

HONDURAS NRW CHALLENGE.

The fight against water losses, intermittent services and lack of metering.

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HONDURAS IN CENTRAL AMERICA

Honduras is one of the Countries that become independent from Spanish Empire en 1821

Country Population is 9.300.000 of inhabitants, 55% living in urban areas. Country extension is 112.000km² , and part is mountain unavailable for economic activities.

Poverty ranges in 50%, extreme poverty 24%

PIB per capita es about U\$S 3000/yr , PIB composition is 12% by agriculture, 32% by industries and 55% of services.

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HONDURAS IN CENTRAL AMERICA



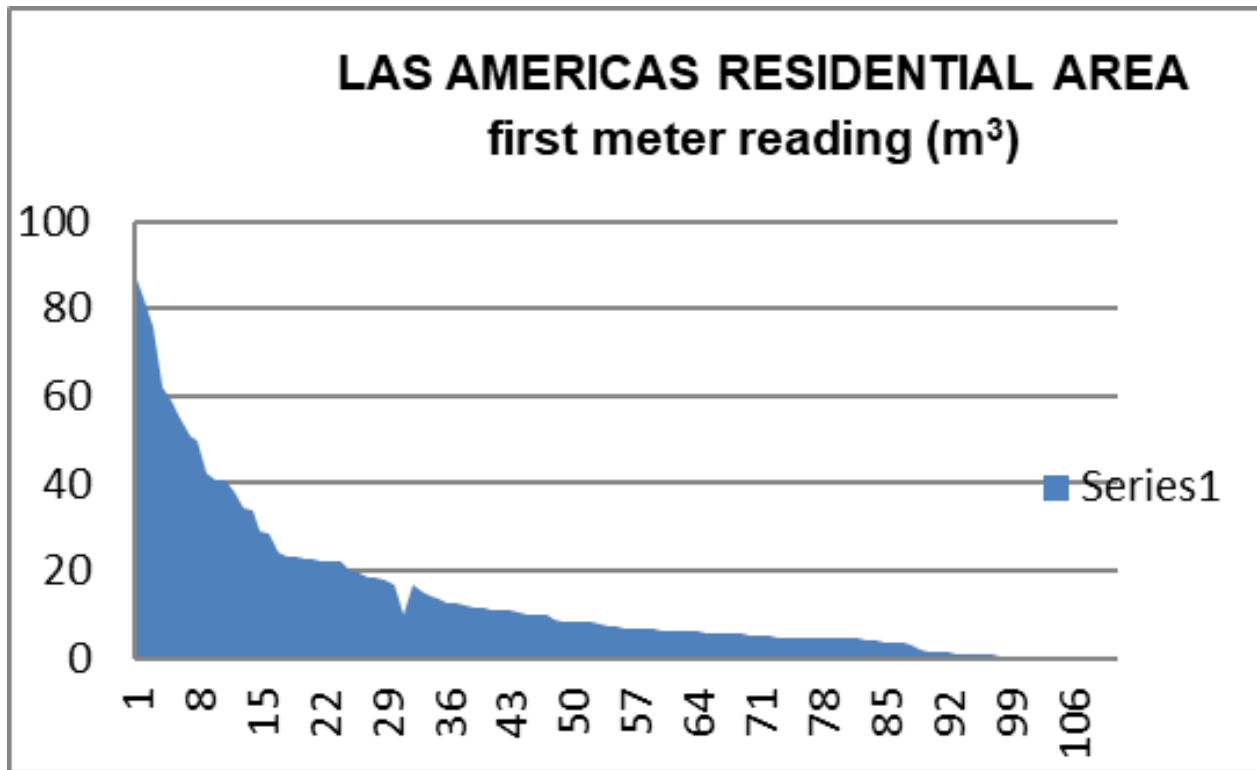
WATER RESOURCES AND CLIMATE CHANGE



METERING AND HOURS OF SERVICE IN TEN HONDURAS WATER UTILITIES (ERSAP REPORT 2021)

