



2nd IWA Leading-Edge Conference & Exhibition on Strategic Asset Management

**Accountability and Performance of Two Water Utilities at the
U.S.-Mexico Border**

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Main Aims

- Institutional context (i.e. laws, norms and rules) matters for operational performance
- Professionalization and closer customer-provider interactions are required for improving performance of water utilities

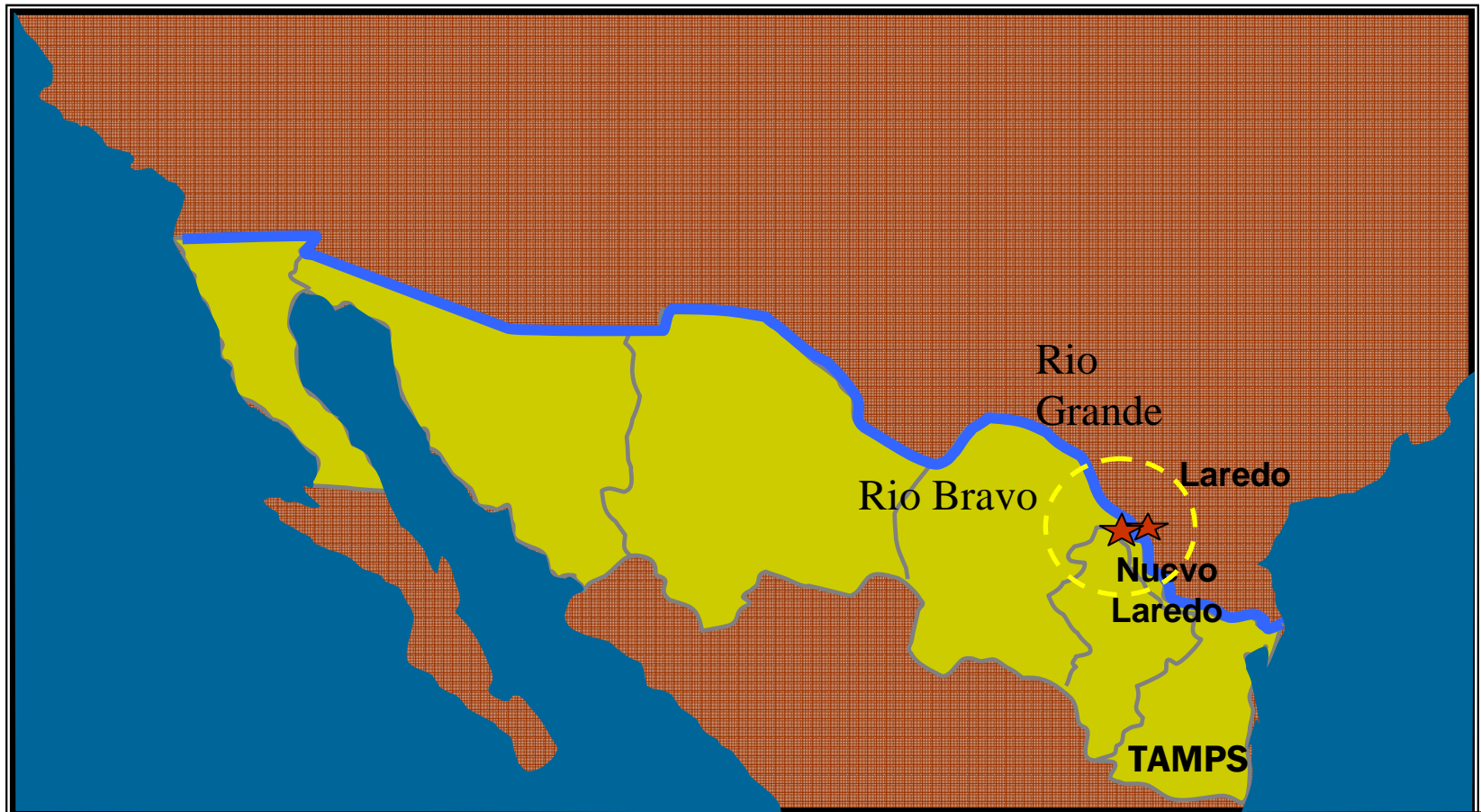
The Problem: Low Performance

- Inadequate quality of drinking water
- Limited pace of service expansion
- High levels of unaccounted water (up to 50%)
- Operational inefficiencies
 - Inadequate maintenance of water systems
 - Low pressure
 - Service interruptions
 - Untreated wastewater discharged into the environment

