



# Technical

# Discussions



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TECHNICAL, FINANCIAL, AND ADMINISTRATIVE ASPECTS  
OF THE WATER SUPPLY IN URBAN AREAS IN THE AMERICAS

PRESENT STATUS OF THE WATER-SUPPLY SERVICES IN THE  
REPUBLIC OF MEXICO

(Document presented by the Delegation of Mexico)

## GENERAL INFORMATION

The distribution of the population according to size of community

In the Republic of Mexico there are:

- 24 communities with over 50,000 inhabitants
- 135 communities with from 10,000 to 50,000 inhabitants
- 824 communities with from 2,500 to 10,000 inhabitants
- 97,607 communities with less than 2,500 inhabitants

## Background

For several years the local and the federal authorities have been undertaking the installation of water-supply systems, in larger towns with their own resources, and small communities primarily with federal aid. The agencies concerned have been: the Ministry of Water Resources; the "Banco Nacional Urbano Hipotecario de Obras Públicas"; the Ministry of Public Health and Welfare, through its Department of Sanitary Engineering, formerly of the Inter-American Cooperative Public Health Service and later of the Department of Public Health Experimental Studies; agencies of State governments; and, in some cases, agencies of municipalities.

On many occasions private cooperation has made it possible both to supply potable water by means of individual or collective systems and to establish drainage systems. In such cases, the afore-mentioned governmental agencies have cooperated, but the recovery systems have presented difficulties that in some instances it has been impossible to overcome. Therefore, beginning in 1956, the Federal Government decided to implement its legislation through channels that have made it possible to build waterworks in many small communities.

### Legislation

In substance, this matter is covered by the Decree of December 1956, which reads:

#### Law on cooperation for supplying potable water to municipalities

Article 1. The Federal Government will cooperate with local authorities in constructing waterworks for potable water through non-reimbursable expenditures equivalent to one half the cost in communities with less than 30,000 inhabitants, and to one third in communities with 30,000 inhabitants or more. Such expenditures will be made on a selective basis, in accordance with the general standards set forth in the Regulations of this Law.

Article 2. Municipalities desiring to receive the benefits set forth in the foregoing article, shall so request the Ministry of Water Resources, stating their willingness to contribute the amount that is their share.

Such contribution may be made in any one or more of the following ways:

- a) With labor.
- b) In cash, in accordance with the calendar of expenditures the execution of the work requires, from the budget or from non-reimbursable contributions from the Government of the State to which the municipality belongs.
- c) Through credits or donations obtained from private institutions or from individuals.

The Ministry of Water Resources will be authorized to conclude the respective cooperative agreements with the municipal governments and the interested agencies.

When the works require reimbursable expenditures from the Federal Government or credits from the "Banco Nacional Urbano y de Obras Públicas," the Ministry of Water Resources will coordinate such action with the Bank.

Article 3. An essential condition for obtaining the cooperation of the Federal Government will be that, once works have been constructed, they may be kept up with respect to their proper operation, maintenance, and improvement, through payment by the consumers of a service charge; in addition, in the case of works whose cost has been defrayed with contributions obtained through credits, as set forth in Article 2-c, the portion of the cost charged to local resources should be reimbursed by means of the rates assessed the consumers, and such rates will have to be high enough to ensure amortization or reimbursement once the costs of maintenance, administration, operation, or improvement of the work have been covered; to this end, the agreements concluded should specify both the rates fixed by the Ministry of Water Resources, in agreement with the municipalities, after the appropriate economic study has been made, and the willingness of the consumers to pay such rates.

Article 4. Pending reimbursement of the credits referred to in Article 2-c, or of the supplementary expenditures made on a reimbursable basis by the Federal Government, the administration and technical direction of the services will be the responsibility of the Ministry of Water Resources, either directly or in the form the Ministry itself decides, but always with the participation of a representative of the municipality concerned. When reimbursement has been made, the administration of the works shall be turned over to the local authorities or to such agencies as are designated for the purpose.

#### Temporary Provisions

First Article. The credits resulting from the expenditures of the Federal Government in potable-water systems made prior to the promulgation of this Law may be canceled partially or totally, as circumstances, in the opinion of the Federal Executive, warrant. Such cancellations may not exceed a total of one hundred million pesos. In the case of partial cancellation, the form of administration and technical direction of the services shall be fixed pursuant to Article 4.

