

**WATER AND SANITATION  
FOR HEALTH PROJECT**



**COORDINATION AND  
INFORMATION CENTER**

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for the U.S. Agency  
for International Development

**XIII CENTRAL AMERICAN  
CONGRESS OF AIDIS**

**GUATEMALA CITY 15-20 MARCH, 1981**

1611 N. Kent Street, Room 1002  
Arlington, Virginia 22209 USA

Telephone: (703) 243-8260  
Telex No. WUI 64552  
Cable Address WASHAID

**WASH FIELD REPORT NO. 15**

**28 MARCH, 1981**

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March 28, 1981

XIII Central American Congress of AIDIS  
Guatemala City, Guatemala - March 15-20, 1981

Report by Charles S. Pineo  
WASH Consultant

The Interamerican Association of Sanitary and Environmental Engineering (AIDIS) was formed in 1942 with the assistance of the Institute of Interamerican Affairs (IIAA), predecessor agency of AID, and of the Pan American Health Organization and the participation of sanitary engineers from most of the Latin American countries and of the United States. Sections of AIDIS were organized in each of the Latin American countries and in the United States. Congresses are held every other year, first south of the equator and then north.

The Central American countries and Panama have grouped their sections together and hold a Congress in the years between the congresses of the Interamerican AIDIS. This report covers the XIII Central American Congress of AIDIS held in Guatemala, March 16-20, 1981. AID/Guatemala put up about \$2000 to assist the financing of this meeting. The schedule of the Congress is in Annex I of this report. A copy of the Final Report of the Congress, which contains copies of all the papers which were prepared at the request of the Congress, and a number of papers presented on unsolicited subjects can be found in the WASH Library. Two papers were awarded the Central American AIDIS prize for the most outstanding presentations.

The Congress was attended by 139 participants from a number of countries as follows:

Costa Rica	6
El Salvador	12
Honduras	7
Nicaragua	1
Panama	2
Colombia	1
United States	2
England	1
Guatemala	<u>107</u>

TOTAL 139

No attempt will be made to summarize the papers, but attention will be called to a few of the papers which are believed to be worthy of further attention and possibly translation and publication by CDM/WASH. These papers cover innovative ideas which are most useful to the Decade.



1. Purification of Water Using Small Locally Made Filters. This paper was presented by ICAITI (Central American Institute of Investigation and Industrial Technology) located in Guatemala. The conference report is a summary of the work carried out by ICAITI sponsored by the InterAmerican Development Bank (IDB). The complete report will be furnished to the participants in the Congress when completed.

Ten different models of filters were tested for efficiency of flow and purification of the water, simplicity of manufacture, availability of materials, cost and contribution to the use of local labor. Of the ten, two were found to meet all the parameters, both of them quite similar:

#9 is made of clay incorporating feldspar, sawdust and impregnated with colloidal silver, will furnish 755 liters per year and costs about US\$8.81. The summary report contains no details as to size or method of manufacture. It does state that the filter is composed of a container with a top and a cylindrical filtering element which is hung in the water in the container. It would appear that the smaller Robovalve would be ideal for drawing the purified water from the container.

#10, similar to #9, costs about the same but filters only 650 liters/year. While the amount of water provided by the filters is small, it can be increased by increasing the size of the cylindrical filter. Two containers will be needed so that the capacity per day would be doubled. When the detailed information is obtained, it will be furnished to the CIC.

A second paper of considerable interest for the Decade is titled Water Supply for Houses in Rural Areas, prepared by Eng. Rodolfo Rivas Sanchez. It is based on about 10 years of his work in Guatemala and presents simple approaches for using rainwater, as well as surface and underground water. It also contains chapters on purification including sedimentation, filtration, and disinfection.

The paper has not been reviewed in detail; however, the section on the design for the collection and storage of rainwater seems so innovative that it is recommended that it be translated - in fact, the entire paper should be translated - reviewed carefully and published for wide distribution. There are many areas of the world where rainwater is stored in cisterns designed in an empirical way. The methodology for determining run-off and size of cisterns is believed to be unique.



Considerable interest was expressed during the Congress in training. There was a presentation on The Training of Operation and Maintenance Personnel by Eng. Alejandro Castro, PAHO/Costa Rica concerning the formation in Central America of an association of managers and operators of water supply and sewerage systems and of the development of a training program in Costa Rica for trainers from other countries. Unfortunately, a copy of the paper was not obtained but should be forwarded later. During the discussion, a question was raised about the possibility of WASH providing per diem for participants to the course in Costa Rica. It was explained that WASH could not provide this type of assistance but that it would provide consultants to study the training needs, assist in the preparation of CBT curriculum, training manuals and possibly for assisting with course presentation.