Special Characteristics of Water Services

1. Capital Intensity.
2. Asymmetric Information.
3. Scale and Scope Economies => Natural Monopoly
4. Externalities
 - ✓ Health
 - ✓ Environment

Study Area: U.S. Mexico-Border



Characteristics of the U.S-Mexico Border

- Arid region with water scarcity
- High water Consumption (30 m³/household/month in Mexico; 50 in U.S.)
- Investment for water connection 495 dollars
- High Population Annual Growth Rate

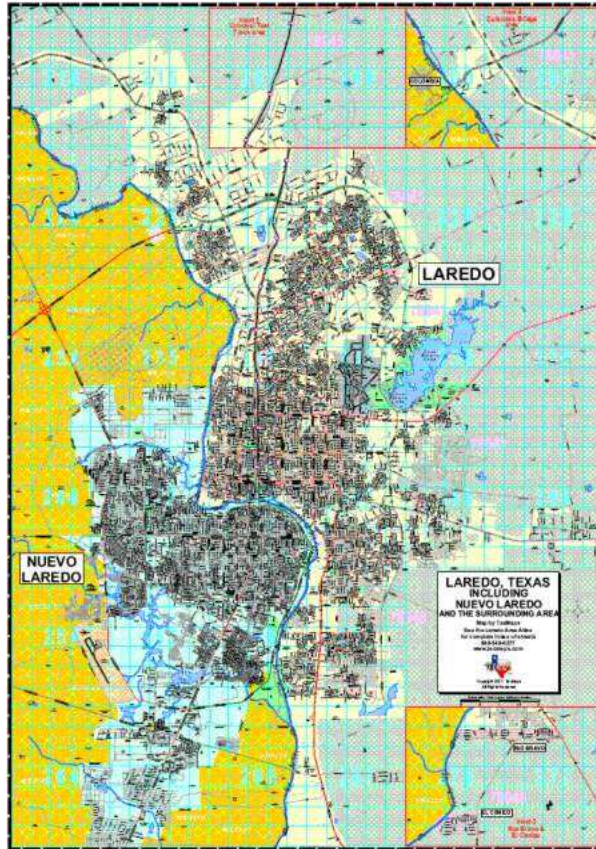
Source: North American Development Bank, 2006



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COMAPA and LWUD Utilities

Variable	COMAPA Nuevo Laredo	LWUD Laredo TX
Population	481,000	215,375 (Laredo MSA)
Water Coverage %	98% *	98%
Wastewater Coverage %	91%	98%
Annual Water Input	50,281,137 m³	52,497,950 m³
Residential Connections	90,300	50,659
Average Monthly Water Consumption (Household)	29 m ³ only metered	55 m ³ estimated average
Rate US\$/m ³	\$0.52 (3% average household income)	\$0.37 (2005) (.7% average household income)
Metered Service %	55%	100%

Source: Water Utilities; Parsons (2002), City of Nuevo Laredo, official web page, Laredo Development Foundation Homepage.



