by the reform. The Bank's funds will be used for the training program, while counterpart funds will be used for the severance payments. This package will be closely coordinated with USAID's initiative on civil service reform.

c. Lease contract supervision (US\$1 million)

- 2.20 Because experience in other countries indicates that contract management is one of the most critical post-privatization issues, the Program will finance a three year technical assistance to train ONEPA in the supervision of the lease contract. Emphasis will be put on service standard measurement and reporting, cost analysis and financial auditing.

C. Cost and financing

- 2.21 Following an analysis of the first-year projects and an appraisal of the institutional capacity of the main participants, the Program has been scaled to reflect: (i) the capacity of users to pay for PWS services; (ii) the state of preparedness of municipalities and local communities, whose participation will be instrumental in the development of specific projects; and (iii) the limited implementation capacity of the Government, which will coordinate program execution. It is estimated that two to three urban projects can be initiated every year, leading to a total of eight to twelve projects in four years. (No projects will be initiated during the Program's last year).
- 2.22 The cost table is presented below. Program financing include resources for Program administration. Such resources will be applied to cover: (i) the costs of the Sector Reform Unit, which will become the Program's coordinating unit; (ii) project management costs within ONEPA; and (iii) CREPA's ordinary budget on a declining basis (100% for the first three years, 66% the fourth year and 33% the last year). The rationale for this last item is presented in chapter IV, paragraph 4.20, when the sector's financial feasibility is reviewed.

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<sup>3/</sup>

However, in the medium term (5 to 10 years), the number of persons employed in the PWS sector should grow steadily as services develop. By year 2000, if the country reaches 100,000 private connections, the PWS sector should have created at least 300 direct jobs.



Source of funds	IDB/FSO	MIF	Local	ICDF	Total	%
<b>1. Administration</b>	<b>2,238</b>	<b>0</b>	<b>1,330</b>	<b>0</b>	<b>3,568</b>	<b>5.8%</b>
<b>2. Reform implementation</b>	<b>550</b>	<b>965</b>	<b>0*</b>	<b>0</b>	<b>1,515</b>	<b>2.5%</b>
Regulatory framework	0	250			250	
CREPA training and TA	0	410			410	
ONEPA training and TA	400				400	
SIP	150				150	
Environmental strengthening	0	305			305	
<b>3. Investment</b>	<b>35,480</b>	<b>0</b>	<b>2,970</b>	<b>10,000</b>	<b>48,450</b>	<b>79.5%</b>
Large urban systems	27,000		2,100	10,000	39,100	64.1%
Small systems (rural and peri-urban)	8,300		800	0	9,100	14.9%
Surveillance system	180		70	0	250	0.4%
<b>4. Private sector participation</b>	<b>5,200</b>	<b>0</b>	<b>300</b>	<b>0</b>	<b>5,500</b>	<b>9.0%</b>
Private sector supervision TA	1,000		0		1,000	
Working capital for large systems	4,000		0		4,000	
Staff rationalization package	200		300		500	
<b>5. Financial costs</b>	<b>1,532</b>	<b>0</b>	<b>400</b>	<b>0</b>	<b>1,932</b>	<b>3.2%</b>
Interests	1,082		0		1,082	
Credit commission	0		400		400	
Inspection fees	450		0		450	
<b>Total</b>	<b>45,000</b>	<b>965</b>	<b>5,000</b>	<b>10,000</b>	<b>60,965</b>	<b>100.0%</b>
Total % without co-financing	90.0%	xx	10.0%	xx	xx	xx
Total %	73.8%	1.6%	8.2%	16.4%	xx	xx

\* Note: counterpart resources for the MIF-funded TC are accounted for separately.

2.23 The overall cost of the Program is US\$60,965,000, of which the Bank is expected to finance US\$45,000,000 through the Fund for Special Operations (FSO) and US\$965,000 through a grant from the Multilateral Investment Fund (MIF); the International Cooperation and Development Fund (Taipei, China) US\$10,000,000; and the Government of Haiti US\$5,000,000. Financial conditions for the Banks' FSO are as follows:

Term: 40 years  
Grace period: 10 years  
Interest rate: 1% the first ten years, 2% thereafter  
Credit fee: 0.5% of undisbursed balance  
Inspection fee: 1%

#### D. State of preparation of the Program

2.24 SRU has prepared draft terms of reference for all studies and technical assistance listed in paragraphs 2.5 to 2.10 above and draft operating regulations for the investment component. These documents can be found in the technical files of the Program (file EXE/2). The terms of reference for the lease contract are being finalized by CAMEP and will be available by end of year 1998.

- 2.25 On the investment side, pre-investment studies have been carried out for the two first-year projects, Les Cayes and Port-de-Paix, totalling US\$10 million. Pre-investment institutional strengthening has been provided to the municipal councils and target local communities of the two cities. A detailed account of the appraisal of these projects by the Project Team is presented in the summary project feasibility documents available in the Program's technical files (documents PRE/1 and PRE/2). Specific elements regarding their technical, environmental, institutional, financial and economic feasibility are also presented in chapter IV. The methodology used for the identification and preparation of these two projects is the basis on which the Program's operating regulations have been designed. Bidding documents are ready and the tendering process will be initiated as soon as the proposed Program is approved by the Bank.
- 2.26 With regard to rural systems, WHO/PAHO and SRU carried out an evaluation of about 120 systems to better understand the factors positively and negatively associated with sustainability. This evaluation was used to develop the selection criteria that will be applied to rural systems. A first batch of 15 systems has been pre-selected accordingly and pre-project community development activities are underway.

### III. PROGRAM EXECUTION

#### A. Borrower and guarantor

- 3.1 The Borrower and guarantor of the loan will be the Republic of Haiti. Resources corresponding to the investment component for large urban systems will be on-lent through a fiduciary mechanism described in paragraphs 3.7 to 3.10 below. All other resources will be provided by the Government of Haiti to final beneficiaries in the form of grants.

#### B. Executing agency

- 3.2 Program execution will unfold in two stages. Before the draft law enters into effect, SRU will be in charge of launching the execution of the reform implementation component and preparing the ground for the other components. To this end, SRU will be reinforced by one tariff specialist to be recruited externally, one engineer to be seconded from CAMEP or SNEP, and one financial specialist to be seconded from the Ministry of Finance or recruited externally.
- 3.3 After CREPA and ONEPA have been established, SRU will keep a coordinating function but program execution will be decentralized as explained in sections C to E below. At the onset of this second stage, SRU's tariff specialist will move to CREPA and SRU's engineer will move to ONEPA's project management section. In its more permanent mode, SRU will therefore remain with three professionals: its director, which will be the Program's national coordinator, the international adviser, and the financial specialist. Because of ONEPA's preeminent role in the investment component, its project management section will be strengthened for program execution.