A second presentation on training, this time for the graduate level, was presented covering the activities of the Regional School for Sanitary Engineering (ERIS) at the University of San Carlos, Guatemala, presented by Dr. Luis Garcia, Dean of the School. This is a graduate level school primarily for engineers from Central America, which was assisted by AID/ROCAP during its formative years nearly 20 years ago through a contract with the University of North Carolina. Eng. Humberto Olivero was the first Dean of the School and Dr. Richard Cole was assigned by UNC full time to help organize the school.

An evaluation should be made of the ERIS program as it is now operating and of the need for the program in the countries of Central America and Panama with a view to assisting in strengthening the program if found necessary. This is another target of opportunity for WASH with a regional impact.

The following is a brief translation of the conclusions and recommendations of the XIII Congress which were developed during the plenary session on the morning of March 20, published and distributed as part of the Final Report that same evening, an example of the efficient organization of the Congress.

Considering:

That the governments of countries of Central America and Panama approved the resolution of the Water Conference held in Argentina in 1977 to designate the 1981-1990 period as the International Decade for Potable Water Supply and Sanitation;



That by such approval the governments of Central America and Panama assumed the responsibility of giving priority to the potable water supply and sanitation programs for the populations without those services, to those which most need the services, the most underprivileged, residents of rural areas and of outskirts of cities, and to the zone where water is scarce.

It Is Recommended:

1. That to meet the goals of the Decade, rapid and radical action is required by the governments through the pertinent institutions in their respective countries in view of the physical and financial magnitude of the plan needed to meet the goals.

2. That the following aspects should be taken into consideration in preparing the national plans:

- Definition of policy, order of priority and strategy.
- Planning and programming for the sector.
- Method of obtaining financing.
- Institutional development of the agencies involved in the sector.
- Preparation, protection and conservation of the necessary human resources.
- Preparation and execution of projects according to the socio-economic and technological status of each country.
- Provision for the operation and maintenance of the systems, including control of the water quality.
- Formulation of information and evaluation systems.

3. That the creation be speeded up of the national action interagency and interdisciplinary committees of high professional, political and administrative categories, including representatives of non-governmental agencies.

4. That the community be obliged to participate in all aspects related to the solution of their water supply and sanitation problems to create a feeling of self-sufficiency and responsibility for reducing the cost of construction and operation and maintenance of the systems.

5. That the institutions of the sector, as part of their activities, establish health education programs on a national level.



6. That for all water supply and sanitation programs a component be introduced to provide for an analysis of the original situation and of the progress and late evaluation to make it possible to know the impact of the project on the health of the population served.

7. That a definition of the policy on human resources for the Decade be stated immediately which includes administrative, executive, professional, technical and intermediate levels; in-service training; incentives to attract and hold the personnel; the utilization of technical cooperation among the countries and the maximum use of the regional and national institutions as well as of other resources for the formation and training at all levels of the personnel of the sector.

8. That parameters be adopted for design, construction and supervision of water supply and sanitation projects based on the concepts of the Decade for the provision of basic services by 1990 or sooner, as well as progressively improving those services. That the technology actually in use be revised to stimulate the use of low cost appropriate and socially acceptable methods.

9. That the institutions of the centroamerican isthmus and the international agencies related to the water supply and sanitation sector give their collaboration to the Regional School of Sanitary Engineering (ERIS) in order that the "Action Plan for the Preparation of Sanitary Engineers" respond to the needs of the area, and that realistic and possible financing mechanisms be sought.

10. That the Regional Coordinating Committee of the Potable Water Supply and Sanitation Institutions of Central America and Panama be institutionalized as soon as possible to provide for the exchange between the institutions of the important aspects of operation and maintenance and, in general, on all of their fields of action.

11. That the institutions of the sector in Central America and Panama unify their criteria before the Seminar on Horizontal Cooperation for the International Decade of Potable Water Supply and Sanitation to be carried out in Mexico in July 1981 in order to obtain positive results for the area.

12. That the governments of Central America and Panama formulate bilateral and multilateral agreement for horizontal cooperation, which will serve as references for agreements for mutual collaboration between institutions of the water supply and sanitation sector in relation to the International Decade.

13. That for the interchange of information, the countries hasten in the creation or strengthening of focal centers and



national information systems, in order to carry out effectively the panamerican information systems through the Panamerican Center for Sanitary and Environmental Engineering (CEPIS) in Lima.

14. That the Central American AIDIS Congresses to be held during the Decade shall make an evaluation of the proceedings and results to date to determine the progress achieved and to define the actions necessary to reach the proposed goals for water supply and sanitation.

There is much valuable information in the reports from the countries participating in the XIII Congress on the present status of their water supply and sanitation sectors and on the goals set by each of the countries for the Decade. There are also estimates of the resources required to meet those goals. The data on populations served at the present time in the countries of Central America and Panama and the goals established by those countries for the Decade have been extracted from the reports and tabulated in Annex II.



