



USAID
FROM THE AMERICAN PEOPLE

Models of Successful Water Sector Reform: Identifying the Building Blocks

Dr. Allen Eisendrath

Senior Infrastructure Finance Specialist

Office of Infrastructure & Engineering, USAID/Washington



Successful Water Reform Models

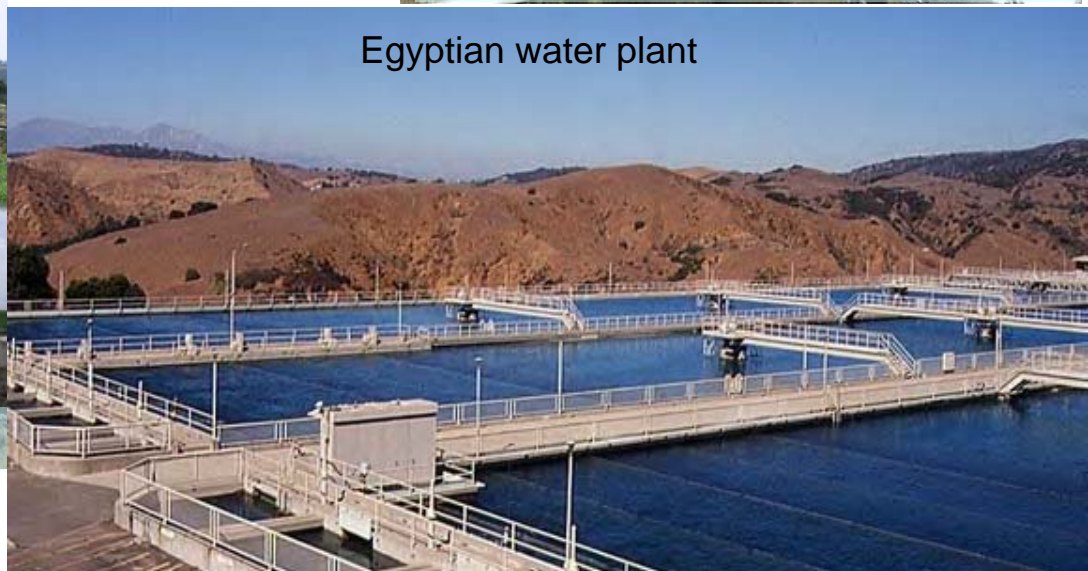
TOPICS TO BE COVERED

- Features of Successful Reforms
- Main Reform Models



Indonesian illegal connections

Egyptian water plant



Armenian wastewater treatment plant



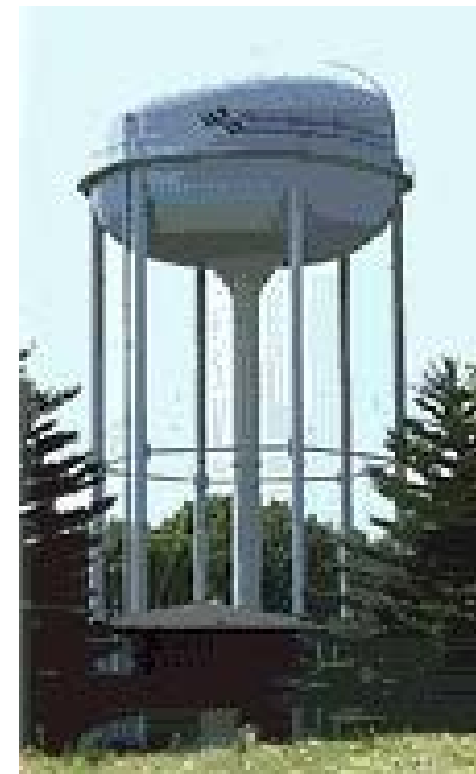


USAID
FROM THE AMERICAN PEOPLE

KEY FEATURES OF SUCCESSFUL REFORMS

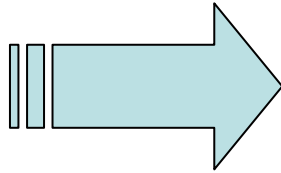
- **Autonomy and accountability of the water utility**
- **Incentives for reform; penalties for failure**
- **Progressive performance standards**
- **Cost reflective pricing**