#### C. Execution of the reform implementation component

- 3.4 With the exception of the technical assistance to ONEPA, the reform implementation component of the Program (including all MIF-funded activities) will be executed through SRU. This will entail SRU's contracting: (i) individual consultants (lawyer, institutional and financial specialists) for the finalization of the regulatory framework; (ii) a consulting firm specialized in public service regulation for the design and implementation of CREPA's internal systems and training plan; (iii) a consulting firm specialized in public finance for the finalization of the sector investment policy and the design of sector-wide capital expenditure mechanisms; and (iv) two individual consultants for the development of the environmental capacity strengthening activities.

- 3.5 The technical assistance to ONEPA (paragraph 2.8) will be executed by a consulting firm specialized in water utilities restructuring and the vocational training activities (paragraph 2.9) will be executed by individual consultants, both hired by ONEPA.

D. Execution of the investment component

- 3.6 All executing arrangements related to this component have been defined in the draft Program Operating Regulations (PORs), which are available in the Program's technical files (document EXE/3). The presentation by SRU of the final version of the PORs to the Bank's satisfaction is a condition for the commitment of any resources related to the investment component. The loan contract will also specify that the PORs can only be modified with the Bank's consent.

1. Urban systems

a. Financing mechanisms

- 3.7 The rehabilitation and expansion of urban PWS systems will be financed through loans. Any institution granted responsibility for PWS investment by the sector reform law may apply for a loan. Project sponsors may therefore include ONEPA, "graduated" municipalities, and private concessionaires. 4/
- 3.8 Loans will be granted to project sponsors through a fiduciary fund headed by a credit committee and administered by a private firm (management firm or financial institution) to be recruited through public bidding. The credit committee will consist of SRU's director, one representative from the Finance Ministry and one representative from the firm administering the fund.
- 3.9 Loan conditions will be as follows: 4% interest rate indexed on inflation, 25-year repayment period, and grace period equal to construction plus one year. These terms have been adjusted so as to make the two first-year projects feasible (see paragraph 4.25). They are harder than the Bank's terms, which will enable capital funding to turn over quicker and will lead to more systems being rehabilitated and expanded. Loan repayments will be applied, in this order of priority, to: (i) IDB debt service; and (ii) the financing of new projects under the same terms and conditions. Both credit and exchange rate risks will remain with the Government. Credit guidelines for the fund are being finalized by SRU and will be part of the PORs.

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In practice, it is expected that ONEPA will be sponsoring most projects. However, should a municipality or a group of municipalities become autonomous, they too -- or their concessionaire -- will be able to apply for financing. Financing for Cap-Haïtien's project may be arranged this way.

- 3.10 This temporary investment mechanism will pave the way for the establishment of the permanent sector-wide capital expenditure mechanisms which the Program will support (see paragraph 2.7).

b. Project cycle

- 3.11 The main steps of the project cycle may be summarized as follows:

(i) For each potential urban project, the sponsor submits the pre-selection information package to CREPA; this information, which includes the sponsor's proposal for an emergency project, serves to ascertain to what extent the sponsor is committed to the principles of the reform. On the basis of this information, CREPA declares eligibility for the pre-investment studies and the emergency micro-project described in paragraph 2.15. Upon eligibility, a financing agreement is signed between the fiduciary fund, the sponsor and the municipality.

(ii) The sponsor recruits consulting firms through international public bidding for the pre-investment studies. At the same time, the emergency project is carried out.

(iii) As client, the sponsor remains in charge of accepting the studies based on their compliance with the terms of reference and on their technical soundness, but CREPA is in charge of checking the project for compliance with the Program's Operating Regulations <sup>5/</sup>. The foremost selection criteria have to do with ensuring the financial sustainability of the rehabilitated system. At this time, CREPA also reviews whether the sponsor has met the emergency project targets.

(iv) Once CREPA has cleared the project, the sponsor applies for a loan from the fiduciary fund. The financial institution managing the fund performs a standard credit analysis (based on the cost and tariff sections of the pre-investment studies, as cleared by CREPA) and designs a security package, backing the loan on project income, and possibly on municipal tax income if the sponsor is the municipality. The draft loan contract is presented to the Bank (COF/CHA) for non-objection and signed by the financial institution (to which the State will delegate this authority), the sponsor, and the municipality if ONEPA is the sponsor (since the municipality will end up carrying the debt if and when it "graduates").

(v) Once financing has been granted, the execution and supervision of works rest entirely with the sponsor. Supervision and construction firms are hired through international public bidding.

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<sup>5/</sup> In the future, beyond the Bank's Program, CREPA will be in charge of reviewing investment plans for each system to make sure that they comply with sectoral regulations.

(vi) When ONEPA remains in charge of service provision, grant financing is made available to strengthen ONEPA's local office (notably in the areas of user registration, bill issuing and collection, and financial accounting) and the municipality in its watchdog function.

(vii) Upon commissioning of a new system, the sponsor sends CREPA a copy of all project-related technical and financial information. Every two years thereafter, CREPA will commission a performance evaluation of the project.

- 3.12 For all urban projects, private provision will be systematically attempted. As many systems as possible will be included in Port-au-Prince's leasing/service contract. For the systems which are too costly to include, local privatization will be tried. By the time a project enters the Program's pipeline, a decision will have been made as to who will take over system management upon rehabilitation. Three situations may arise: (i) the system will be managed by the Port-au-Prince lessee, under ONEPA; (ii) if option one is impossible, the system will be managed by another private operator (most certainly local), under either ONEPA's local office or -- more probably in this case -- the municipality; or (iii) if the first two options are found not to be feasible, the system will be managed by ONEPA's local office.

## 2. Peri-urban and rural systems

- 3.13 This sub-component will be managed by ONEPA. All financing will be provided to rural systems in the form of grants, but it will come with a number of conditionalities and securities on these conditionalities as explained below. The main steps of the project cycle may be summarized as follows:

(i) Access to the Program will be demand driven. To be considered, peri-urban and rural communities will need to have an elected PWS board in place and this board will need to produce evidence of the community's commitment to the principles of the reform. ONEPA will help local boards in the preparation of this information. The appraisal of the pre-selection information will be carried out by CREPA. Only projects with a potential number of users ranging between 1,000 and 5,000 will be considered.