Utility	Population Of Municipality , INE 2020	Household connections (last figure available)	Service %hours/w	Customers metered (%)	Water Input (m3/conn.day)
Aguas de Puerto Cortes	68.825	15.800	83%	93%	1,63
Junta de Agua de Jesús de Otoro.	1.066	5.300	84%	100%	1,03
Aguas de Danlí	74.937	7.200	26%	60%	1,17
Aguas de Choloma	188.931	23.900	38%	13%	1,78
Aguas de Comayagua	1.107.122	16.742	58%	63%	1,57
Aguas de Siguatepeque	70.428	10.900	33%	23%	1,39
Aguas de la Lima	72.548	8.070	46%	0%	1,23
Aguas del Valle	96.375	25.200	29%	2%	1,5
Aguas de Teupasenti	7.400	1.350	21%	20%	1,12
Aguas de Tutule	2.339	600	50%	0%	1,5
AMDC Tegucigalpa	1.444.000	113.600	50%	28	s/d

WATER USE IN A UNMETERED AREA OF SIGUATEPEQUE, (JUST DOMESTIC CUSTOMERS-HOUSES) 15% OF CUSTOMERS USE 50% OF WATER DELIVERED



THE VICIOUS CIRCLE OF UNMETERED WATER AND INTERMITTENCY



FROM THE SIDE OF APPARENT LOSSES

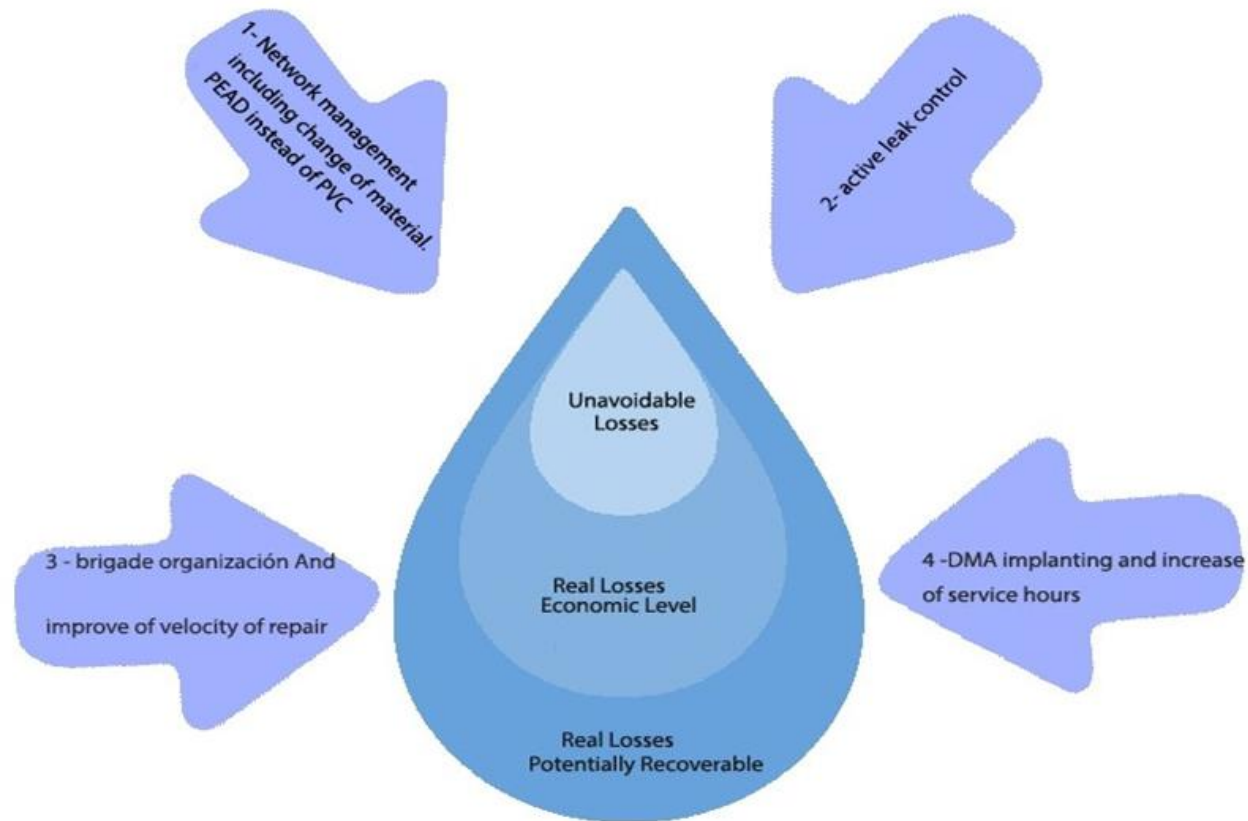
- The unmetering of majority of household connections
- Tariff based in fixed charges, without any kind of incentives for water savings
- Lack of commercial system , as the majority of the utilities are using old programs with base in software for municipal tax collection (“SIMAFI”) ,.
- lack of update of customers database and irregular consumption, and associated with tariff categories associated to the housing quality , the neighbourhood or the number of taps of each customer
- lack of organization to maintain customers services, inspection and control of illegal connections,

