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# **WATER UTILITIES CONFERENCE REPORT**

**July 15-16, 1999  
Almaty, Kazakhstan**

**Conference co-sponsored by the Agency for  
International Development and the World Bank**

**INTERNATIONAL CITY/COUNTY MANAGEMENT ASSOCIATION  
Local Government Initiative  
USAID Contract No. EEU-1-00-99-00013-00  
Delivery Order No. 2**

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Prepared for

U.S. Agency for International Development  
ENI/EEUD/UDH

By

Michael Shea

INTERNATIONAL CITY/COUNTY MANAGEMENT ASSOCIATION  
Local Government Initiative  
USAID Contract No. EEU-1-00-99-00013-00  
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## Acknowledgements

We would like to thank the government of Kazakhstan for agreeing to have us conduct this meeting in their country, and for making an excellent presentation on the importance of reforming the water and waste water systems. We would also like to thank the governments of Kyrgystan, Uzbekistan, Turkmenistan, and Tajikistan for sending representatives to the conference and for supporting the attendance by local officials from their countries, who through their participation made the conference a success.

## ABSTRACT

The water utilities conference for Central Asian countries was held on July 15 and 16 at a resort just outside of Almaty, Kazakhstan. The conference was cosponsored by USAID and the World Bank and was moderated by Mr. Michael Gould of USAID. The conference was attended by 52 participants from all of the five Central Asian countries, by one representative from Armenia, and by 16 presenters. There were two purposes for the conference. The first was to explain what vodokanals (water utilities) need to do to obtain a loan from an international donor organization and how they will have to reform their operations if they want to serve their customers better. A second purpose was to introduce the vodokanal operators and city officials to representatives of the donor banks and to have these representatives explain their lending criteria. The conference featured representatives from the World Bank, European Bank for Reconstruction and Development (EBRD), the Islamic Development Bank (IDB), and the Asian Development Bank (ADB).



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# WATER UTILITIES CONFERENCE REPORT

## 1 INTRODUCTION

The water utilities conference for Central Asian countries was held on July 15 and 16 at a resort just outside of Almaty, Kazakhstan. The conference was cosponsored by USAID and the World Bank and was moderated by Mr. Michael Gould of USAID. The agenda and list of presentations are attached as Attachment A.

The conference was attended by 52 participants from all of the five Central Asian countries, by one representative from Armenia, and by 16 presenters. The participant list is shown in Attachment B.

There were two purposes for the conference. The first was to explain what vodokanals (water utilities) need to do to obtain a loan from an international donor organization and how they will have to reform their operations if they want to serve their customers better. A second purpose was to introduce the vodokanal operators and city officials to representatives of the donor banks and to have these representatives explain their lending criteria. The conference featured representatives from the World Bank, European Bank for Reconstruction and Development (EBRD), the Islamic Development Bank (IDB), and the Asian Development Bank (ADB).

## 2 MAJOR THEMES

The 16 presenters at the water utilities conference touched on eight common themes:

- **Autonomy of vodokanals.** The national government, oblast, and city need to be removed from decision making on tariff setting, revenue collection, and capital spending decisions of vodokanals.
- **Institutional change.** Vodokanals need to make substantial institutional reforms to be eligible for loans from donor banks.
- **Adequate tariffs.** Vodokanals need to set tariffs for water usage that are adequate to both meet their operating expenses and pay back loans for capital improvements of their equipment and facilities.
- **Collection of tariffs.** Vodokanals need to dramatically improve the collection of tariffs from consumers, and they have to be able to cut off the water supply to consumers who do not pay.
- **Business orientation.** Vodokanals need to operate like a private business.
- **Strategic planning.** Vodokanals need to prepare a strategic plan for where they want to go over several years and how they will get there. The plan should also list revenue sources.

- **Cost reduction.** Cost reduction can dramatically help vodokanals show a profit for operations.
- **Performance assessment.** Vodokanals need to assess their performance compared to other vodokanals in their country, in neighboring countries, and across the world.

### 3 PRESENTATIONS

**Mr. Glenn Anders**, the Mission Director for Kazakhstan and the director of USAID activities across the Central Asian republics (CAR), opened the conference. He said that water problems are very important to the region, and it is important that the representatives at the conference clearly identify the problems and corresponding solutions. Although there may be differences of opinion on the problems and solutions, it is important to discuss them. Mr. Anders said that what distinguishes the conference is that it pulls together not only vodokanal officials and akims (heads of cities or oblasts) from the five Central Asian countries, but also representatives from major donor institutions such as the World Bank, EBRD, IDB, and ADB. He concluded by saying that although the problems are very challenging, he hoped that the conference would help vodokanals come up with solutions to the serious water problems.

**Mr. Tuligen Sarsembekov**, Chair of the Committee on Water Resources for Kazakhstan, then read a statement from Zh. S. Karibzhanov, Deputy Prime Minister of the Republic of Kazakhstan. Mr. Karibzhanov said that this conference would promote effective solutions for this problem in the Central Asian region. He mentioned that many locations face serious problems with availability and quality of drinking water, which are holding back social and economic development. He welcomed the opportunity that the conference gave its participants to study relevant experience and world achievements in the field of water utilities and sanitation. Mr. Karibzhanov concluded by stating, "I am convinced that this conference will make a contribution to expanding international cooperation in the water utilities sector and attracting finances for providing the population with high-quality drinking water."

The next speaker was **Mr. Walter Stottmann**, Sector Leader, Water and Sanitation, European and Central Asian Region, the World Bank. He gave a very forceful presentation on the status of water and wastewater service in the CAR and the main elements of reform needed for vodokanals to deliver adequate, sustainable service.

The water sector in the CAR is characterized by:

- Poor service delivery
- Institutional, regulatory, and governance weaknesses
- Deteriorated facilities and networks in need of rehabilitation and replacement
- Inefficient operations and inadequate maintenance
- Inefficient practices for selecting investments
- Contaminated water resources
- Large financial shortfalls in operations.

The imperative for water sector reform and strengthening is the present situation: poor services, worsening system performance, poor management and operations, insufficient maintenance, and severe limits on financial resources. The challenge that water utilities face is to mobilize the maximum resources possible and spend them as carefully as possible.

Mr. Stottmann identified seven elements for reform:

1. An enabling governance structure and strong institutions
2. Financial viability for service providers
3. Cost-effective use of scarce financial resources
4. Perception of service recipients as consumers
5. Private sector participation
6. Coordination between government and donors
7. Building of human capacity.

These seven elements of reform are explained in detail in the presentation in Attachment C.

Ms. Kathryn Stratos of USAID then discussed the relationship of municipal utilities and local government. Ms. Stratos drew a parallel between what is happening with local governments and what is happening with utilities. She said local governments or administrations in the CAR face dilemmas that have stymied local governments in all of the transition states of the former Soviet Union. These include:

- Cash-strapped national governments cannot or do not honor local revenue-sharing agreements.
- Subunits of vertically integrated structures, such as ministries, report to both the ministry in the capital and to a regional administration.
- Poorly-defined responsibilities and financial obligations are placed on local governments without the corresponding decision-making and revenue-generating authority. As a result, local governments cannot manage inherited assets or responsibilities effectively.
- The lack of resources and clear authority gives local officials little incentive to make decisions, get involved, and make tough choices.

It is important to clarify the division of labor and responsibilities between different levels of government. Proponents of decentralization such as the World Bank urge policy makers to place responsibility, decision-making authority, and financial resources at the lowest possible level because it is closer to the problem and the consumers. Accountability is another important principle: it is important to have directly-elected local officials, and it is important for these officials to know to whom they are accountable. Kazakhstan's new draft Law on Local State Government makes reference to delegating some vodokanal functions to oblasts but not to local governments. There is no provision for local authorities to raise revenues independently. As long as local governments are dependent on revenue from the national government, the national government will determine the spending priorities.