Our cases: Armenia, Australia, Brazil, Bulgaria, Chile, Colombia, Cote d'Ivoire, Czech Republic, Egypt, Estonia, France, Germany, Hungary, Indonesia, Jordan, Latvia, Lithuania, Malaysia, Morocco, Netherlands, Poland, Romania, Russia, Senegal, Singapore, South Africa, Spain, Sweden, Thailand, UAE, Uganda, UK, US, Ukraine, Vietnam, Zambia





OBJECTIVE



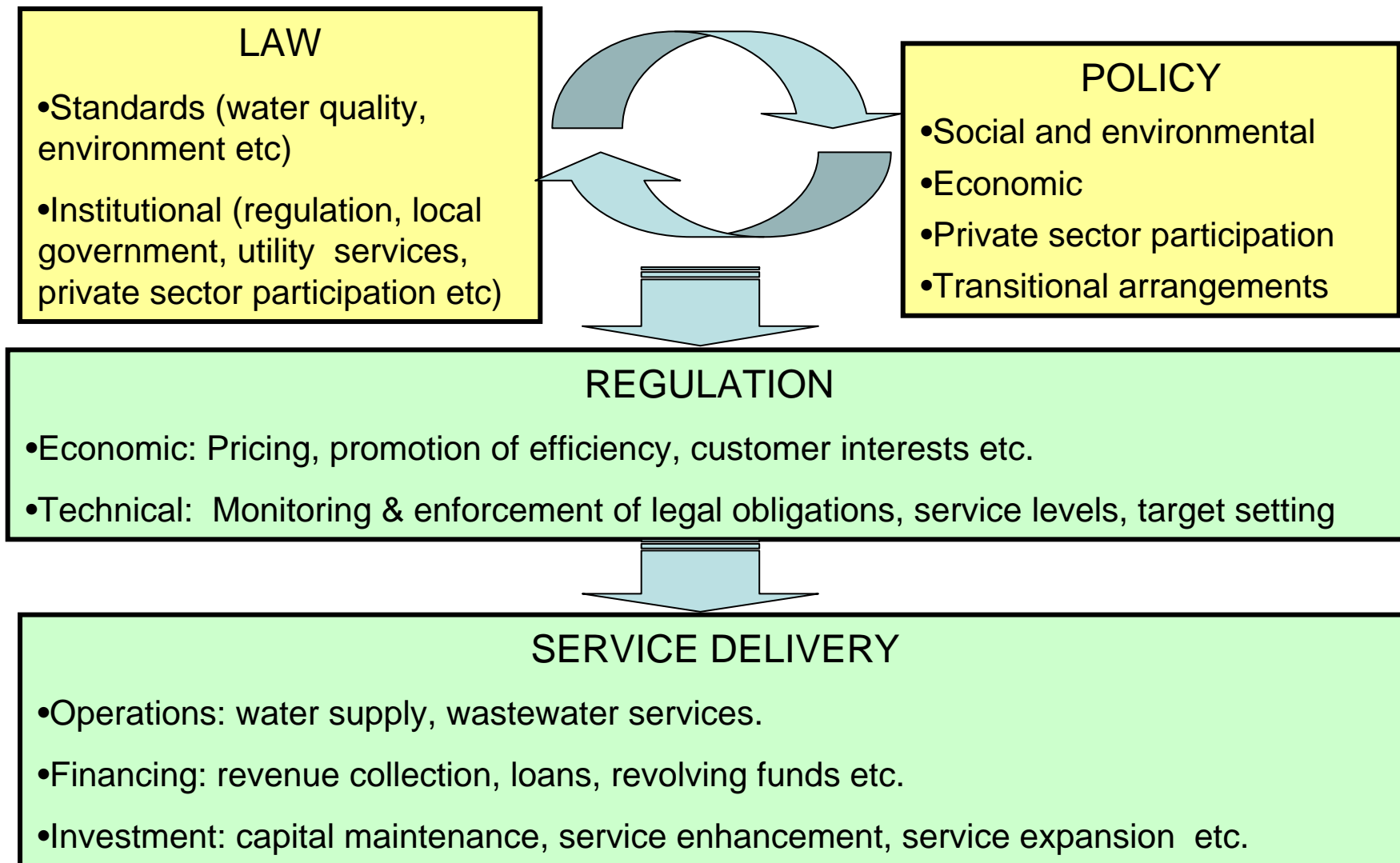
HOW SUCCESSFUL REFORMERS ACHIEVE THESE OBJECTIVES

- **Autonomy & accountability of the water utility**
- **Incentives for reform; penalties for failure**
- **Progressive performance standards**
- **Cost reflective pricing**

- **Complete decentralization**
- **Corporatization & corporate governance reform**
- **An effective regulatory agency**
- **Incentive based operating contracts**
- **Private sector participation**