FROM THE SIDE OF REAL LOSSES

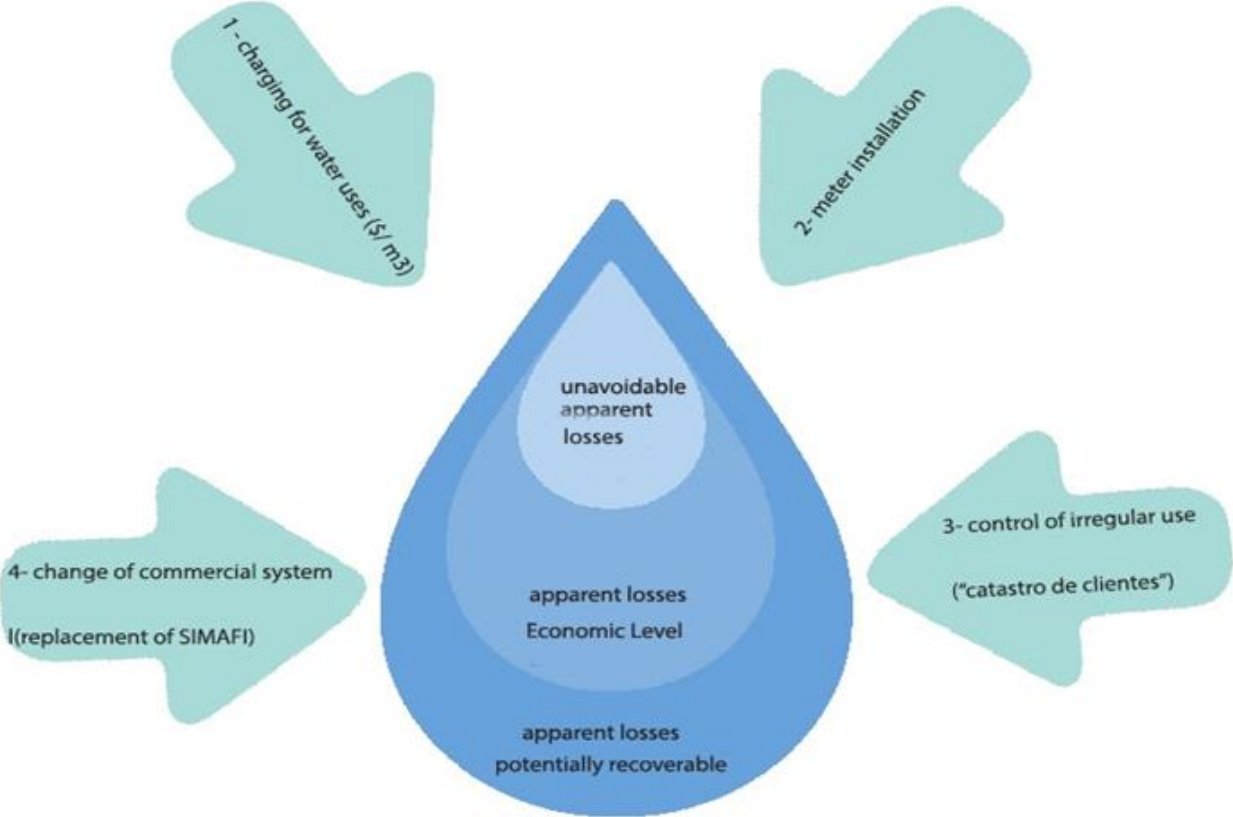
- Lack of master metering and DMC metering and pressure control, master metering is more difficult for the intermittent water flow , master meter like Woltmann meters usually collapse
- Poor organization to report and repair water leaks, as brigades are more dedicated to “tandeo” or closing and opening valves to distribute .
- Lack of updated of network plans
- Difficulties to perform acoustic leaks research because of the intermittency
- Inappropriate material for network construction, predominant of in site welded PVC,
- Lack of spare parts to maintain network devices as master meters, VRPS, Scada system, level controls
- Very little advance in DMA implementation, with the exception of some pilot districts