Local governments have several options for increasing their effectiveness in spite of having limited authority. These options include:

- **Asset consolidation** – determining what assets are in the community and making decisions to support a few assets in an area such as hospitals or schools well rather than trying to support all assets poorly with limited financial resources.
- **Divestiture** – giving up control over some local institutions such as vodokanals and playing a regulatory role in connection with these institutions instead of operating them.
- **Cost control** – controlling the costs of institutions such as vodokanals, which can lead to increased revenues and opportunities to receive loans and make significant capital improvements in the water system.

**Mr. Motoo Konishi**, of the World Bank, spoke about the importance of financial viability for vodokanals. Mr. Konishi described the downward spiral that many vodokanals get into when they do not collect sufficient revenues and cannot maintain the water systems. The path for reform toward vodokanals' financial viability includes the following steps:

- **Establishing commercially-oriented water utilities** with management autonomy, commercial accounting practices, greater efficiency, financial viability, and a direct commercial relationship with end users.
- **Controlling costs** by developing affordable standards and providing water service efficiently.
- **Mobilizing resources for capital investments**, which include cash from operations, capital grants and loans, and private equity.

Mr. Konishi then described the key elements of a financially viable water utility. These include dependable and sufficient revenues and a capacity to contract and manage debt. It is important for water utilities to have a financial strategy for financing operations and capital improvements, and describes supporting policies which are centered on customers and treats operational issues in a business environment. He also said financial viability requires good financial information which includes; clear and transparent accounting practices, trained financial specialists, and frequent use of financial information by top management.

**Dr. Kris Buros**, a vice president of CH2M HILL, made a presentation on effective investment strategies for water infrastructure improvements. Dr. Buros said that the major investment period for water utilities in the former Soviet Union was between 1950 and 1980, and those investments are old and deteriorating now. He said that a reasonable goal for urban water systems is to have potable water 24 hours a day at a usable, steady pressure. To reach that goal, vodokanals need:

- Realistic planning in time, cost and priorities
- Focused management and public involvement
- Funds for operating expenses and investment
- Significant and sustained capital investment.

Dr. Buros then described the key characteristics of an American city of 250,000 population. Two facts that stood out for the participants were that the water authority collected 99 percent of the tariffs and that the capital debt of the authority was US\$100,000,000. He described the three major stages of water system and development as stabilization, rehabilitation, and modernization.

The key elements under stabilization include:

- A realistic evaluation of the water system
- A strategic plan for the future that should match available funding
- Selective repairs and modifications
- Elimination of serious public health threats
- Upgrading of finances to at least a break-even point.

The steps in rehabilitation are:

- Restore the existing system
- Improve water quality, pressure, and delivery
- Reduce the frequency of major repairs
- Upgrade finances to create a surplus for capital investment in the water system.

Major steps in modernization are:

- Expand and modernize facilities
- Build new facilities
- Maintain a financial surplus for capital investment in the water system.

The development of a strategic plan is very important for water utilities. The major elements of a strategic plan include:

- Finance, infrastructure, policy, and public involvement
- System evaluation
- Priorities for investment
- A realistic schedule.

Dr. Buros concluded by saying that achieving the goals for urban water systems requires significant long-term investment. An investment strategy should include finance, infrastructure, policy, and public involvement. Water utilities must be managed like a business so that income will cover all expenses and capital investment. National policy must be supportive of an orderly improvement in water systems. Ultimately it is the users who will pay for improvements in service, and users will often need to pay for improvements before they occur. Public involvement is crucial to obtaining long-term support and revenues.

Mr. Erdogan Pancaroglu and Mr. Keith Soffe, who are currently working on a rural water project for the Asian Development Bank, made a presentation on rural water supply and sanitation development in Kyrgyzstan. Mr. Pancaroglu made the first of two presentations on the topic. He said the rural water systems were fairly well developed in the former Soviet Union with approximately 75 percent of the population benefiting from these systems. Since 1991, state financial and technical support has stopped, and maintenance has become a serious problem. Most of the groundwater pumping systems, disinfection facilities, and standpipes are currently not functioning. The incidence of water-borne diseases such as diarrhea, typhoid, and hepatitis is high in the rural areas.

Rural water systems in Kyrgyzstan are maintained by Kyrgyzselremstroi (KSRS), which is a semiautonomous body under the Ministry of Agriculture and Water Resources. KSRS receives funds from the collective farms and the national government.

There are at least four national agencies involved in obtaining and administering rural water in Kyrgyzstan. There is a need for an integrated approach and more community participation in administering rural water. The key elements for the development of sustainable water and sanitation in Kyrgyzstan are community participation and ownership, full cost recovery, and institutional development.

The ADB project will cover infrastructure improvements in three oblasts: Chui, Osh, and Jalal-Abad. The national government will need to make a number of institutional changes to qualify for the ADB loan, including the establishment of a central policy-making agency and large-scale community participation.

Mr. Soffe described the financial aspects of rural water supply in Kyrgyzstan. He described a vicious circle caused by:

- Lack of money, which leads to...
- No maintenance or development, which leads to...
- Poor service, which leads to...
- Reluctance to pay, which leads to...
- Lack of money.

The circle must be broken by:

- Improving the service so that people are willing to pay
- Persuading people to pay to raise money
- Raising money to rehabilitate, operate, and maintain the system
- Maintaining and managing the system to give better service.

Mr. Soffe said that the World Bank estimates that \$400 to \$500 million is needed to fulfill Kyrgyzstan's water supply and sanitation requirements. The government of Kyrgyzstan does not have the capacity to borrow that much money and needs to adopt another radically new

approach of cost recovery. New water systems should be demand driven, and the villagers should decide the level of service they need, linked to affordability and willingness to pay. Rural water systems should be managed by the community, and ownership should be vested in the community. There are three types of cost recovery:

- Operation and maintenance – this is the minimum level of cost recovery
- Investment cost – this repays loans and debts but does not maintain the system
- Depreciation – this also builds up cash reserves to pay for the replacement of assets.

In order to break the cycle, repay the loans, and have sustainability, water utilities should utilize all three types of cost recovery.

Mr. Soffe said that tariffs for water usage should be controlled by local communities. It is also important to have sanctions for those who do not pay the water tariffs. The best sanction is cutting off water to nonpayers. Cost recovery brings a need for financial management and financial information systems. Water managers need to install flow and consumption meters, measure water supply and sales, measure leakage rates and unaccounted water, and develop norms or standards that are more useful and realistic than the old Soviet Union norms.

**Mr. Fred Zobrist**, a Vice President of Tetra Tech EM Inc., presented a session on privatization options for local water utilities. Mr. Zobrist described options for private sector participation, the advantages and disadvantages of each, and the phases of privatization. He discussed the range of possible public-private partnerships, from a simple consulting agreement to private ownership and management. He also defined some terms such as BOO, BOT, and BTO (see the presentation in Attachment C). Privatization options include:

- Divestiture of assets
- Build-Operate-Transfer (BOT) and Build-Own-Operate (BOO)
- Concession
- Lease
- Management contract
- Service contract.

The main benefits of a private sector partner are:

- Increased technical and managerial expertise
- Improved efficiency
- Large-scale injections of capital funds
- Reduced need for subsidies
- Increased responsiveness to consumer needs.

With privatization, the local government loses management control over the utility but can maintain regulatory control.



It can take a long time (12 months to 2 years) to put a private management or ownership plan into effect. Local governments or authorities need to set up a program management unit (PMU) to manage the private group over the life of the project. The PMU should have strong technical, legal, and financial skills.

The major phases in establishing a private project include:

- Project identification
- Selection of the private partner
- Agreement and contract execution
- Project construction
- Operations
- Transfer or renegotiation.