(ii) ONEPA will contract out pre-investment studies to the private sector. As much as possible, several systems will be clustered so as to reduce costs. When timing allows, pre-selected rural systems around a pre-selected urban system will be studied together.

(iii) The most important eligibility criteria aim at ensuring that the system will be adequately maintained by the community upon completion. Project screening will be carried out using a simple ranking system based on: (a) the number of beneficiaries; (b) the investment cost per capita; and (c) whether the project will

finance a new system or rehabilitate an existing one. Projects with per capita investment costs higher than US\$150 will be screened out. For each project, compliance with operating regulations will be checked by CREPA on the basis of a report prepared by ONEPA.

(iv) Before works for an approved project actually start, a formal grant agreement will be signed between ONEPA and the local PWS board. Under the agreement, the local board will have rights and obligations. Rights include receiving financing for the project and technical assistance to help keep it up. Obligations include maintaining the network and depositing a monthly sum equivalent to 1/360 of project cost in a sinking fund co-controlled by the local PWS board and the technical assistant. An advance payment equivalent to three months of tariff will be deposited by the community in an escrow account controlled by ONEPA as a collateral for the grant agreement.

(v) Works will then be contracted out to the private sector. Systems will be clustered to achieve economies of scale. National public bidding is expected to be used. Individual engineering consultants will be contracted by ONEPA to carry out works supervision.

(vi) The system will be managed by a plumber recruited and paid by the PWS board with proceeds from users' fees. Before the works are over, ONEPA will recruit a private source of technical assistance (NGO or small local company), train them and sign a three-year technical assistance contract covering more than ten systems in the same area.

(vii) Upon commissioning of a new system, ONEPA will send CREPA a copy of all project-related technical and financial information. Every two years thereafter, CREPA will undertake an evaluation of project performance. Failure by the local PWS board to respect the grant agreement will result in the collateral payment being taken away and the system being declared ineligible for further financing until the default situation is made right.

### 3. Surveillance system

- 3.14 SRU is expected to contract directly with the *Institut Haïtien de l'Enfance*, a local NGO with ample experience in health surveys and community outreach programs, to establish the surveillance system. PAHO/WHO will bring technical assistance to the process.

#### E. Execution of the private sector participation component

- 3.15 ONEPA will contract with an international consulting firm to help build ONEPA's capacity to supervise the private operator. The firm is expected to maintain one expatriate with ONEPA for three years and to call on specific expertise as needed.

- 3.16 If deemed necessary and after the Bank has given its non-objection to Port-au-Prince's leasing/service contract, the Bank will transfer to ONEPA the financial resources needed to cover part of the working capital for the leasing/service contract, as detailed in paragraph 1.40. Actual disbursement of Bank's funds would be tied to a pre-agreed list of purchases (such as meters, vehicles and computers) by the lessee.

F. Disbursement of funds

- 3.17 SRU will maintain an integrated accounting system for the overall Program with separate records for each component and will be responsible for submitting the Program's consolidated financial statements to the Bank. All disbursement requests will be channeled through SRU. Disbursement of funds will be ruled by the Bank's new procedures for advancing funds to borrowers (document CC-5411) through three revolving funds.
- 3.18 The first revolving fund will be the fiduciary fund to manage investment resources for the urban projects. Payments will be made directly by the fiduciary fund to the contractors, so that no monies will be handled directly by project sponsors. The other two funds will be: (i) a fund controlled by SRU for its operating costs, the technical assistance to CREPA and the surveillance system; and (ii) a fund managed by ONEPA for the technical assistance to ONEPA, the small projects investment sub-component, and the private sector participation component.
- 3.19 The tentative disbursement schedule for Bank resources (including MIF) is as follows:

(in US\$1,000)	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Urban projects	4,500	6,000	6,000	6,000	4,500	27,000
Small projects	600	1,800	2,100	2,100	1,700	8,300
Other funds	4,029	2,681	1,966	1,266	723	10,665
Total	9,129	10,481	10,066	9,366	6,923	45,965

G. Conditionalities

- 3.20 For the proposed Program to achieve its objectives, a clear link must be established between the financing of investments, the technical assistance made available to support the sector reform and the actual progress achieved with reform implementation. It is therefore recommended to apply the following **conditions** to the proposed Program:

(a) **before first disbursement**, the Borrower must present evidence that: (i) SRU has been mandated to initiate program execution and has been adequately strengthened; (ii) the PORs (including the environmental criteria and enforcement procedures specified in the Environmental and Social Impact Report) have entered into effect in a form satisfactory to the Bank;



(b) **before the signature of the first works contract** to be financed with resources from the proposed loan, the Borrower must submit evidence that: (i) the Parliament has approved legislation intended to: (1) establish an independent regulatory agency with strong powers over all potable water and sanitation authorities; (2) progressively decentralize responsibility for services and promote community participation; (3) authorize private sector participation in operations and management, through concession, leasing and/or management contracts; and (4) establish a tariff policy designed to recover the costs of potable water and sanitation services, as well as the costs of water resource preservation; (ii) CREPA and ONEPA have been created with adequate powers, their management structure has been put in place and their key staff have been appointed; and (iii) a financial institution acceptable to the Bank has been recruited to manage the urban projects investment resources;

(c) **before the signature of any works contract other than that for the first-year projects**, the Borrower must present evidence that: (i) the main regulations pertaining to tariffs, service standard regulations, decentralization and private participation regulations have entered into effect; (ii) an institution has been created at the national level to conceive and implement integrated water resources management; and (iii) a contract for the management of the supply of potable water in the Port-au-Prince area, transferring all or part of the commercial risk to a private operator, has been signed.

H. Monitoring, reporting and supervision

3.21 The Program's overall duration will be five years. Program benchmarks are presented in annex III-1. A first series of benchmarks will measure to what extent the Program produces the outputs it was designed to produce while a second series will measure to what extent the Program's actual outputs contribute to the Program's objectives and goals, that is, to the sustainable improvement of potable water service.

3.22 The following reports will be expected from the Borrower:

(a) At the beginning of the last quarter of each calendar year, SRU will prepare an investment plan presenting: (i) the current state of both urban and rural project pipelines; and (ii) their expected development for the year to come.