Second Article. The present Law shall enter into force on the date of its publication in the "Diario Oficial" of the Federation.

#### Present Status of the Problem

Data on the water supply in the following five States of the Republic of Mexico are given below:

Dwellings and Water Services - 1950 Census

Guanajuato:	273,510 dwellings.	
	Connection for exclusive use:	40,148
	Connection for common use....	49,896
	From wells .....	134,981
	From cisterns or deposits ...	27,807
	WITHOUT service .....	20,678
Guerrero:	187,352 dwellings	
	Connection for exclusive use.	10,903
	Connection for common use ...	50,391
	From wells .....	64,944
	From cisterns or deposits ...	32,763
	WITHOUT service .....	28,351
Hidalgo:	172,339 dwellings	
	Connection for exclusive use.	16,734
	Connection for common use ...	45,880
	From cisterns or deposits ...	30,532
	WITHOUT service .....	23,616
Jalisco:	355,769 dwellings	
	Connection for exclusive use.	70,570
	Connection for common use ...	64,105
	From wells .....	146,236
	From cisterns or deposits....	37,186
Mexico:	283,226 dwellings	
	Connection for exclusive use.	21,403
	Connection for common use ...	61,566
	From wells .....	132,687
	From cisterns or deposits ...	47,654
	WITHOUT service .....	19,916

Total Number of Dwellings in the 5 States:

	1,272,196 .....	100 %
Connection for exclusive use .....	159,758 .....	12.56 %
Connection for common use .....	271,838 .....	21.37 %
From wells .....	534,425 .....	42.00 %
From cisterns or deposits .....	176,428 .....	13.87 %
WITHOUT SERVICE .....	129,747 .....	10.20 %

COMMENTS AND PLANS FOR THE FUTURE

The above data provide a partial picture of a problem that affects all Mexico; moreover, they are similar to those that would be obtained in most of the Latin American countries. These figures are sufficient to stress

the significance to health of the establishment of potable-water supply services in all the communities of every country.

### Possibilities of Providing Potable-Water Services in Mexico

Under the decree on this subject, given above, we have the development of the following essential phases of the work:

a) Arrangements with the State and Municipal governments so that, in cities of more than 50,000 inhabitants, modern waterworks to supply potable water will be constructed, or existing ones will be expanded, with an endeavor, whenever possible, to estimate the service needs for the next twenty years, taking into account the annual population increase, which is three per cent for the entire country.

b) Taking into account the fact that, for towns of 10,000 to 50,000 inhabitants, the planning of a potable-water service should follow a study of prevailing economic conditions, so as to be able to determine in due course whether the community can pay the total cost, and if not, what proportion thereof.

c) The making of similar studies for villages of less than 10,000 inhabitants.

### Points to be Given Maximum Attention

The principal points to be considered are:

a) That the potable-water-supply and human-excreta-disposal systems be established simultaneously.

b) That it be made clear that it is advisable to introduce both services as a whole in carefully selected localities, so that they may serve as an example and stimulus to other nearby and more remote population centers.

c) The study of all sources of the drinking water now being supplied, since the use of water from contaminated rivers is as dangerous as the use of water from unsuitable wells or cisterns.

d) The need to promote private investment in supplying potable-water and drainage systems.

e) Promotion of concessions, assigning appropriate time limits to them.

f) Establishing rates to the consumer, taking into account the ultimate use of the water and the type of consumption: household, industrial, commercial.

g) Replacing, whenever possible, the system of supplying water from hydrants, an arrangement that, while it provides an immediate, although inadequate solution to the problem, at times hampers other aspects of public health, particularly with respect to sanitary hazards.

h) First priority will be given to the installation of services in those communities better able than the rest to pay for them. An attempt will be made to continue down the economic scale, since a better state of public health means increased production, which, in turn, improves or helps to improve the living standards of communities with few economic resources.

#### SUMMARY

Emphasis is given to the decisive importance to public health and the economy of adequate water-supply and excreta-disposal systems, and the "Law on Cooperation for the Provision of Potable Water to Municipalities" of the Republic of Mexico, which is an outstanding effort to improve health conditions in the nation, is described.