A presentation on the experience of privatizing the Saur Neptun Gdansk (SNG) water authority was made by **Mr. Frédéric Renault**, General Director, Rossa Joint Venture. Gdansk is a city of 470,000 population located on the Baltic Sea. SNG is currently serving 550,000 inhabitants, with 87 percent of their customers being domestic users and only 4.9 percent being industrial users. SNG has 780 employees. Its water network is over 1,230 kilometers long and has 17 groundwater intakes and one surface water intake. The sewerage network is 930 kilometers long with two wastewater treatment plants. SNG has a lease contract with the city to operate the water and wastewater system. Under the lease contract, SNG performs routine repairs on the system as part of its normal operations, but the city is responsible for major repairs and investments in the water system.

Before SNG took over the operations of the water utility in 1992, there were a myriad of problems including:

- Poor water quality
- Excessive water supply interruptions
- Problems with water pressure
- Inadequate wastewater treatment, which caused the city's beaches to be closed
- High distribution losses and consumer waste
- Excessive level of arrears on consumer payments
- Limited finances to improve the water and wastewater systems.

Hiring a private firm resulted in dramatic improvements in each of the above problem areas over a period of only five years. The combination of eliminating large water losses, educating consumers, and charging a tariff for water has reduced water consumption by 40 percent. The per capita charge for water has increased by 32 percent over the past five years, but the corres-

ponding services and quality of water have increased dramatically. Water charge increases in Gdansk were much less than in other cities in Poland over the past five years.

The success of SNG in revitalizing the water and wastewater system has created a demand for training from other water utilities in the region. As a result, SNG has established a training center and trains over 1,000 participants a year.

The first speaker on the second day of the conference was **Ms. Judy Wilson**, a partner in Blake, Cassels and Graydon who is based in Canada. Ms. Wilson described her experience in establishing a private management contract with the water utility in Yerevan, Armenia, which may be the first such contract in the former Soviet Union. She outlined the steps in setting up the management contract, which included:

- Gathering information on contract processing
- Identifying the fundamental decisions and developing the contract framework
- Preparing and issuing a Request for Qualifications and evaluating submissions
- Finalizing the documentation and issuing a Request for Proposals to qualified firms
- Evaluating proposals and selecting the winner
- Negotiating a contract with the winner.

Ms. Wilson then described the typical structure of a management contract. She also listed the legal issues that need to be addressed by a local attorney, which include jurisdiction, staffing, environmental, and tax issues.

**Mr. Frank Schutz**, an ICMA consultant, made a presentation on how and why water utilities should conduct a self-assessment of their operations. Water utilities should conduct self-assessments in order to improve productivity, quality of service, and financial viability. It is important for water utilities to compare themselves to other utilities in their country and in the region.

He said that the ultimate assessment of water utility performance resides in one equation:

$$[\text{Revenue Collected}] - [\text{Cost of Production} + \text{Cost of Administration} + \text{Cost of Billing} + \text{Cost of Collection}] = \text{Financial Viability of the Water Utility}$$

If the answer is positive, the water utility is financially viable but may still be able to make improvements. If the answer is negative, there is a serious problem, and improvements need to occur. To make improvements, the water utility needs to go through a process called benchmarking, which includes:

- Data collection and measurement
- Calculation of ratios and relationships
- Comparisons between your own operations and those of other water utilities
- Interpretation and evaluation of the results.

There are two equally useful types of benchmarking. One type is called metric benchmarking. It measures progress and asks the questions:

- Where are we now?
- Where have we been?
- Where do we need to go?
- Are we moving in the right direction toward our goals?

The second type, called process benchmarking, compares the operations of one water utility with those of other water utilities. This type helps a water utility set realistic goals for improvement.

The key to conducting a self-assessment is collecting the relevant data from operations. Data on water utilities in cities worldwide are readily available from World Bank documents. Mr. Schutz suggested a number of data elements that should be collected and presented a series of benchmarking ratios that can be used for analysis (see Attachment C).

**Mr. McNamara** from USAID discussed the role that USAID can play in providing technical assistance and in working with donors and countries to establish policies that will improve the environment and water conditions. He pointed to the Aral Sea's decline as an example of the impact of bad policy decisions and the efforts that are being made now to restore the sea's level. He said consumers have to pay for water because price limits the consumption of water. A system of nonpayment for water started during the Soviet era, and that has to change. The barriers to well-operating water utilities and systems are:

- Sufficient tariffs
- Organizational structures of water utilities and governing bodies
- A legal framework for devolving authority to the local level
- Macroeconomic reform in the agricultural sector and water users associations.

**Mr. Walter Stottmann** described the water and wastewater lending criteria for the World Bank. Each World Bank project needs to aim at improving the safety and reliability of water and sanitation services to consumers by facilitating implementation of principles for sustainable sector development. To do this, projects must help participating vodokanals become autonomous, commercially oriented, financially self-sufficient, well-managed, and well-administered municipal utilities capable of efficiently providing safe and affordable services to their consumers. World Bank projects fund investments that improve the functioning of water and wastewater systems through rehabilitation, efficiency enhancements, and expansions.

Mr. Stottmann said the World Bank will fund least cost, high priority, and most urgent investments that meet three criteria:

- Improve the safety and reliability of services to consumers
- Lower cost by improving the efficiency of management and operations
- Improve the financial viability of vodokanals.

The other priority is to fund institutional strengthening and water projects first.

Mr. Stottmann then defined the components of water, sewerage, management, and engineering services projects.

The World Bank funds up to 90 percent of investments net of taxes and duties. The local vodokanal is required to fund 10 percent of the net investment, as well as taxes and duties. The vodokanal has the primary responsibility for implementing the project, and the implementation period is usually three to six years. The steps in a typical project cycle are:

- Identification of the project
- Preparation of a project plan
- World Bank preappraisal and appraisal of the project
- Negotiations on the loan and the project
- Approval of the loan by the World Bank's Executive Board
- Loan signature.

Loan funds become available a month after signing, and the overall process takes about 16 months.

As part of the project preparation process, the following aspects of the local vodokanal must be assessed:

- Governance and institutions
- Financial position for the past two years converted to Western accounting standards
- Social analysis, which measures consumers' satisfaction and ability to pay
- Technical engineering investments
- Water resources and environmental impact
- Financial management systems and capacity
- Procurement procedures, which need to be accordance with World Bank guidelines.

The European Bank for Reconstruction and Development (EBRD) was represented by **Mr. Ulf Hindström**, who described their lending criteria. EBRD was founded in 1991 and is owned by 58 countries. They make investments in both the private and public sectors and are the leading investor in Central and Eastern Europe and the Newly Independent States. EBRD has

funded municipal and environment infrastructure projects in 110 municipalities, and this sector represents 50 percent of EBRD's loan portfolio. When making loan commitments, EBRD's guiding principles are:

- Decentralization of service funding and provision
- Commercialization of services and infrastructure
- Financing of urgent investment needs
- Optimization of private sector involvement.

EBRD offers a range of financing approaches, including sovereign-based financing, nonsovereign municipal financing, and private financing. EBRD normally makes loans of at least 10 million Euro with a 15 year payment period.

EBRD's role in project development is to organize and finance advisory support and to perform technical, legal, and financial due diligence. EBRD conducts due diligence on the project by reviewing an applicant's credit analysis, financial and operational performance audit, and legal and regulatory environment. EBRD then assists with the financial structuring and helps mobilize capital grants and commercial loans.

EBRD's project selection criteria include:

- Municipal enterprises in large cities with a strong economic base
- Critical investment needs
- Reasonably good financial performance
- Reform-minded management
- Willingness to support EBRD principles
- A national priority/sovereign guarantee on the loan.