- **Shift from capital grants to sustainable financing mechanisms**



SUCCESSFUL REFORMS GENERALLY COMBINE NEW APPROACHES TO POLICY, REGULATION & SERVICE DELIVERY





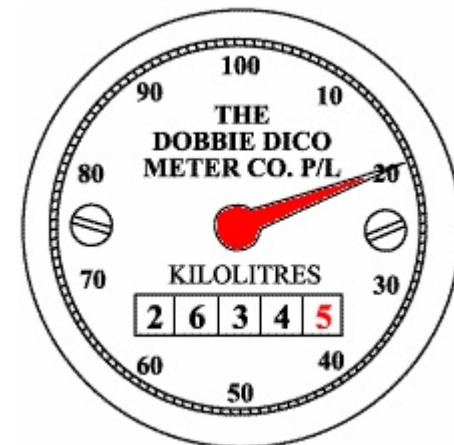
USAID
FROM THE AMERICAN PEOPLE

THREE STRUCTURAL REFORM APPROACHES

- Local Government Management
 - Croatia, Czech Republic, Estonia, Germany, Hungary, Lithuania, Netherlands, Poland, Romania, Sweden, U.S.
- Regional Management
 - By free will: Czech Republic, Estonia, Germany, Kosovo, Macedonia, Malaysia, Netherlands, Poland, Sweden
 - By law: Armenia, Australia, Chile, Romania, Thailand, UK
- National Water and Sewerage Corporation
 - Azerbaijan, Cote d'Ivoire, Senegal, UAE, Uganda

DECENTRALIZATION IS THE MOST COMMON REFORM APPROACH. CONDITIONS FOR SUCCESSFUL DECENTRALIZATION INCLUDE:

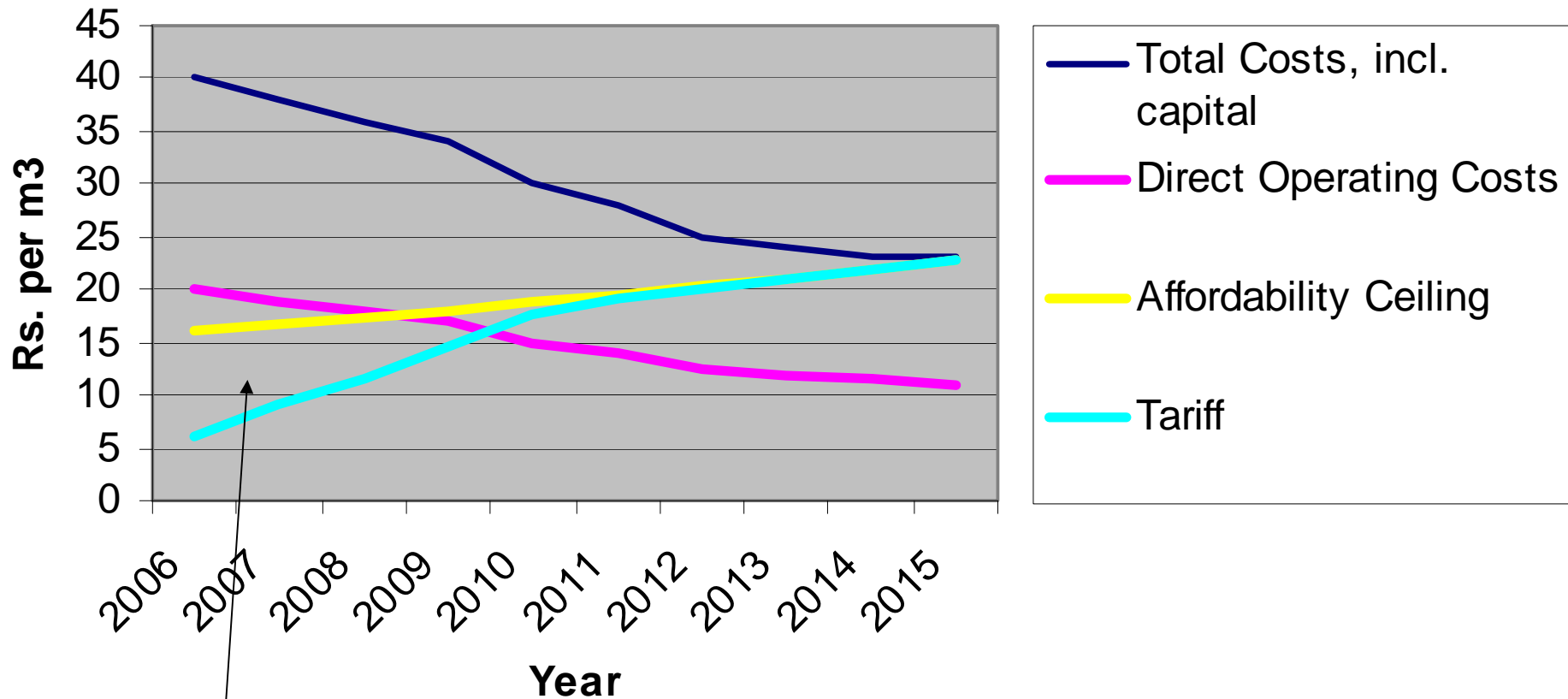
- FULL LEGAL TRANSFER OF ASSETS, AUTHORITY & RESPONSIBILITY FOR WATER & SEWERAGE
- CLEAR, REALISTIC PERFORMANCE STANDARDS & AN EFFECTIVE MEANS OF ENFORCEMENT
- A MECHANISM FOR FINANCING CAPITAL INVESTMENT
- CORPORATIZATION OF SERVICE PROVIDERS
- OPERATING CONTRACTS
- A MECHANISM FOR SETTING COST-BASED TARIFFS
- A TRANSITION PLAN





USAID
FROM THE AMERICAN PEOPLE

PLANNING TRANSITION TO COST RECOVERY



This is a cash subsidy requirement



USAID
FROM THE AMERICAN PEOPLE

CORPORATIZATION IS A KEY REFORM COMPONENT. WHY DO LOCAL GOVERNMENTS CORPORATIZE?

- BECAUSE THEY MUST: NATIONAL LAW REQUIRES MUNICIPALITIES TO FORM COMMERCIALIZED SERVICE PROVIDERS
 - Australia
- BECAUSE THEY WANT AUTONOMOUS, ACCOUNTABLE SERVICE PROVIDERS:
 - Czech Republic, Germany, Latvia, Lithuania, Netherlands, Poland, Sweden, Uganda
- BECAUSE REGULATIONS REQUIRE OPERATING CONTRACTS
 - Romania