(b) At the end of the first quarter of each calendar year, SRU will prepare an investment report, presenting the main achievements of the past year, comparing them with the corresponding investment plan and indicating the evolution of the Program's investment benchmarks.

(c) Each report will also include: (i) a status report of the technical assistance activities financed by the Program and of reform implementation in general; (ii) an updated Gant diagram for reform implementation; and (iii) an indication of the evolution of the Program's institutional benchmarks.

3.23 Program execution will be supervised by the Bank's country office in Haiti, which has just recruited an international infrastructure specialist in addition to its local water and sanitation specialist. Given the importance of the institutional aspects of the Program, the project team responsible for project preparation is expected to spend about six weeks a year providing support to COF/CHA for the first two years.

3.24 Joint meetings will be held every six months to review program execution. They will include the Bank, MTPTC/SRU, CREPA, ONEPA, as well as other donors involved in the sector, most notably KfW, CFD and the WB. These meetings will serve to: (i) review the Program's indicators; (ii) earmark potential problems and agree upon remedial measures; and (iii) modify the PORs if necessary.

I. Procurement

3.25 Contracting of works and acquisition of goods and services will be governed by the Bank's procurement procedures. International public bidding will be used to award works contracts in excess of US\$1 million and to purchase goods and services in excess of US\$350,000. For amounts below these thresholds, Haiti's procurement regulations will be applied and national public bidding will be organized. A detailed procurement schedule is attached in annex III-2.

#### IV. FEASIBILITY AND RISKS

- 4.1 This chapter analyzes the global economic impacts of the proposed sector reform and presents the results of feasibility studies for the first-year projects as models for the larger Program works. Detailed results of these studies are presented in the summary project feasibility documents available in the Program's technical files.

A. Economic justification of the proposed reform

- 4.2 The potable water sector reform is expected to produce even greater benefits than the investments in physical works. Through increased pricing and management efficiencies, reform will create momentum for further expansion, bringing the proper incentive structure to reduce physical losses, wasteful consumption and commercial losses. The result will generate the necessary revenue stream to finance maintenance; cause present water losses to be converted into surplus water for new consumers; defer investments for rehabilitation and expansion due to premature deterioration and excess demand; and release funds to expand coverage to new consumers. Loan repayments by users to the Government will allow public funds absorbed by sector subsidies to be released to meet other needs.
- 4.3 Based upon Haiti's past and expected future performance, benefits derived from the increased efficiency of reform can be calculated and compared to conditions that would prevail without it. The comparison would show that: (i) with reforms, the amount of water available for consumption will increase from both the existing capital stock and from new investment, as losses are reduced from both by at least 50% and are converted to new supplies; (ii) this increase will be cumulative compared to the "without reform" condition, where each year losses grow until no one has a reliable supply; and (iii) new investments provide new service rather than being diverted to rehabilitation so that an estimated 100,000 more people will be supplied every year.
- 4.4 A simple economic analysis model was designed to quantify and compare the "with reform" and the "without reform" scenarios. Unfortunately, the scarcity and inconsistency of existing national statistics and expenditure data did not allow the project team to come up with reliable quantified estimates of the efficiency gains to be yielded by the reform. However, the impact of the proposed Program in a city like Port-de-Paix or Les Cayes (see paragraphs 4.8 to 4.26 below) gives an idea of the magnitude of the impact which the reform will have countrywide, if it is sustained.

B. Technical feasibility

- 4.5 From a technical standpoint, the construction works to be carried out under the proposed Program are not expected to present any major difficulties. However, the capacity and experience required to carry them out can be found only partially within the local private sector. For this reason, as much as timing allows, projects will be clustered to be made attractive to international firms. As more projects are executed, it is expected that local capacity and experience will increase.
- 4.6 As far as O&M are concerned, the two first-year projects have been designed using the simplest technology technically compatible with project objectives, and so will future projects. As recommended by past experience, the future system operator will be involved in the project as early as possible in order to ensure an optimal interface between construction works and O&M requirements.
- 4.7 The proposed Program entails a number of risks, the roots of which are often institutional and/or financial, but which may have technical implications. They include:
- (i) **The unreliability of electricity supply.** Some projects will have to rely on pumping to produce water. Due to the present unreliability of Haiti's electricity service, additional investment will be required to purchase generators. Operations will then be dependent on the availability of gasoline, which in turn will rest on the foreign currency reserves of the country. However, when a well option competes with a gravity option for production, the project team recommends not to systematically choose the gravity option (which would be the cheapest to operate), but to carry out a least-cost analysis of total annualized project costs.
- (ii) **The introduction of metering.** The operation of a system under continuous pressure allows for accurate metering and modern billing methods, but requires a higher managerial capacity. To develop such a capacity, the Program will establish a permanent training program geared towards operating technicians. Also, the new sector structure should facilitate the emergence of a "metering" culture by making each system financially independent and each system operator financially accountable.
- (iii) **Illicit tapping and vandalism.** As in most developing countries, illegal connections have always affected the efficiency of PWS systems in Haiti. The preventive measures incorporated into the proposed Program include making sure that the rural population along the pipeline routes have access to potable water, laying distribution pipes at a depth greater than one meter, and monitoring leaks on a neighborhood basis through a system of macro-meters. But beyond these technical answers, the only way to

drastically reduce the risk of vandalism is to increase community ownership. Specific measures adopted to this end are described in paragraph 4.34 below.

C. Economic feasibility

1. First-year projects

a. Method

- 4.8 The economic feasibility of each first-year project was evaluated using two cost-benefit analyses. The first is the Bank's public works simulation model (SIMOP) which simulates growth in demand, benefits, the rate of return and the sensitivity of benefits to different variables. The second is a modified method which deliberately seeks the lower bound of benefits and understates consumer surplus when willingness to pay exceeds the marginal price of project water. The inputs used for both methods were obtained through field surveys as described below.
- 4.9 Costs (in constant prices as of 1997) cover capital, operation and maintenance to produce and deliver incremental quantities of water. Benefits include the incremental production of water per year. This is valued using the marginal cost of production per cubic meter as the price for incremental consumption with the project, modified by alternative supply and the resource savings per unit of water produced with and without the project.
- 4.10 To project water demand in the absence of metered consumption and volumetric pricing -- and because non-price variables are more critical than price in setting the bounds of per capita water use -- a social survey was used to subdivide the population into verifiable categories that incorporate known limits on consumption. Most growth in per capita consumption was assumed to come step-like, as households obtain the primary fixtures that are linked to increases in consumption. Assumptions were made about population growth and the rate at which households would move from one consumption level to the next. The projects were sized and costed for these assumptions.
- 4.11 Economic pricing, the average incremental cost of producing a cubic meter of water, formed the basis for the design of utility-specific three-tier tariff structures. Using these prices, a targeted second household survey in Port-de-Paix provided elasticity of demand and consumer surplus -- through willingness to pay -- for different quantities of water at different prices.