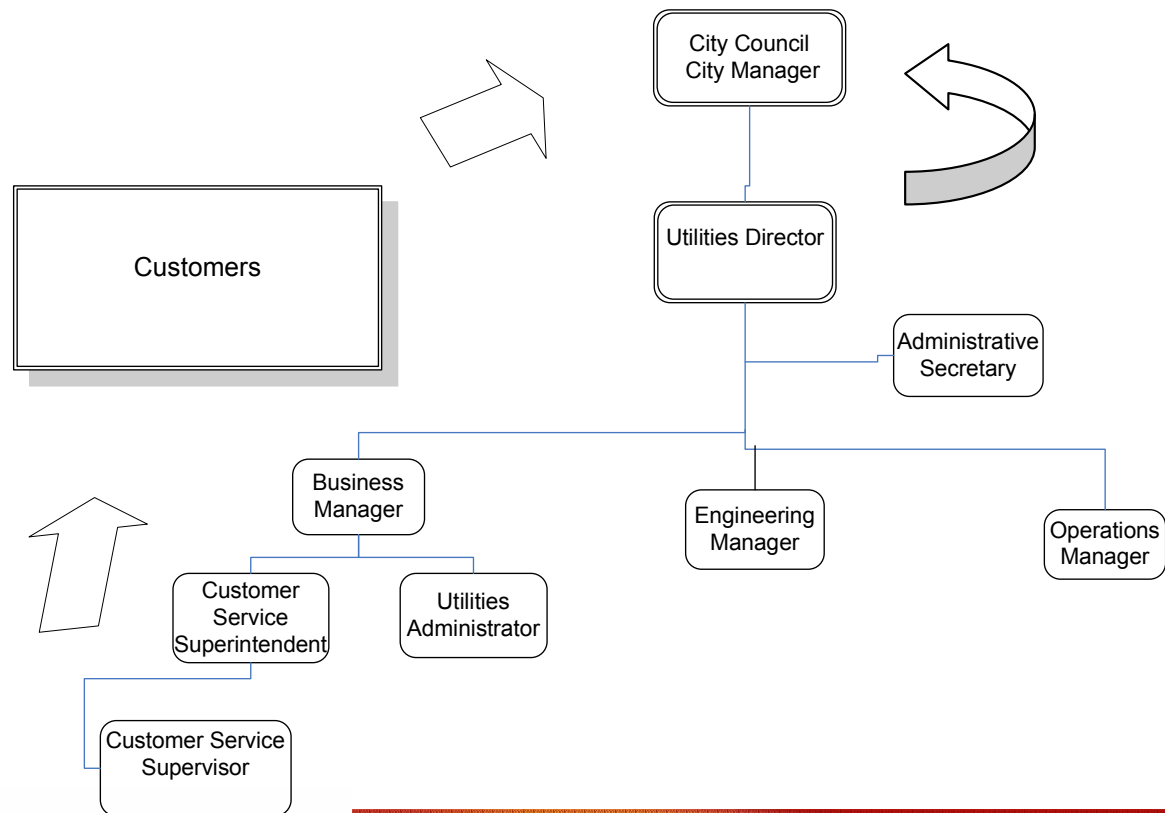
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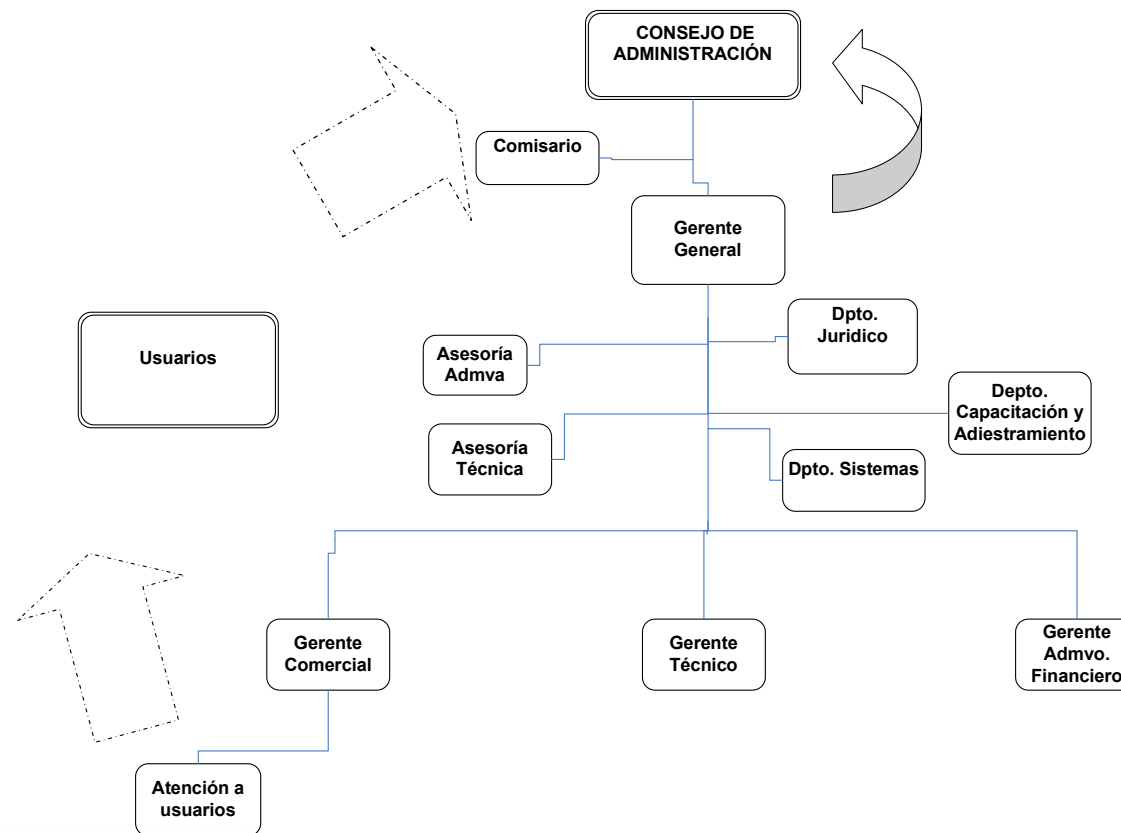
Institutional Contexts