Pump room in Armenia



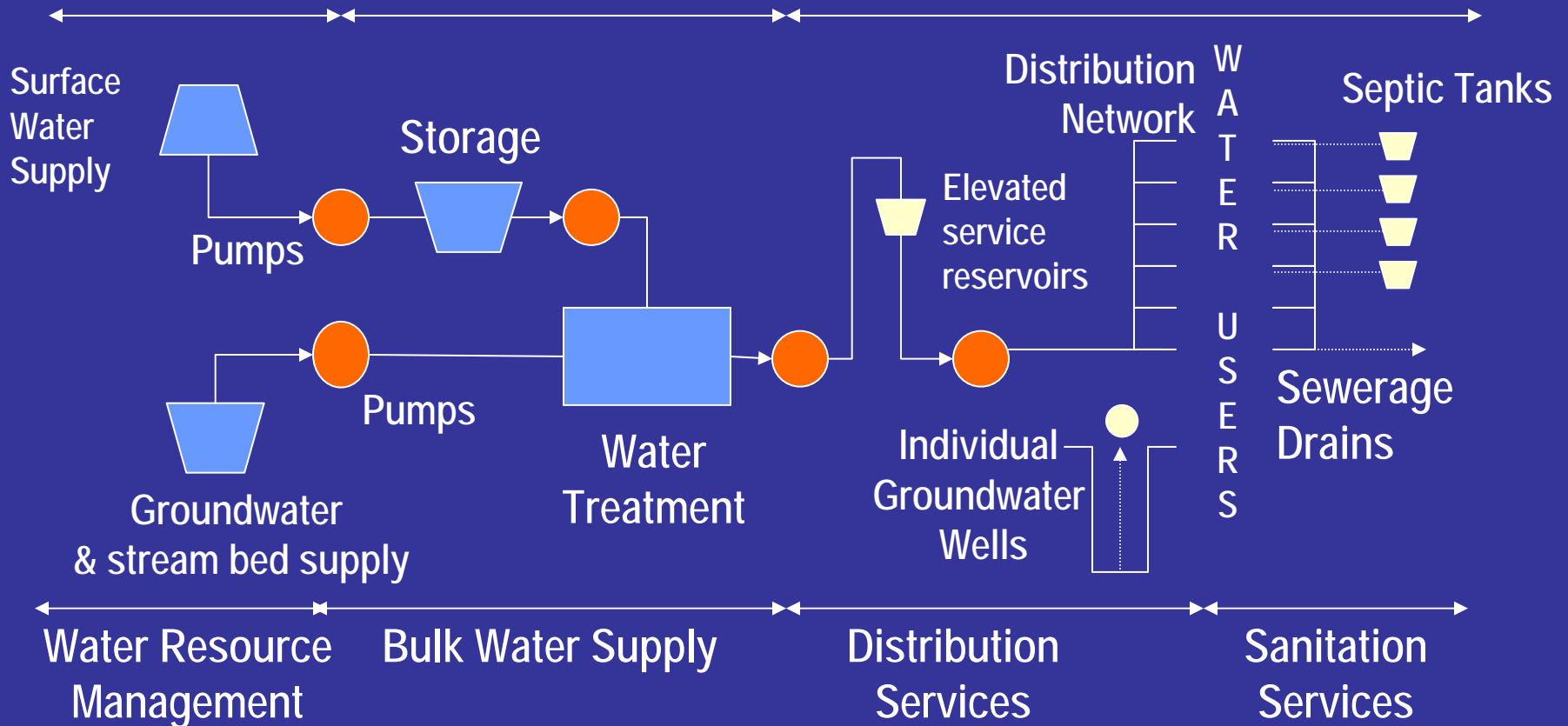
THE CAPITAL ASSET PROBLEM: THE STATE BUILDS AND OWNS; THE UTILITY OPERATES AND MAINTAINS

Who replaces assets when they wear out?

Who has the funds to replace assets as they wear out?

What are the pressures for capital investment efficiency?

What happens to revenues collected for depreciation?



HOW DO SUCCESSFUL REFORMERS DEAL WITH CAPITAL ASSETS?

TWO OPTIONS:

- Assets become part of a corporatized service provider, and are treated as part of the business
- Assets are owned by the local government entity responsible for service, and operating contracts are let to use the assets

ARE THERE OTHER OPTIONS WHAT WORK WELL?

- Assets are owned by the local government, and operated by a department of government.
- As far as I know, nothing else is successful. Assets must be part of the business.