b. Project justification

- 4.12 SIMOP produced Economic Internal Rates of Returns (EIRR) of 25% for Les Cayes and 44% for Port-de-Paix. The modified method produced an EIRR of 21% in Les Cayes and 13% in Port-de-Paix. These differences are inherent in SIMOP when a paucity of data,

and SIMOP's hunger for it, causes errors in assumptions to be compounded through simulation (see below, sensitivity). The lowest rates of return demonstrate that both projects are economically feasible. Because the price of water will be the marginal cost of supply, the project also ensures a rational allocation of resources.

- 4.13 The two towns, although they share similar system problems, differ markedly in other ways that affect the importance of variables to project feasibility. Many Les Cayes households have artesian wells and share freely with those who do not. These wells will compete for use with system water in price and quality, making the EIRRs of 21% to 25% more reasonable than a higher return. In more arid Port-de-Paix, demand is highly inelastic: much of the population is forced to purchase water stolen from its own system. As the system deteriorates and sources dry up, the market price of water is bid higher. The high SIMOP return reflects the current market price of US\$8/m<sup>3</sup>, very low elasticity of demand and the resource savings that would accrue as a result of people switching to the new system. The 13% rate of return does not incorporate as benefits the demonstrable willingness to pay higher prices than those called for in the project.

c. Sensitivity and distributive impact

- 4.14 Sensitivity analysis was carried out to measure how different assumptions affect project feasibility, including: (i) price elasticity of demand; (ii) population and connection growth rate; (iii) discount rate; and (iv) cost of investment. For Les Cayes, lower elasticities of demand increased the rate of return to 44% (SIMOP). Using the modified method, based upon a 20% increase in costs, the EIRR was 16%; a decrease in revenues due to delayed connections and lower consumption lowered the EIRR to 15%.
- 4.15 As part of the socio-economic surveys, the population of both towns was divided into a number of groups based on Income Level and Standards of Living (ILSL). These groups can be clustered in three main categories: (i) high and medium ILSL groups; (ii) moderately low ILSL groups; and (iii) very low ILSL groups <sup>6/</sup>. In Les Cayes, the group that gains the most is the moderately low ILSL group, which represents 40% of the population and will receive over one-half of the benefits. The very low ILSL group, representing another 40% of the population, will capture 35% of the benefits through improved levels of service and coverage. In Port-de-Paix, the project has a significant redistributive impact with the net benefits captured entirely by the moderately low and very low ILSL groups (61% of the population) as their water costs

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<sup>6/</sup> The average income levels of the four ILSL categories in Port-de-Paix are: US\$389, US\$278, US\$250 and US\$216/person/year respectively. In Les Cayes, the same figures read: US\$184, US\$156, US\$107 and US\$87. All are under the Bank's poverty line (US\$408/capita/year). The difference between the two cities comes from the fact that an estimated two thirds of Port-de-Paix's population receive cash from family living abroad.

drop from as much as US\$1.00/day/household to less than US\$3.00 per month. High income groups, now paying a flat charge, though subject to the same tariff structure as the poor, would pay at least four times the existing flat rate to maintain present levels of consumption.

- 4.16 The survey carried out in Les Cayes confirmed that, for urban households without a private connection, getting potable water is primarily a women's (45%) and a children's job (35%) <sup>2/</sup>. Women and children are therefore expected to receive the greatest share of the benefits that low ILSL groups will receive from the projects. The role of women in pushing for the improvement of water services will be essential. The Program will seek to institutionalize the position and functions of women in the sector, notably by ensuring that women participate in local user groups (see paragraph 4.34).

## 2. Economic analysis and distributive impact of future projects

- 4.17 Based on the economic analysis of the first year projects (as presented in paragraph 4.8 to 4.11 above), a simple methodology was designed for the economic analysis of future projects. A brief account of this methodology is presented in the Program's technical files (document EXE/5).
- 4.18 Using the Bank's poverty threshold of US\$408 a year, Haiti's poverty headcount ratio is located between 80 and 85%. Based on the distributive impact analysis carried out for the two first-year projects and on the socio-economic data available, it is estimated that 80 to 85% of the benefits of the Program's investment component will be captured by beneficiaries under the poverty level. This figure will reach 90 to 100% for the rural and peri-urban sub-component. For the urban sub-component, about 50% of the benefits should accrue to moderately low income groups (yearly per capita income between US\$200 and 400), while 30 to 35% of the benefits should accrue to very poor groups (average yearly per capita income around US\$100).

## D. Financial feasibility

### 1. Financial sustainability of the sector structure

- 4.19 Beyond the financial feasibility of individual projects, the financial sustainability of the two institutions to be established will be key to the success of the proposed reform. These institutions have therefore been designed bearing in mind the need to make them financially independent from the State and the need to rationalize the human resources supporting the sector (enhanced quality and reduced number).

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<sup>2/</sup> However, the contingent valuation studies failed to reveal a significant gender differential in willingness to pay.

- 4.20 As explained in paragraph 1.35, ONEPA will be financed entirely through the tariffs of the large systems. CREPA's annual budget is estimated at US\$200,000. In the medium and long term, it will be financed by a surcharge on tariffs. Assuming only modest increases in current CAMEP revenues as a result of the ongoing technical assistance, this would represent approximately 3% of tariff revenues for Port-au-Prince and the largest secondary cities by the end of our Program. Taking into account CAMEP's five-year investment plan and the efficiency gains to be yielded by the lease arrangement, this rate should be reduced to 2% of total revenues. In the short term, the proposed Program will contribute to CREPA's budget by financing its executive secretariat. For the first three years, Bank resources will cover 100% of these costs (US\$189,000), while this share will decrease to 66% and 33% by year 4 and 5. This will ensure that CREPA's effectiveness is not compromised at the outset of the reform and will give the sector time to strengthen its financial position.