Mr. Hindström then presented a case study on the process for a typical loan in a Central Asian country. The case study included several graphics displaying the relationships of the parties involved in different phases of the loan. He said that in the future EBRD will be looking for an increased role for the private sector, a move toward nonsovereign projects, and increasing importance of the policy dialogue with central government.

The Islamic Development Bank was represented by **Dr. Kayed Abdul Haq**, the Acting Director of the IDB Regional Office. The IDB was formed to foster economic development and social progress in the 53 member countries and Muslim communities in nonmember countries.

Dr. Abdul Haq described the IDB's financing criteria. The IDB makes loans for infrastructure projects and has loaned US\$1.678 billion to date. The IDB charges a lump sum service fee of 2.5 percent of the total amounts to be paid in installments and sometimes takes an equity interest in infrastructure projects of 5.5 to 7.5 percent of the profit.

The IDB also provides technical assistance to member countries for feasibility studies on projects. The IDB has funded nine approved projects in Kazakhstan, and one of these is technical assistance to a drinking water project in Kylorda.

**Mr. A.P. Mironenkov**, head of the Department of Rural Infrastructure, Ministry of Micro-Economics and Statistics, gave a presentation on reforming drinking water utilities in Uzbekistan. In the Soviet era, Uzbekistan developed a cotton-based economy, which was very water intensive, and agriculture consumed about 85 percent of the water resources. As a result of the emphasis on agriculture and irrigation systems, the development of drinking water utilities fell far behind the needs of consumers. By 1990, 81 percent of the urban population and only 52 percent of the rural population had clean drinking water. The limited availability of water sources necessitated the development of large regional water pipe systems.

Since independence, Uzbekistan has had a policy of improving the drinking water supply. In the rural areas, the coverage increased from 52 percent to 66 percent of the population, even though the rural population has grown significantly. Subsidies have been declining, and water utilities will not receive national or state subsidies after the year 2000. Responsibility for rate setting and management responsibility has been given to the oblasts. The individual consumers still only pay about half of the cost of water.

Uzbekistan has a goal of creating financially independent vodokanals. The country also plans to provide clean drinking water to 85 percent of the rural population by the year 2005. The government is working closely with the World Bank to prepare an international competition for the provision of private management services to Bukhara and Samarkand.

#### 4 EVALUATION RESULTS

The participants thought that the water utilities conference was very useful, and they said that they would carry written materials and ideas back to their homes and would try to implement them. At the end of each day of the conference, participants completed a questionnaire. The detailed questionnaire results are listed in Attachment D.

Of the 40 participants who completed a questionnaire for the first day, 13 found Walter Stottmann to be the most useful speaker, followed by Frédéric Renault and Motoo Konishi. All of the participants found the written material to be useful, with seven finding the material on financial viability most useful. When asked which materials will be most useful in their work, nine of the participants cited privatization options or the Gdansk privatization project. When asked what changes they plan to make in their operations, the top answers were (1) privatization and partial privatization and (2) development of a tariff system and water standards. All of the participants said that they would like more conferences and workshops, and the topic they would most like to focus on is privatization in transitional countries. All but two participants said that additional written materials would be useful, particularly in the areas of privatization and tariff systems. When asked if technical assistance by a consultant at their vodokanal would be useful, they all replied yes. The range of technical areas in which they thought assistance would be useful was very broad.

The participants said that the most useful speakers on the second day of the conference were Walter Stottmann on World Bank funding and Frank Schutz on a self-assessment system. All participants found the written materials to be useful and said that the most useful were those provided by Frank Schutz. Several of the participants said that they planned to use the self-assessment materials, and the new accounting materials were a close second. All the participants agreed that technical assistance by a consultant would be useful.

**ATTACHMENT A**  
**AGENDA AND LIST OF PRESENTATIONS**



# CONFERENCE ON WATER SYSTEMS

## CONFERENCE AGENDA

JULY 15-16, 1999  
ALMATY, KAZAKHSTAN

The conference is sponsored by:  
U.S. Agency for International Development, and  
World Bank

The conference is organized by:  
International City/County Management Association

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Poselok Kamenka  
Almaty oblast, Kazakhstan  
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<b>Time</b>	<b>Topic</b>	<b>Presenter</b>
9:00 am	<i>Introductions and purpose of the workshop</i>	Mr. Glenn Anders, Director, USAID Mission to the Central Asia; Mr. Kadir Yorokoglu, Resident Mission, World Bank Mr. Tulegen Sarsembekov, Chairman, Committee on Water Resources, Kazakhstan
9:30 am	<i>Overview of water and wastewater in the CAR and an outline of program reform. Main elements of the reform</i>	Mr. Walter Stottmann, Sector Leader, Water and Sanitation, ECA Region, World Bank
10:15 am	Break	
10:30 am	<i>Municipal Utilities and Local Government</i>	Ms. Kathryn Stratos, USAID
11:15 am	<i>Financial Viability</i>	Mr. Motoo Konishi, World Bank
12:00 pm	<i>Effective Investment Strategies for Water Infrastructure Improvements</i>	Dr. O.K. Buros, Vice President, CH2M HILL International, Denver, CO
12:45 pm	Lunch	
2:15 pm	<i>Community-Based Water Supply and Sanitation Development in Kyrgyzstan.</i>	Mr. Erdogan Pancaroglu, Team Leader for the ADB Technical Assistance Study/ Brockman TYM International
	<i>Financial Aspects of Rural Water Supply in Kyrgyzstan.</i>	Mr. Keith Soffe, Financial Consultant for the ADB Technical Assistance Study/ Brockman TYM International
	<b>Private Sector Participation</b>	
3 15 pm	<i>Privatization options</i>	Mr. Fred Zobrist, Tetrattech/Mr. Ivan Cheret, Compagnie Lyonnaise des Eaux
4:15 pm	Break	
4:30 pm	<i>The lease contract in Gdansk</i>	Mr. Frédéric Renaut, General Director, Joint Venture, "Rossa"
5:00 pm	Summary of the Days Presentations	Mr. Michael Gould, Housing/Urban Development Officer, USAID
7:00 pm	Reception	

7/14/99 5:15 a15/p15

**July 16, 1999**

<b>Time</b>	<b>Topic</b>	<b>Presenter</b>
8:30 am	<i>Presentation of the days sessions</i>	Mr. Michael Gould, Housing/Urban Development Officer, USAID
8:45 am	<i>The Management Contract in Yerevan, Armenia</i>	Ms. Judy Wilson, Partner, Blake, Cassels & Graydon
9:15 am	<i>Conducting Self-Assessments on Vodokanals. Accounting systems.</i>	Mr. Frank Schutz, ICMA Mr. Antony Gioffre, CARANA
10:30 am	<i>Coffee Break</i>	
	<b>International Donor Institutions: Their Programs and Requirements for Funding</b>	
10:45 am	<i>U.S. Agency for International Development</i>	Ms. Kathryn Stratos, USAID
11:15 am	<i>The World Bank</i>	Mr. Walter Stottmann, Sector Leader, Water and Sanitation, ECA Region, World Bank
11:45 am	<i>EBRD</i>	Mr. Ulf Hindström, Senior Banker, EBRD
12:15 pm	<i>Asian Development Bank</i>	Mr. Homg Wang, Resident Representative, ADB
12 40 pm	Islamic Development Bank	Dr. Kayed Abdul-Haq, Regional Office Director, IDB
1:00 pm	Lunch	
2:15 pm	<b>The Central Asian Viewpoint on Water Reform. Q&amp;A</b>	Panel discussion: Mr. A.P. Mironenkov, head of the Department, Ministry of Macroeconomics and Statistics
4:15 pm	Break	
4:30 pm	<i>Continue panel discussion</i>	
5:15	<i>Summary of conference</i>	Mr. Michael Gould, USAID
	Adjourn	

# LIST OF PRESENTATIONS AT THE WATER UTILITIES CONFERENCE

Almaty, Kazakhstan  
July 15-16, 1999

1. *Development of Sustainable Water Supply and Sanitation Services with Specific Reference to Central Asian and Caucasus Countries*

Walter Stottmann, Sector Leader, Water Supply and Sanitation, European and Central Asia Region, World Bank

2. *Local Government and Utilities*

Kathryn Stratos, COTR, USAID

3. *Financial Viability*

Motoo Konishi, World Bank

4. *Effective Investment Strategies for Water infrastructure Improvements*

Kris Buros, CH2M HILL INTERNATIONAL, Denver, CO.