Component		Laredo TX (LWUD)		Nuevo Laredo Tamaulipas (COMAPA)	
		Rules and Norms	Agency	Rules and Norms	Agency
Administrative Regulation (Rules & norms)	Federal	<ul style="list-style-type: none"> •Clean Water Act •Safe Drinking Water Act 	Environmental Protection Agency (EPA)	<ul style="list-style-type: none"> •Ley de Aguas Nacionales (LAN) •Normas Oficiales de Salud 	Comision Nacional del Agua (CONAGUA) Secretaria de Salubridad y Asistencia (SSA)
	State	•Title 30, Texas Administrative Code	Texas Commission on Environmental Quality (TCEQ)	•Ley de Aguas del Estado de Tamaulipas	Comisión de Agua de Tamaulipas
	Local	•Code of Ordinances, Chapter 31	<ul style="list-style-type: none"> •The City of Laredo, •City Council •Utility Director 	-----	<ul style="list-style-type: none"> •Consejo Administrativo Municipal •Gerente
Operational standards		Chapter 290-D Texas Administrative Code, rule 290.46	Texas Commission on Environmental Quality (TCEQ)	-----	•Organismo operador
Performance Indicators System		-----		-----	

Local Institutional Arrangements: LWUD Laredo TX



Local Institutional Arrangements: COMAPA Nuevo Laredo



Selected Performance Indicators (1)

Indicator	COMAPA	LWUD
<i>Commercial Efficiency</i>		
Commercial efficiency (Amount of collected m3/billed water m ³) *100	60%	95%
Global Commercial Efficiency (Collected m3 / Water delivered to the system m3)*100	30%	67%
<i>Financial Indicators</i>		
Total costs/ Total Revenues	1.18	0.73
Percentage contribution to investment	N.A.	54%
Operational costs/Total costs	18%	50%

Sources: Author calculations based on data and information provided by the utilities, reported data CONAGUA (2005).