## 2. Tariff structure

- 4.21 The draft Sector Reform Law prescribes that: (i) tariffs should cover operation, maintenance and capital costs; (ii) cross subsidies between distinct systems will not be allowed; and (iii) tariffs will have to be adjusted on a set schedule to account for inflation.
- 4.22 Based on the financial analysis carried out for the two first-year projects, these principles have been further developed in the Program's Operating Regulations (which, in turn, will feed the tariff decree). For each system, the tariff structure will be comprised of a three-tier tariff volumetric structure. Connection costs, spread over two years, will show as a separate item on the bill.
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- ▲ The first tier is a tariff based on full absorption of costs (0% FIRR), and will be applied up to a monthly consumption of seven cubic meters per household. This is the life-line rate which the poor (and other low consumers) will pay for their water.
- ▲ The second tier is based on average incremental cost (discounted at 12%) and will be applied for every cubic meter consumed between seven and fifteen.
- ▲ The third tier is based on the average rate that would be needed to achieve 12% FIRR. It will be applied for every cubic meter exceeding fifteen. This rate will serve to ration water demand and promote the conservation of water resources.
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- 4.23 Public standpipes will be managed by private individual operators or community committees which will buy bulk water from the system operator at a pre-agreed rate and will resell it at a price capped by the first-tier rate. Standpipe users will therefore buy water at a price equal to the first-tier rate, which ensures lifeline use without discouraging the poor from getting a private connection.

## 3. Feasibility of individual projects

- 4.24 For each project, tariff levels and project scale will be adjusted within the above-described structure, through an iterative process



involving project beneficiaries (see paragraph 4.34). Project feasibility will eventually be appraised on two accounts: (i) the capacity and willingness of users to pay their projected bills; and (ii) the cashflow generated by the project and its overall rate of return.

- 4.25 The two first-year projects served to set the financing conditions at which loans would be granted by the fiduciary fund. Starting from the Bank's conditions, on-lending conditions were made harder progressively (by reducing the term and increasing the rate) to reach a point where projects have an overall rate of return of 5% only. Because financial conditions that would vary from project to project may lead to political manipulation, it was decided to apply the same terms to all loans, namely 4% at 25 years with a construction-plus-one-year grace period.
- 4.26 The analysis carried out for the two first-year projects demonstrates that the proposed tariff structure is acceptable by users in terms of their willingness and capacity to pay. In particular, lower income groups are expected to see their monthly spending for potable water decrease by 100 to 400%, while their consumption would increase by up to 250%. Analysis also shows that, with physical losses of 30% and commercial losses of 25%, the projects would have positive cash flows and render the systems viable. These projects were found to have a twenty year FIRR of 5% for Port-de-paix and 7.8% for Les Cayes. Details can be found in the summary project feasibility file (documents PRE/1 and PRE/2).

E. Environmental feasibility

- 4.27 The Program's Environment and Social Impact Report (ESIR) was approved by the Committee on the Environment and Social Impact (CESI) on July 11, 1997. The environmental and social feasibility statement, which is available in the Program's technical files (document PRE/3), recognizes that:

(a) the Program will have significant environmental benefits of a socio-economic nature with respect to improved efficiency of water use, improved quality of life - particularly for women and children - reduced incidence of disease and child mortality, and environmentally strengthened institutions;

(b) the Program's main environmental and social risks are associated with the greater quantities of waste water that will be generated as a function of improved water supply; several measures will be implemented to mitigate this risk, such as the financing of public outreach initiatives, the financing of pilot waste water projects, and the progressive incorporation of a sanitation charge into potable water tariffs;

(c) the establishment of a National Water Council through which integrated water resources management would be conceived and

implemented will help address the crucial problem of water resources management.

- 4.28 Consequently, it is recommended to apply the following **conditions** to the Program: (i) the inclusion in the PORs of the environmental selection and enforcement procedures presented in the ESIR (before first disbursement); and (ii) the establishment of the National Water Council (before signature of any works contract other than for the first-year projects).

F. Institutional risks

- 4.29 The main risks involved in the proposed operation are institutional. At the global level, these risks relate to the capacity of the main institutional actors to develop ownership for and commitment to the proposed reform. At the local level, they pertain to the capacity of municipalities and communities to internalize the new approach and assume its financial consequences.

1. Institutional absorptive capacity

- 4.30 Ever since the return of the constitutional government in October 1994, Haiti has been asked to engage in a number of far-reaching structural reforms. While these reforms are a pre-requisite to restoring growth and eradicating poverty, they require a tremendous institutional capacity that the country simply does not have. It is therefore essential to conceive new ways to accompany the country through these reforms while building up its reform-implementation capacity.
- 4.31 This is what this operation will attempt to accomplish. ONEPA and CREPA will be established starting from a core of solid professionals. Within the broad principles defined by the draft law, the rules of the game (i.e. the Program's operating regulations) have been defined with this core of professionals. These rules rest on a consensus backed by high level politicians, not on externally imposed decisions. The proposed Program will provide an opportunity for all institutional actors to try out the rules of the game; to sit down together periodically and evaluate how these rules work; and to write them into the country's regulatory framework when there is a certain degree of confidence concerning their adequacy.
- 4.32 Training will play an essential part in this learning process -- not only for CREPA's and ONEPA's high-level management, but also for the technicians who will operate PWS systems, for the accountants who will become responsible for independent cost/profit centers, and for the communities and their leaders, whose role will be key in ensuring the institutional viability of individual systems. Overall, about US\$2 million have been budgeted to this end. The development of the in-country training

capacity through the reinforcement of existing technical institutes will be a cornerstone of this endeavor.

2. Performance, accountability and ownership

4.33 Experience shows that the performance of PWS systems is generally a growing function of ratepayer ownership. By contrast, lack of user involvement is often responsible for inadequately dimensioned projects, high occurrence of illegal connections and low cost recovery rates.

4.34 Based on the experience gained during the preparation of the first-year projects, the proposed Program foresees the implementation of the following actions to develop community ownership, notably in low-income communities.

(a) **Project identification stage.** The municipality and the project sponsor will have to set up a citizens' committee representative of the main user groups and the main geographical areas to be served. The PORs specify that at least half of the members have to be women. This group will carry out a simple diagnostic of the reasons that have led the PWS system to deteriorate. Throughout the project, the group will be assisted by a local community development officer (which will be a resident of the project area) recruited by the project sponsor.