5. *Rural Water Supply and Sanitation Development in Kyrgyzstan*

Erdogan Pancaroglu, Team Leader for the ADB Technical Assistance Study/Brockman TYM International

6. *Financial Aspects of Rural Water Supply in Kyrgyzstan*

Keith Soffe, Financial Consultant for the ADB Technical Assistance Study/Brockman TYM International

7. *Privatization Options*

Fred Zobrist, Tetra Tech EM Inc.

8. *Turning the Tide of Water Utilities, How Private Operations Go About Improving Services: The Experience of SAUR NEPTUN GDANSK*

Frederik Renaut, General Director, Joint Venture Rossa, Moscow, Russian Federation

9. *Management Contract in Yerevan, Armenia*

Judy Wilson, partner, Blake, Cassels & Graydon

10. *Conducting Self-Assessments of Vodokanal's*

Franklin Schutz, consultant, International City/County Management Association

11. *Accounting Systems* – presentation missing

Anthony Gioffre, CARANA, Kazakhstan

12. *Kathryn Stratos* – second presentation on USAID missing

13. *World Bank Funding for Water and Wastewater Projects – two presentations*

Walter Stottmann, Sector Leader, Water and Sanitation, ECA, World Bank

14. *EBRD Approach to the Municipal Investments in Central Asia*

Ulf Hindström, Senior Banker, EBRD

15. *Islamic Development Bank and its Financing Criteria*

Dr. Kayed Abdul Haq, Acting Director, IDB Regional Office in Almaty, Kazakhstan

16. *Reform of the Drinking Water utilities in Uzbekistan*

Alexander Mironenkov, Head of Department, Ministry of Macroeconomics and Statistics

**ATTACHMENT B**

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**ICMA**

ATTACHMENT C

PRESENTATIONS

**The Government of the Republic of Kazakhstan**

July 8, 1999

To Participants in the Water Utilities Conference:

I am very pleased to thank organizers and participants of such an important and vital conference on water utilities for cities and localities. This conference is organized under the auspices of the International City/County Management Association, with financial support from the U.S. Agency for International Development and World Bank. I want to express my gratitude to these organizations for cooperation and assistance, and for their attention to improving quality of drinking water for the population of the Republic of Kazakhstan. I am sure that the results of this conference will promote effective solution for this problem in the Central Asian region, as the problem originated there under centralized economy.

Many cities and locations face serious problems with availability and quality of drinking water. Unstable water provision of the cities and polluted water resources are dangerous factors, which are holding back social and economic development.

This conference gives its participants an opportunity to study relevant experience and world achievements in the field of water utilities and sanitation. I believe that recommendations on financing, construction, management, operation, and technical service of the water utilities will be prepared during the conference. In the situation when financial means for these goals are scarce, one should consider alternative financial decisions, and involving non-governmental sector.

I am convinced that this Conference will make a contribution to expanding international cooperation in water utilities' sector, and attracting finances for providing population with the high-quality drinking water.

I wish successful work to all participants.

Zh. S. Karibzhanov  
Deputy Prime Minister of the Republic of Kazakhstan  
Minister of Agriculture

**Development of Sustainable Water Supply and Sanitation  
Services with Specific Reference to Central Asian and  
Caucasus Countries**

**USAID/World Bank Workshop on**

**Almaty, July 15/16, 1999**

**by Walter Stottmann, Sector Leader, Water Supply and  
Sanitation, European and Central Asia Region, World Bank**



# Outline

**The State of the Industry**

**The challenge ahead**

**Key elements of a sector development strategy towards  
adequate sustainable service delivery**

**World Bank Strategy**

# **State of the Industry (1)**

## **Poor Service Delivery**

**deficient, unreliable, sometimes unsafe services**  
**intermittent, lack of pressure in urban systems**  
**bacteriological contamination, public health concerns**  
**situation is worst in smaller towns and rural areas**

## **Institutional/regulatory/governance weaknesses**

**poor management and inefficient administration of sector institutions**  
**outdated management/administrative/operational systems**  
**lack of autonomy and commercial orientation**

## **Deteriorated facilities and networks in need of rehabilitation and replacement**

## **State of the Industry (2)**

### **Inefficient operations, inadequate maintenance**

**losses, deficient pressure zoning**

**water wastage**

**excessive consumption of inputs, energy**

### **Inefficient investment selection practices**

**geared to capacity expansion rather than efficiency improvements**

**absence of least cost, cost effectiveness criteria**

**lack of prioritization**

**over ambitious, inappropriate standards and designs**

### **Contaminated water resources**



## **State of the Industry (3)**

State of the Industry (3)

### **Large financial shortfalls**

**enterprises not financially viable**

**low tariffs and poor collections**

**insufficient funds for maintenance and operations**

**no resources for investments**

### **Affordability and willingness to pay constraints**

# **The Imperative for Sector Reform and Strengthening (1)**

## **The present dilemma**

**poor services, system performance getting worse**

**poor management and operations, insufficient maintenance**

**severe limits on financial resources**

**Consequence: the situation is getting worse**

## **The challenge**

**increase resource mobilization to the maximum possible**

**spend scarce resources as carefully as possible**

## **The way out**

**comprehensive sector reform and capacity building**

**seven principles towards attaining sector sustainability**

## **The Seven Elements of Reform**

**Based on international practice, but tailored to the conditions in the Region**

- (1) create enabling governance structure and strong institutions**
- (2) put sector institutions on a financially viable footing**
- (3) ensure cost effective and efficient utilization of resources**
- (4) turn service recipients into consumers with rights and obligations**
- (5) encourage private sector/public partnerships**
- (6) ensure close coordination between the government and the international IFI/Donor community**
- (7) give programs of capacity building highest priority**

# **Element 1: Enabling Governance Structure and Strong Institutions (1)**

**Decentralized mode of sector organization and management**

**Clear division of responsibilities between**

**service provision - professional agencies operating efficiently for the benefit of the consumer without political interference**

**regulation/oversight - national/local government**

**policy setting, legal framework - national government**

## **Element 1: Enabling Governance Structure and Strong Institutions (2)**

### **In large urban areas:**

**management and operation by autonomous, commercially oriented, self reliant utility in charge of all aspects of the business;  
regulated by local government through performance contract,  
business plan  
water and waste water in the same institution**

### **In smaller urban areas**

**similar, but regional collaboration to gain “economies of scale” by sharing of scarce human and financial resources**

## **Element 1: Enabling Governance Structure and Strong Institutions (2)**

**Based on world wide experience, community based approach in rural areas; community**

**expresses demand and selects level and quality of service based on affordability and willingness to pay**

**makes decisions and runs the water business through local elected/appointed Water Supply Committee**

**maintains and operates systems**

**pays for O@M and at least part of investments through cash and/or labor**

**Specialized institutional framework for rural water supply program needed to assist communities**

## **Element 2: Financial Viability for Service Providers(1)**

### **General Principles**

**Service providers CANNOT provide adequate services without adequate resources**

**Full cost recovery: O@M and investments from consumer most efficient, equitable, sure way to attain and maintain financial viability**