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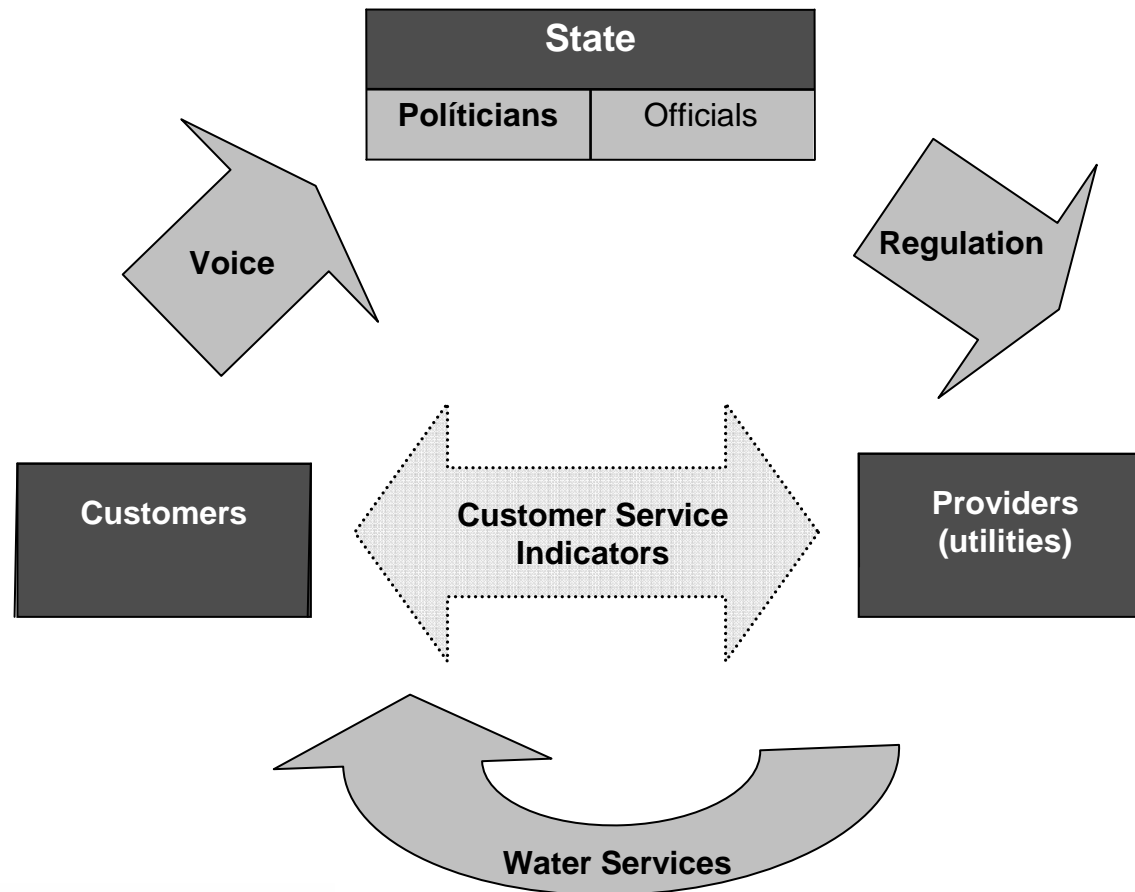
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Selected Performance Indicators (2)

Indicador	COMAPA	LWUD
<i>Personnel Indicators</i>		
Staff productivity Index (Employees/1000 Accounts)	6.8	3.6
O & M %	63%	80%
<i>Technical Indicators</i>		
Non-revenue Water 1-((Billed Water / Water delivered to the system))	50%	29%
Broken Water Mains by year	1,452	536
Average time to complete work orders (days)	3	1

Source: Author calculations based on data and information provided by the utilities.

Customer-Provider Interaction Model



Concluding Remarks

- Professionalization of water utilities' staff is a key aspect for improving their performance.
- A more direct accountability relationship between managers and customers may help water utilities perform better
 - Providing understandable and periodic information about the delivery of water services to customers, it also can increase consumers trust
 - Implementing customer service indicators (e.g. number of water service disruptions, response time to customer complaints, billing accuracy, and time for repairing reported line breaks).

Concluding Remarks

- To set up periodical performance reviews with water officials establishing mechanisms for evaluation such as report cards or surveys of public satisfaction it could give users more confidence that tap water is safe and that water services are provided in a fair and cost-effective way.
- Utilities managers could use strategically their interaction with customers by designing their own feasible benchmarks and publicizing their successes, positively influencing public opinion.

Thank You!



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