PROGRAMA DEL XIII CONGRESO DE AIDIS

ANNEX 1

HORA	DOMINGO 15	LUNES 16	MARTES 17	MIERCOLES 18	JUEVES 19	VIERNES 20
7:30 - 9:00	REUNION DIRECTORIO					
9:00 - 9:45	RECEPCION DE PARTICIPANTES	INAUGURACION	PRESENTACION DE NICARAGUA	VISITAS TECNICAS UNIDAD EJECUTORA DEL COMPLEJO INDUSTRIAL DE LA ZONA FRANCESA	CONFERENCIA UNICEF	PLENARIA - RECOMENDACIONES TEMA CENTRAL
9:45 - 10:30			PRESENTACION DE PANAMA		ADISTRAMIENTO PERSONAL EN OP. Y MANTENIMIENTO	
10:30 - 10:45		CAFE	CAFE		CAFE	CAFE
10:45 - 11:30		EL DECENTO AP Y S OPS /OMS	ENTIDADES FINANCIERAS PANEL		LA CRISIS ANTES EL DECENTO	RECOMENDACIONES Y CONCLUSIONES - PANEL
11:30 - 12:15		PRESENTACION DE COSTA RICA	ENTIDADES COOPERACION TECNICA PANEL		PRESENTACION AID - ROCAR	CONF. REGIONALES TEMAS LIBRES
12:20 - 13:30		A L M U E R Z O				CLAUSURA
14:00 - 14:45	INSCRIPCION HOTEL SEDE CONQUISTADOR SHERATON	PRESENTACION DE EL SALVADOR	PRESENTACION DE GUATEMALA	PASEO CAMPESTRE	COMITE COORDINADOR REGIONAL DE INSTITUCIONES DE AP Y S	LIBRE
14:45 - 15:30		TEMAS LIBRES	FONDO DE PRE-INVERSION		TEMAS LIBRES	
15:30 - 15:45		CAFE	CAFE		CAFE	
15:45 - 16:30		PRESENTACION DE HONDURAS	CONFERENCIA ICAITI		TEMAS LIBRES	
16:30 - 17:15		TEMAS LIBRES	TEMAS LIBRES		GUATEMALA 5000 EL QUETZAL	
20:00	COCKTAIL CAMARA GUATEMALTECA DE LA CONSTRUCCION	COCKTAIL COLEGIO DE INGENIEROS INGUAT	ACTIVIDAD CULTURAL	NOCHE LIBRE	NOCHE LIBRE	FIESTA DE CLAUSURA

INSCRIPCION - INAUGURACION - ASAMBLEA GENERAL - PRESENTACIONES }  
 CONFERENCIAS - GUATEMALA "5000" - CONCLUSIONES - CLAUSURA } = SALON MAYA  
 SESIONES DE TRABAJO }  
 MESAS REDONDAS } = SALONES "PEDRO DE ALVARADO" Y "SANTIAGO DE LOS CABALLEROS"  
 DIRECTORIO = SALON "EL RINCON"

GUATEMALA 16-20 MARZO DE 1981



## CENTRAL AMERICA &amp; PANAMA

## ANNEX II

## POPULATION SERVED 1980 - TO BE SERVED 1990

(Source: Reports Presented at XIII Congress of Sanitary Engineering of Central America March 1981)

COUNTRY	POP.	POPULATION SERVED - 1980				POPULATION TO BE SERVED - 1990			
	(Millions)	WATER SUPPLY		EXCRETA DISPOSAL		WATER SUPPLY		EXCRETA DISPOSAL	
		House Conn.	Easy Access	Sewers	Latrines	House Conn.	Easy Access	Sewers	Latrines
<u>COSTA RICA</u>									
Urban	1.005	95	5	43	54	100		70	30
Rural (Comc.)	0.645	90	3		96	100			100
Rural (Dispersed)	0.550	33	6		77	50			90
<u>EL SALVADOR</u>									
Urban	1.902	53		48		84.8		65.7	
Rural	2.637	35		28		100 (1988)		88 (1988)	
<u>HONDURAS</u>									
Urban	1.324	50	41	43	6	80	20	65	35
Rural	2.367	17	25		26	21	69		75
<u>NICARAGUA</u>									
Urban	1.333	69		35		100		70	
Rural	1.258	6				50			
<u>PANAMA</u>									
Urban	0.900	95	5	68	29	98	2	69	30
Rural	0.930	27	22	1	79	80	5	90	
<u>GUATEMALA</u>									
Urban	2.700	50	39	37	10	75	25	60	20
Rural	4.600	4	17		25	20	30		80