**Limited, transparent subsidies for emergency situations and externalities, waste water treatment, for example**

**Consider affordability and willingness to pay; but realize that “people are too poor to pay for water” often a myth and the very reason for poor services**

**level and quality of service tailored to what people can afford and are willing to pay for**

## **Element 2: Financial Viability for Service Providers(2)**

### **Key policies regarding cost recovery/tariffs**

**decentralization of tariff setting subject to national regulations**  
**effective, nonpolitical, expedient mechanisms for tariff approval**  
**tariff setting based on realistic, medium term financial planning**  
**tariff levels and structure part of multi year agreement/business plan between government and service provider**  
**emphasis on collections; shut off policy may be only way to collect**  
**commercial system to make customers pay and understand why**  
**consumers shouldn't be asked to pay for poor management, inefficient operations and poor investment choices**  
**government to adopt and enforce full cost recovery policies;**  
**provides assistance only to those complying with policies**



## **Element 3: Cost Effective Use of Scarce Financial Resources (1)**

*Water for People - 2010*

### **General Principle**

**resources should be allocated only for priority interventions that bring highest benefits in terms of improved services to consumers**

**Choose priorities: improving water supply service generally first priority**

**Invest in efficiency improvements to existing systems before considering expansions**

**reduce water consumption through demand management**

**reduce leaks and water wastage, pressure zoning**

**optimize efficiency of plants and networks by reducing input requirements; chemicals, energy**

**appropriate maintenance to extend efficiency and useful life of assets**

## **Element 3: Cost Effective Use of Scarce Financial Resources (2)**

### **Adjust investments to financial capacity**

**choose appropriate and affordable service quality; stand posts or hand pumps may be the only way to provide affordable service**  
**revise unaffordable standards and designs to allow for innovative and flexible solutions**

### **Cost effectiveness/priority analysis in defining investments**

**start with reliable information**  
**undertake alternative/least cost analysis**  
**unify investment selection and O&M**

### **Assure quality of construction**

**use of quality materials, insistence on quality contracting**  
**supervision of construction**

## **Element 4: Consumer recognition**

**Turn passive service recipient into critical consumer with right and obligations**

### **Consumer rights**

**expect efficient service**

**no tolerance for inefficient performance elevating costs and tariffs unnecessarily**

**be partners in decision making through establishment of formal mechanisms for consumer input**

### **Consumer obligations**

**pay for services and speak up**

## **Element 5: Private Sector Participation (1)**

**Promote local private sector support industry: consulting firms, suppliers, contractors, to provide quality services under competitive conditions**

**Consider participation of the international private sector (PSP) in the management, operation, and financing of services to bring:**

- know how in utility management and operations**
- investment resources**

**Encourage and facilitate the development of local private management and operations capacity, particularly for rural areas**

## **Element 5: Private Sector Participation (2)**

### **Some principles regarding PSP**

**Bank supports PSP as a proven means to improve utility management and operations efficiency and raise private investment funding**

**PSP is not a panacea; cannot substitute for sector reform; needs enabling environment to perform**

**many options - service, management contracts, leases, concessions, joint ventures, divestiture**

**feasibility of options determined by project and country conditions: legal/regulatory framework, financial capacity**

**private sector choice determined by risk; concession requires more assurances than management contract**

## **Element 5: Private Sector Participation (3)**

### **Some principles in choosing and contracting PSP**

**rely on superior expert advise**

**careful analysis and market sounding needed to arrive at range of realistic options attractive to both government and private sector**

**consider progression of level of PSP: from management contract to concession over time**

**use competitive process for contracting**

**ensure expert, professional supervision of contract**

## **Element 5: Private Sector Participation (4)**

*Water supply and sanitation in the 21st century*

**A caution on BOTs or similar arrangements: attractive means for creating new capacity, but:**

**should meet all customary feasibility criteria: institutional, financial, technical, economic, environmental**

**be judged in overall context; reducing consumption and network leaks may be more cost effective than expanding water treatment capacity**

## **Element 6: Coordination between Government and Donors**

*Cooperation between Government and Donors*

**Coordination and cooperation between government and international sector community essential to:**

- support a mutually agreed, consistent sector development agenda**
- avoid duplication of effort and working at cross purposes**
- create synergies**



## **Element 7: Building Human Capacity**

**Successful Sector Development will depend largely on a country's sector community to learn about and implement modern sector management and operations principles and practices. This requires:**

**reform of academic and vocational training for new entrants to the sector**

**training programs for existing sector staff**

**extensive contact with the international water sector community: seminars, study tours, secondments, technical assistance programs to facilitate transfer of know how**

## **World Bank Sector Strategy**

**Support to governments in defining and implementing sector reform principles through sector studies/debate**

**Loans for projects to implement principles on the project level with emphasis on:**

**institutional and financial strengthening**

**spending resources on cost effective investment choices**

**private sector participation**

**coordination with international sector community**

## Local Government and Utilities

Some of the issues facing utility managers in Central Asia today are related to the difficulties facing local government officials. I will discuss trends in local government that we have come across in our work with local governments in Kyrgyzstan and Kazakhstan, and relate this back to utilities. I see this presentation as an opportunity for me to relay to you how the problems are perceived from the outside. Clarifications and explanations from the others here today would be most appreciated.

The term "local administration" is generally used to describe the sub-national levels of government in the region. "Local administration" seems more appropriate than "local government", since most local officials in Central Asia are not elected. The heads of local administration derive their power from the center through the appointment system. Therefore while they may often serve as advocates for their region, they ultimately are responsible for serving the interests of the national government and its policies, whether they preside at the oblast, rayon, or municipal level.

Local administrations in Central Asia currently face the same dilemma that has stymied local governments in all of the transition states of the former East Bloc. This includes:

- cash-strapped national governments which are unwilling or unable to honor revenue sharing agreements, leaving the local administrations to face unpaid teachers and deal with consequences of empty hospital pharmacies and unheated classrooms;
- sub-units of vertically integrated structures, such as ministries, which report both to the ministry in the capital city and to the regional administration, which no longer receive the same level of technical or financial support from the national structure as they once did- this is often because the national structure is undergoing changes, as well;
- unclearly defined responsibilities and financial obligations placed on local governments without the corresponding decision making and revenue generating authorities given to them as well, so that they are unable to manage the inherited assets or responsibilities effectively;

- and the result of this all is that the lack of resources and clear authority gives local officials little incentive to roll up their sleeves and get involved, make difficult decisions, etc. The inaction and paralysis in turn compound the original problem.

For these reasons, domestic policy makers stress the need to clarify the division of labor and responsibilities between different levels of government. In practice, the trend is to empower the geographic governor or mayor rather than the vertically or sectorally aligned rival for authority.

Proponents of decentralization go further than this. They urge policy makers to put responsibility, along with the decision making authority and the resources, at the lowest possible level. Outside observers, such as Joseph Stiglitz, the vice president of the World Bank in a recent speech to the Annual Bank Conference on Development Economics, Proponents, argue that the person closest to the problem is likely to feel the greatest pressure to respond to it and is likely to understand the nature of the problem the best. This general principle applies to both the private and the public sector.

A third aspect or principle is accountability. In addition to knowing exactly **what** they are responsible for, it would be helpful for local officials to know to **whom** they are accountable. One of the most important changes, which the national government could make, is to the balance the top-down appointment system out with a greater number of bottom-up, directly elected officials.

If local administration officials were elected, they would be accountable first and foremost to the residents of the auls, cities, and rayons in which they serve. If elected akims are not able to improve services in their rayons or if they abuse their office for personal gain, they would find it difficult to be reelected. This would introduce an important check into the system. It would create an incentive for local government officials to find solutions to problems, and it would give them greater authority vis-à-vis other governmental departments and layers of bureaucracy. It is clear that any reforms and restructuring that is made or proposed will alienate people and institutions with a stake in the old, dysfunctional system. Having to answer ultimately to the voters, on the other hand, rather than fear losing one's job by alienating a fellow appointed official, would greatly strengthen the bargaining power of aul, rayon and municipal mayors.