CONCEPTUAL SPECIFIC PROPOSALS FOR HONDURAS UTILITIES BASED ON IWA BEST PRACTICES

REAL LOSSES



PROPOSED BEST PRACTICES FOR HONDURAS WATER SECTOR (APPARENT LOSSES)



IMPLANTING OF DMAS STRATEGIES, INCLUDING CUSTOMER METERING AND 24HS SERVICE METHODOLOGY AND EXAMPLES. COMAYAGUA EXPERIENCE.



FASE 1- PREPARATION



Selection of area for 24 hours of service.



verification of hydraulic feasibility and easy water balance



compute of needed resources, RRHH, meters, pipe repair stock



internal communication of level of assistance to customers .

Design of customer communication plan



limited social communications , meetings .



PHASE 1 PREPARATION

FASE 2 EXECUTION



Massive communication



hydraulic isolation and civil works
Master meter



meter installation and beginning of internal repairs



first meter reading including master meter



complaints attention and further customer information



DISCUSSION OF METERING INSTALLATION AND 24 HS OF WATER IN A NEIGHBOURHOOD OF COMAYAGUA.



FASE 3 EVALUATION



Specific communication with high volume customers



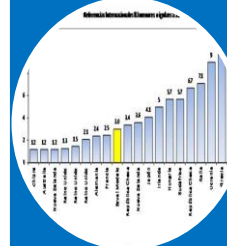
Repairs of indoor leaks



Research and repair of network and eventual adjustment in pressure



Follow up of the High volumes customer cases



Water Balance of the area



Evaluation of the opportunity of charging for volume

Choosing next area



REGARDING THE SUPPORT OF COOPERATION AND FINANCIAL AGENCIES

- The majority of the utilities generate enough incomes to cover operational cost, but in general are unable to finance investment cost.
- Investment planning of the water sector is based in International Cooperation, under the format of donations or international loans. Japan (JICA) and Spanish Cooperation (FCAS) , BCIE (Banco Centro Americano de Integration económica), World Bank IDB are main financial agencies.
- In general, al the donations and loans are with not enough enforcement to address the meter massive installation . So financed projects are ending with impressive increases in drinking water offer but very low incentives from the side to demand control

REGARDING THE SUPPORT OF COOPERATION AND FINANCIAL AGENCIES

- **The result is that in the mean term water system will operate in intermittent way despite the investment done in the increasing of capacity production.**
- **The recommendation at this point is the necessity of improvement in the financed project management in order to assure the willingness to increase the meter coverage as the main tool for an efficient water use.**



THANK YOU !!
MUCHAS GRACIAS!!

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