(b) **Project design.** A dialogue will be established between the community and the engineering firm hired by the sponsor to prepare the pre-investment studies. This dialogue will consist of the following steps:

- the firm will carry out a preliminary survey and conduct focus groups to gather raw data on consumption needs that will enable engineers to dimension the rehabilitation and expansion project;
- cost estimates and preliminary tariff figures will then be computed;
- the firm will then go back to the community and present its proposal with the cost implications to the citizen's group; if the estimated tariffs are above what the community is willing/able to pay, engineers will go back to their drawing board and simplify their design by lowering the proposed standards;
- when a reasonable cost level is reached, detailed cost estimates will be computed and the final tariff structure will be established;
- a referendum will finally be organized by the municipality to have the community approve or reject the proposed project.

(c) **Project construction.** When construction starts, all residents served by the project area will be invited to apply for a private connection if they so wish. When applying, users will be told how the tariff structure works and what their obligations are, notably with regard to the protection of the meter. Connection costs

(US\$100) will be spread over two years and added to their monthly bill.

(d) **Project operation.** The municipality and the citizens' group, whose access to CREPA will be easier than that of individual users, will act as a watchdog over the provider. CREPA will hold annual public hearings in every major urban center. Each adjustment in the tariff structure will need to be discussed with the community.

EXECUTIVE SUMMARY OF TC-97-08-46-5

PROGRAM TO SUPPORT THE POTABLE WATER AND SANITATION SECTOR REFORM AND  
THE ESTABLISHMENT OF THE REGULATORY AGENCY

**EXECUTING AGENCY:** Ministry of Public Works, Transport and Communications (MTPTC)/Potable Water and Sanitation Sector Reform Unit (SRU)

**BENEFICIARY:** MTPTC, *Commission de Régulation des Services d'Eau Potable et d'Assainissement* (CREPA) -- to be established, municipalities and service providers

**OBJECTIVES:** The proposed Technical Cooperation (TC) will contribute to the implementation of the potable water and sanitation (PWS) sector reform, which will facilitate private sector participation in PWS services. Specifically, the proposed TC aims at: (i) supporting the preparation of the new regulatory framework; (ii) helping organize and train the sector's regulatory agency; and (iii) strengthening the environmental capacity of all actors involved in the sector.

**DESCRIPTION:** The Bank is currently preparing a Potable Water and Sanitation Sector Reform and Investment Program (HA-0014), the general objective of which will be to help the GOH implement the sector reform and finance much-needed investments. The proposed TC has been designed as an integral part of Program HA-0014 and concentrates on the regulatory aspects of the reform. It provides for the use of MIF resources to support execution of three components in order to: (i) prepare the main regulatory instruments prescribed by the draft sector reform law (decree establishing the regulatory agency, tariff regulations, service standard regulations, decentralization and private sector participation regulations); (ii) support CREPA's start-up, establish its information systems, and train its key staff; (iii) help strengthen the environmental capacity of the sector, including the environmental regulatory capacity of CREPA, the environmental technical capability of service providers, and the environmental awareness of users.

**FINANCING:**

Modality:	Grant
Recipient:	US\$ 250,000
MIF:	<u>US\$ 965,000</u>
Total:	US\$1,215,000

**IMPLEMENTATION SCHEDULE:**

Execution period:	30 months
Disbursement period:	36 months

**CESI APPROVAL:** The project document for Program HA-0014 (which includes the proposed TC) was approved by the CESI at its meeting of July 11, 1997.

**FEASIBILITY AND RISKS:** The proposed TC is a key component of Program HA-0014. It therefore shares the same risks, in particular with respect to the institutional capacity of Haitian authorities to implement the reform.

However, the profound involvement of SRU's three key staff in the reform definition process and their invaluable efforts to organize a country-wide policy debate on the reform's main aspects has facilitated the development of a wide consensus on the reform's principles and should facilitate reform implementation.

**SPECIAL CONTRACTUAL CONDITIONS:** **Before first disbursement,** the Government must present evidence that:

(a) SRU has been mandated to be the executing unit for the proposed TC; and

(b) Parliament has approved legislation intended to:

(i) establish an independent regulatory agency with strong powers over all potable water and sanitation authorities; (ii) progressively decentralize responsibility for services and promote community participation; (iii) authorize private sector participation in operations and management, through concession, leasing or management contracts; and (iv) establish a tariff policy designed to recover the costs of potable water and sanitation services, as well as the costs of water resource preservation.

**PROCUREMENT OF GOODS AND SERVICES:** Acquisition of goods and services will be governed by the Bank's procurement procedures. International public bidding will be used to purchase goods and services in excess of US\$350,000. For amounts below these thresholds, Haiti's procurement regulations will be applied and national public bidding will be organized.

SUPPORT TO THE POTABLE WATER AND SANITATION SECTOR REFORM AND ESTABLISHMENT OF THE REGULATORY AGENCY IN HAITI		
<b>General objective:</b> Contribute to the implementation of the potable water and sanitation (PWS) sector reform, which will facilitate private sector participation in PWS services.		
<b>Specific objectives:</b> (1) Support the preparation of the new regulatory framework; (2) help organize and train the sector's regulatory agency; and (3) strengthen the environmental capacity of all actors involved in the sector.		
Components	Specific tasks	Indicators
1. Finalization of the regulatory framework	Draft the decrees creating ONEPA and CREPA and define the regulatory instruments needed to have these two institutions operational.	Decrees have entered into effect within six months of project start.
	Finalize the tariff policy, design a simple economic and financial model to assess the rate structure, define related procedures and prepare corresponding CREPA resolution.	Financial model has been designed and CREPA staff has been trained to use it (within 18 months of project start).
	Design the technical norms and service standards applicable to all systems, notably those managed by ONEPA.	Signature of performance contracts between municipalities and ONEPA obtained. (At least five within two years of project start.)
	Prepare the decentralization regulations by which CREPA will regulate and monitor the decentralization of responsibility for services to municipalities.	Regulations published 18 months after project start. At least two municipalities "graduated" within two years of project completion.
2. Training and technical support to CREPA	Draft CREPA's internal operating regulations and set up its internal procedures. Acquire and install the corresponding office/computer equipment.	CREPA is operational. First commissioners' session within six-month of project start.
	Establish a country-wide database based on simple, quantifiable performance indicators to monitor service standards.	Database covers 80% of the country's urban systems within 30 months of project start.
	Design and implement a training program for CREPA's five commissioners and key technical staff, concentrating on the new regulations, the maintenance and control of the information management system, the application of sanctions and conflict resolution.	Number of professionals trained (indicative target: 5 commissioners, 5 technical staff).
	Design and implement an information/training program to familiarize all actors in the sector with the new rules of the game.	Number of workshops held. (9 for urban centers, 9 for rural areas, 3 with ONEPA, 3 with other institutions).
	Devise a system to receive, process, and expedite service-related complaints originating from users, municipalities or other parties, and devise a system for publicly disseminating CREPA's decisions.	Number of public hearings held by CREPA every year (minimum 9 starting one year after project initiation).
3. Environmental capacity strengthening	Training on integrated water resources management	Number of modules taught (2). Number of trainees per module (15).
	Training on environmental and social impact assessments (ESIA) and their enforcement	Number of modules taught (4). Number of trainees per module (20).
	Training on the environmental aspects of system construction, maintenance and operation	Number of modules taught (5, 20 times). Number of trainees per module (120).