## I. Legal framework emerging in new draft laws

The option of allowing elections of rayon and municipal akims to take place is one bright spot in the draft local government legislation which was recently introduced to the parliament in Kazakhstan. Thus the accountability of rayon and municipal mayors to their local residents may be strengthened soon.

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### III. Financial Sustainability & Local Governments' Role

Mr. Konishi's presentation will cover the financial aspects of water utilities in some detail. We sometimes forget that financial sustainability is more than increasing revenues. And many of the elements of financial sustainability are common to any organization, including local governments and utilities. As local governments reform their ways, so they must require the same of utilities.

Becoming financially sustainable is a multi-pronged approach that includes minimizing waste and lowering costs. Knowing exactly how much one's operation costs, ie, improving financial management, is the first step. It is essential to making the right choices. This can include such proven financial management and budgeting practices as separating the operational budget from the capital budget and developing program budgets rather than pure line-item budgets. There are efforts underway to introduce program budgeting nationwide in the education budget. If this goes well, it will affect other areas of budgeting.

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## Local Government and Utilities

Some of the issues facing utility managers in Central Asia today are related to the difficulties facing local government officials. I will discuss trends in local government that we have come across in our work with local governments in Kyrgyzstan and Kazakhstan, and relate this back to utilities. I see this presentation as an opportunity for me to relay to you how the problems are perceived from the outside. Clarifications and explanations from the others here today would be most appreciated.

The term "local administration" is generally used to describe the sub-national levels of government in the region. "Local administration" seems more appropriate than "local government", since most local officials in Central Asia are not elected. The heads of local administration derive their power from the center through the appointment system. Therefore while they may often serve as advocates for their region, they ultimately are responsible for serving the interests of the national government and its policies, whether they preside at the oblast, rayon, or municipal level.

Local administrations in Central Asia currently face the same dilemma that has stymied local governments in all of the transition states of the former East Bloc. This includes:

- cash-strapped national governments which are unwilling or unable to honor revenue sharing agreements, leaving the local administrations to face unpaid teachers and deal with consequences of empty hospital pharmacies and unheated classrooms;
- sub-units of vertically integrated structures, such as ministries, which report both to the ministry in the capital city and to the regional administration, which no longer receive the same level of technical or financial support from the national structure as they once did— this is often because the national structure is undergoing changes, as well;
- unclearly defined responsibilities and financial obligations placed on local governments without the corresponding decision making and revenue generating authorities given to them as well, so that they are unable to manage the inherited assets or responsibilities effectively;

- and the result of this all is that the lack of resources and clear authority gives local officials little incentive to roll up their sleeves and get involved, make difficult decisions, etc. The inaction and paralysis in turn compound the original problem.

For these reasons, domestic policy makers stress the need to clarify the division of labor and responsibilities between different levels of government. In practice, the trend is to empower the geographic governor or mayor rather than the vertically or sectorally aligned rival for authority.

Proponents of decentralization go further than this. They urge policy makers to put responsibility, along with the decision making authority and the resources, at the lowest possible level. Outside observers, such as Joseph Stiglitz, the vice president of the World Bank in a recent speech to the Annual Bank Conference on Development Economics, Proponents, argue that the person closest to the problem is likely to feel the greatest pressure to respond to it and is likely to understand the nature of the problem the best. This general principle applies to both the private and the public sector.

A third aspect or principle is accountability. In addition to knowing exactly **what** they are responsible for, it would be helpful for local officials to know to **whom** they are accountable. One of the most important changes, which the national government could make, is to the balance the top-down appointment system out with a greater number of bottom-up, directly elected officials.

If local administration officials were elected, they would be accountable first and foremost to the residents of the auls, cities, and rayons in which they serve. If elected akims are not able to improve services in their rayons or if they abuse their office for personal gain, they would find it difficult to be reelected. This would introduce an important check into the system. It would create an incentive for local government officials to find solutions to problems, and it would give them greater authority vis-à-vis other governmental departments and layers of bureaucracy. It is clear that any reforms and restructuring that is made or proposed will alienate people and institutions with a stake in the old, dysfunctional system. Having to answer ultimately to the voters, on the other hand, rather than fear losing one's job by alienating a fellow appointed official, would greatly strengthen the bargaining power of aul, rayon and municipal mayors.

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# **Financial Viability**

**Motoo Konishi**

**World Bank**

**July 15, 1999**



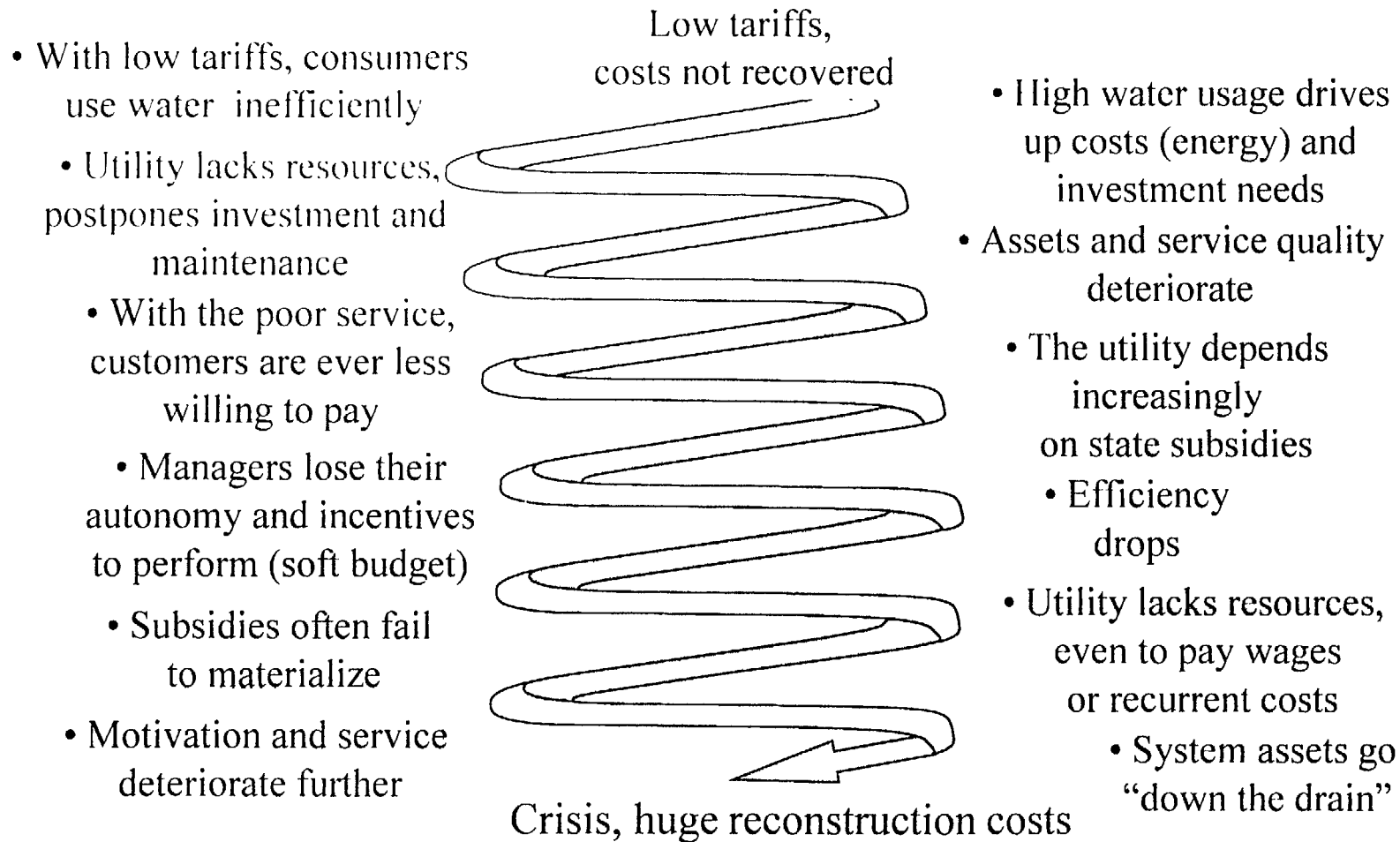


# Outline

- A path of reform towards financial viability
- Cost Control
- Resource Mobilization
- Financial information management
- Way forward