Checking the meters





GOOD EXAMPLES OF THE DECENTRALIZED MODEL

Netherlands

- Fully decentralize assets & responsibility
- Form public companies
- Establish national standards & enforcement mechanisms
- Agglomerate to regional utilities

Czech Republic

- Fully decentralize assets & responsibility & encourage PSP thru Notice 222/91
- Encourage 2 models: mixed utility or operating utility
- Establish national standards & enforcement mechanisms
- Agglomerate to regional utilities
- Introduce Water Extraction Law, charging tax of 2 CZK per m³ extracted

Hungary

- Partially decentralize assets & responsibility
- Form public companies
- Establish national standards & enforcement mechanisms
- Agglomerate to regional utilities
- Serious problems related to asset ownership and financing issues

Lithuania

- Decentralize assets & responsibility
- Form public companies
- Create national regulator
- Establish national standards & enforcement mechanisms
- Agglomerate to regional utilities



USAID
FROM THE AMERICAN PEOPLE

THE OPERATING LEASE MODEL: LODZ, POLAND

The city established two commercial law joint stock companies to operate water and wastewater services. Shares are 100% owned by the Lodz government.

Water and wastewater assets are owned by the city and leased to the operator.

Lease contracts specify annual performance targets.

City is putting assets under an Asset Holding Company to deal with tax issues and financing needs.





USAID
FROM THE AMERICAN PEOPLE

ANOTHER VARIATION ON THE CONTRACTING MODEL: AQUARIUS & CO., POLAND

Former employees established a private company in 1989 to operate water and wastewater services.

Piaseczno city owns all assets, but let three operating contracts: urban stormwater; urban water & wastewater; rural water & wastewater.

Aquarius won urban water & wastewater, and storm water contracts.

In 2003, all urban assets were re-competed under a ten year lease; Aquarius won.



Protesting water policies



USAID
FROM THE AMERICAN PEOPLE

ALTERNATIVE SUCCESSFUL MODELS

Armenia: Mixed Corporatization & PSP

- Form two national water corporations & two town corporations
- Management contracts, followed by a lease for Yerevan
- Establish national standards & enforcement mechanisms
- Establish national regulatory agency

Australia: Regionalization & Commercialization

- Establish policy for water reform: National Competition Policy & CoAG Water Strategy
- Form state water companies
- Allow regional government to make their own decisions on ownership, regulation and operation
- Establish national standards & enforcement mechanisms
- Each state establishes own regulatory agencies & method

UK: Regionalization, Corporatization & Divestiture

- Form regional companies
- Sell public ownership
- Establish national standards & enforcement mechanisms
- Establish national regulatory agency & method

Chile: Regionalization, Corporatization & Divestiture

- Form eight regional companies
- Sell public ownership
- Establish national standards & enforcement mechanisms
- Establish national regulatory agency & method
- Establish water market

Thailand: Regionalization & Corporatization

- Form two corporatized regional companies
- Establish management & staff incentive systems

ACTIONS NEEDED FOR THE “SUCCESSFUL” DECENTRALIZED MODEL

1. Pass laws to fully decentralize, clarifies water, environmental, public utility policies
2. Strengthen policy enforcement agencies: water quality, wastewater quality, utility supervision
3. Establish regulatory process or agency
4. Establish financing mechanism
5. Corporatize service providers
6. Let operating contracts



Illegal water connections in Indonesia



USAID
FROM THE AMERICAN PEOPLE

SPECIAL ISSUES IN THE REGION

ISSUE



SOLUTIONS

Low cost recovery levels



Education campaigns on water costs.
Gradual pricing reform; incentives for performance improvement; rationing.

Financing capital investment & replacement



Commercialize utilities so that they have excellent financial performance; include capital charge in tariffs; revolving funds.

Need for more operational and commercial efficiency



Adopt some form of incentives for public utility managers and staff to gradually improve efficiency.

Coping with rapid increases in cost of bulk water and wastewater treatment



Gradual pricing reform; incentives for efficiency improvement; demand management

Annex 1: WHO PROVIDES SERVICE?