## PROGRAM BENCHMARKS

	INDICATORS	VERIFICATION
<b>OUTPUTS</b> <u>Institutional outputs</u>	E = date of effectiveness of loan contract Y = year	SRU semestrial reports
New legal and regulatory framework	- Sector Law effective before E+1Y - Regulations (tariff, service standards) effective before E+2Y	
SNEP and CAMEP have been merged into ONEPA	Merger effective before E+1Y	
Private sector participation	Transaction for Port-au-Prince's system to take place before E+2Y	
Independent regulation	CREPA in place by E+1Y	
Rationalizing sector investment	- Sector investment policy defined by E+2Y. - Capital-expenditure mechanisms in place by E+3Y.	
User/community participation increases at all stages of project	For <b>urban projects</b> : - Project selection stage: establishment of citizens' group to follow the project (women account for at least 50% of formal representatives); WTP surveys and focus groups. - Tariff-setting stage: organization of open meetings/referendum. - Operation stage: community/citizens' group act as a watchdog and their inputs are taken into account by the provider and by CREPA through annual open hearings; financial statements and performance indicators are published every year.  For <b>rural/peri-urban projects</b> , same as above plus: - Project selection stage: local PWS board is established by the community; future plumber is designated by the board. - Design stage: community agrees on tariff through referendum.	SRU semestrial reports
<u>Investment outputs</u> Rehabilitation/expansion of at least 10 urban PWS systems	- Number of urban projects initiated between 2 and 3 per year until year 4 - Project cost (including pilot waste water project): average US\$125/beneficiary; maximum US\$160/beneficiary	SRU semestrial reports
Construction/rehabilitation/expansion of at least 50 peri-urban and rural systems	- Number of rural and peri-urban projects initiated per year between 8 (year 1) and 15 (year 4) - Project cost: average US\$110/beneficiary; maximum US\$150/beneficiary	SRU semestrial reports
<b>CONTRIBUTION TO GOAL</b>		
Improvement in health conditions	Decrease in occurrence of waterborne disease (1. diarrhea; 2. typhoid; 3. malaria) in pilot low-income communities. [to be quantified when baselines are established].	MPH/WHO surveillance system
Increase in PWS coverage	- Private connection rate (of the poor) to expand: from 9% (0%) now to 30% (12.5%) in 2002 for Les Cayes, from 5% (0%) now to 39% (20%) in 2002 for Port-de-Paix, from 10% (0%) now to 35% (15%) in 2002 average for other systems, as a result of Program. - Private connection rate to increase by an estimated 5% every three years as a result of reinvesting operating surplus.	SRU database



Sustainability	<p>Evolution of CREPA's six key indicators for all projects.</p> <p><u>Urban projects</u></p> <p>(i) technical losses, expressed in % of overall production; (ii) commercial losses, expressed in % of amounts billed; (iii) current saving ratio (1 minus O&amp;M and depreciation costs over tariff revenues); (iv) rate of annual connection (% of non-connected population securing a private connection in a year); (v) water quality (expressed through the residual chlorine content as per WHO norms); and (vi) waste water coverage ratio (% of connected households with septic tank).</p> <p><u>Small projects</u></p> <p>(i) physical condition of the system's main elements (taps, valves, catchment area); (ii) book-keeping practices; (iii) amount recovered monthly and current saving; (iv) total amount in sinking fund; (v) community practices for using water; and (vi) percentage of connected households with proper waste water facilities.</p>	SRU database
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**TENTATIVE PROCUREMENT SCHEDULE**

- 1 Procurement of works, goods and services with Bank funds will be carried out in accordance with Bank guidelines. International public bidding will be used to award works contracts in excess of US\$1 million and to purchase goods and services in excess of US\$350,000. For amounts below these thresholds, Haiti's procurement regulations will be applied and national public bidding will be organized.
- 2 The following table presents a tentative schedule for the procurement of works, goods and services with resources of the Program.

Type of contract	Estimated amount	Procurement procedures	Estimated timing for initiation of bidding process	Observations
<b>TECHNICAL ASSISTANCE</b>				
Regulatory framework	250,000	Short-listing/NCB	Last semester 98	These two contracts may be grouped under one tendering process
Establishment of CREPA	410,000	ICB	First semester 99	
Establishment of ONEPA	400,000	ICB	First semester 99	
Sector Investment Policy	150,000	Short-listing/NCB	First semester 2000	
Environmental strengthening	305,000	Short-listing/NCB	Second semester 99	
<b>WORKS</b>				
Rehabilitation Port-de-Paix and Les Cayes systems	10,000,000	ICB	First semester 99	
Second batch (urban systems)	Above 10,000,000	ICB	First semester 2000	
Third batch (urban systems)	Above 10,000,000	ICB	First semester 2001	
Small systems (rural & peri-urban)	Total 9,100,000	NCB	Between mid 98 and mid 2001	These contracts will be very small in size. They may be grouped in batches. Local (regional) companies or communities are expected to be the most interested in those.

ICB: International Competitive Bidding

NCB: National Competitive Bidding

PROPOSED RESOLUTION

HAITI. LOAN /SF-HA TO THE REPUBLIQUE D'HAITI  
(Potable Water and Sanitation Sector Reform and Investment Program)

The Board of Executive Directors

RESOLVES:

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 contract or contracts as may be necessary with the République d'Haiti, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the Potable Water and Sanitation Sector Reform and Investment Program. Such financing will be for the amount of up to US\$45,000,000, or its equivalent in other currencies, except that of Haiti, which are part of the resources of the Fund for Special Operations, and will be subject to the "Special Contractual Conditions" and the "Terms and Financial Conditions" of the Executive Summary of the Loan Proposal.