- Armenia Management contractor, lease operator, public companies
- Australia Public and private corporations
- Bulgaria 1 private company; 16 mixed state & municipal companies; 21 municipal departments or companies; 13 regional companies
- Croatia Mix of municipal departments & public companies
- Czech Republic 100 operating companies, with 51 international and 49 domestic; 85% private utilities; 15% municipal companies or departments. International operators in larger cities; many local operators in towns and villages, such as Svitavy and Policka.
- Estonia 1 PSP (Tallinn); 30 LLCs; 152 municipal departments
- Germany Water: mostly public companies, some departments. Wastewater: public companies and departments
- Hungary Mostly local or regional public companies
- Latvia 7 municipal companies or departments; 26 district organizations
- Lithuania Mostly municipal utilities; Regulator pushing for agglomeration
- Netherlands Public companies; agglomeration occurring by agreement
- Poland Municipally owned companies & departments 95%; private companies 5%
- Romania Public utilities or public companies, a few PSP; regulator pushing for agglomeration
- Spain 7% department; 49% public company; 32% private company; 12% public private partnership
- Sweden Mostly public departments, a few municipal companies, but trend toward corporatization & agglomeration
- UAE Mix of public and private companies
- Uganda Delegated management contractors
- Ukraine 36 private companies; 9 LLCs; 220 municipal departments or companies; Regulator pushing for agglomeration



USAID
FROM THE AMERICAN PEOPLE

Annex 2: WHO REGULATES?

- Armenia National Public Utility Regulatory Commission
- Australia Mixed: state regulatory commissions, state governments
- Chile National water regulatory agency
- Colombia National water regulatory agency
- Czech Republic Local governments set rates; Ministry of finance has “duty to check” rates
- Estonia Local governments
- Germany Local governments, but full economic cost recovery is national law
- Hungary Local governments
- Lithuania National Control Commission for Prices & Energy
- Netherlands Local governments
- Poland Local governments (with a national methodology)
- Romania National Regulatory Authority for Public Utilities – ANRSC
- Russia Regional governments
- Spain Local or regional governments
- Sweden Local governments
- Thailand National and local governments
- UAE National water regulatory agency
- Uganda Ministry of Water
- Ukraine Local governments, but full economic cost recovery is a national law
- U.S. State utility regulatory commissions



Annex 3: ROLE OF PSP

- Armenia Most of country is under Lease or Management Contract
- Australia Several privatized utilities, but mostly state-owned corporations
- Chile All regional water companies are privatized
- Colombia Mixed system, with concessions, leases, management contracts, joint ventures & BOTs
- Czech Republic Many affermages, joint ventures & operating contracts
- Estonia Tallinn joint venture company
- Germany A few divestitures, several leases and operating contracts
- Hungary Multiple leases, joint ventures (Szeged) and concessions. Budapest is 25 year concession

- Lithuania No PSP
- Netherlands Private water operation is illegal
- Poland Joint venture companies, affermages and operating contracts in many cities
- Romania Bucharest concession
- Russia Operating contracts, leases are common
- Spain Affermages, operating contracts in several cities
- Sweden PSP is illegal
- Thailand State owned corporations with public equity share outstanding
- UAE Water production is private; distribution is public corporation
- Uganda Delegated management contracts in 16 towns are a mix of public employees and private companies

- Ukraine Very little PSP
- U.S. Several large investor owned utilities; private program management contracts are common; operating contracts occasionally used, e.g., Milwaukee, Atlanta

Annex 4: INFRASTRUCTURE FINANCING

- Armenia Considering a national revolving fund
- Australia Regional government & capital markets
- Chile Capital markets, internal generation
- Colombia Government development bank, capital markets, central and local governments
- Czech Republic State Environmental Fund
- Estonia Environmental Investment Fund was dissolved in 1999
- Hungary Environmental Fund was dissolved in 1999
- Latvia Environmental Investment Fund; Environmental Protection Fund
- Lithuania Environmental Investment Fund; each municipality has its own environmental fund
- Netherlands Local and national government, capital markets
- Poland Municipal funds, national fund and regional funds; Eco Fund
- Romania National Environmental Fund
- Slovenia Slovenian Environmental Development Fund
- UAE Government budget, capital markets, internally generated earnings
- Uganda Internally generated funds = 40%; remainder is national and donor funds
- Ukraine Setting up a municipal bond pool; Oblast Environmental Funds
- US Local governments, state revolving funds, capital markets