# What low tariffs and lack of financial viability do to utilities



# A Path of Reform Towards Financial Viability

*FROM*

- Central financing of investment (and often operational subsidies) by state budget
  - frequent under-provision as state subsidies dry up
  - tariff unrelated to full cost of service
  - unresponsive to local choice
  - sovereign credit



*TO*

- Local investment by municipal or private utilities
  - Independent corporate status
  - Cost-recovery objectives

# Commercially-Oriented Water Utilities (1)

## ■ Corporate status

- management autonomy, delineated from the city's role of ownership and regulation
- commercial practice for accounting, personnel management
- efficiency objectives, clear performance agreement between management and board / regulator
- financial viability -- "hard budget constraint", must make ends meet
- direct commercial relationship with end-users (not the town's housing companies)

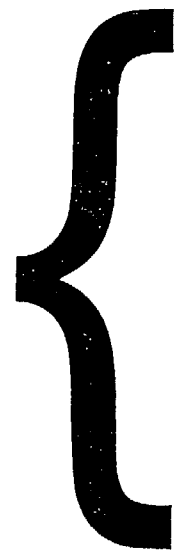
# Commercially-Oriented Water Utilities (2)

- Cost-recovery objectives
  - from user charges
  - moving towards full recovery of operations, maintenance, debt service costs, with a surplus for partial self-financing of capital expansion
  - tariffs must encourage water conservation, avoiding costly over-design of new plants
  - affordability: transparent, targeted subsidies enabling lifeline service to low-income users
  - strive for efficiency gains to avoid over-charging users

# Controlling Costs: Key to Achieve Financial Viability

- ✓ *affordable standards*
  - consumers informed, asked what they want and are willing to pay for
  - avoid pushing rich-country standards onto lower-income countries
  - avoid overly stringent environmental standards
  
- ✓ *efficient delivery*
  - competition (for the market, for inputs, bulk, inset, comparative)
  - Improve service delivery
  - Reduce water wastage (physical and commercial)
  - Reduce ineffective and expensive barter transactions
  - focus on asset longevity: good quality goods and works

# Mobilizing Resources for Capital Investments



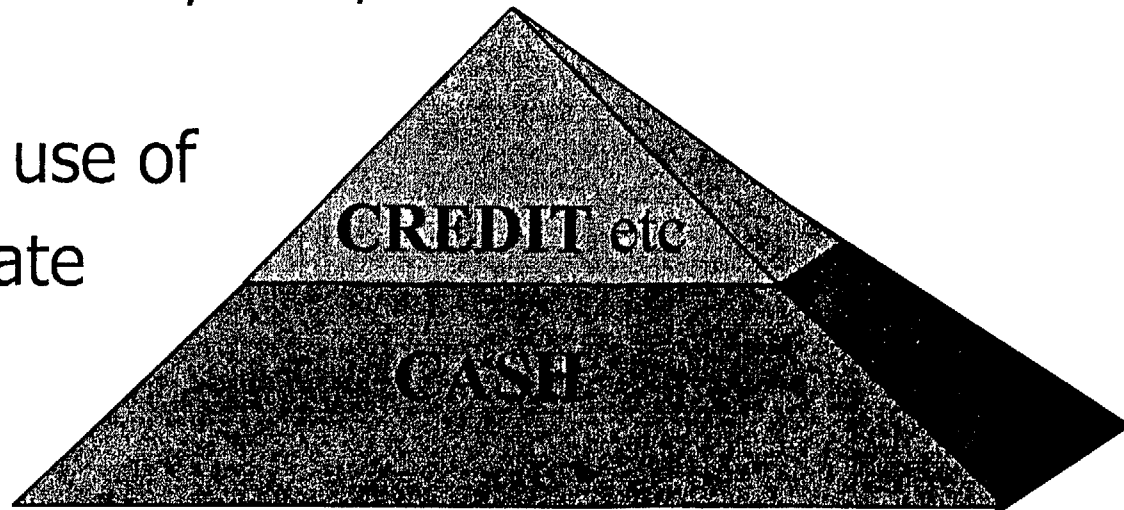
- Cash from operations
- Grants
- Loans
- Private equity

- Need for a balanced, “portfolio” approach to mixing sources of finance
- No single “magic-bullet” instrument

# Cash from Operations: The Engine

- by far the largest source of local infrastructure investment worldwide
  - asset renewal
  - most small, routine investment
  - only source in many LDCs/ transition countries

- basis for any use of credit or private equity





# Tariffs and Financial Viability

- Increase tariffs up gradually towards full cost-covering levels -- Start with recovery of recurrent costs
- Consumers should not have to pay for poor management and inefficient operations
- Effective, nonpolitical, expedient mechanisms for tariff approval
- Emphasis on collections
- Consider affordability and willingness to pay BUT do not fall in the trap of tariffs for the poorest
- Limited and transparent subsidies from the government, NOT from the water company



# Capital Grants

## ■ Rationale:

- *Equity/public health*: targeted subsidies for service expansion in low-income areas (e.g. rural water supplies)
- *Downstream externalities*: “matching” grants encourage local investment in projects that have benefit spillovers (e.g., sewage treatment)

- Capital grants programs must leverage scarce fiscal resources -- can't be a main source of sector investment

# Loans for Capital Investment

## ■ Benefits:

- Faster investment pace
- Reduce local dependency for central capital subsidies
- Financial discipline

## ■ Risks:

- imprudent local/utility borrowing with implicit central guarantees -- may need regulation
- Foreign exchange risk component in tariffs -- currency devaluation may require larger tariff increases

# Private Equity

## ■ *Options:*

- private firm under license
- system-wide network concession
- BOT/BOO for single-plant investment

## ■ *Constraints in emerging markets:*

- few deals so far with substantial private financing
- scale of projects often small for fixed transaction costs of BOT
- combines perceived regulatory risks of both central and local government

# Elements of a Financially Viable Utility

- *Dependable, sufficient revenues*
  - for O&M, DS and contribution to investment
  - predictable tariff with collection authority
  - management autonomy
- *Capacity to contract and manage debt*
  - right to borrow, to pledge revenues as collateral
  - financial planning capacity
  - disclosure standards

# A Financial Strategy

## ■ *a financing strategy*

- mobilizing a balanced mix of funding sources
- powered by sustained cashflows
- geared to achieving realistic standards of service

## ■ *supporting policies*

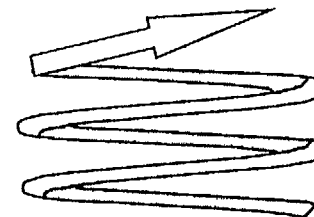
- treating W&S as a basic service ***and*** a business
- combining market and regulatory incentives for performance
- allocating risks to most able parties
- centered on users, as customers and actors not "beneficiaries"



# **Financial Viability Needs Good Financial Information**

- Clear and transparent accounting practices
- Trained financial specialists
- Continuous financial planning
- Frequent use of financial information by top management

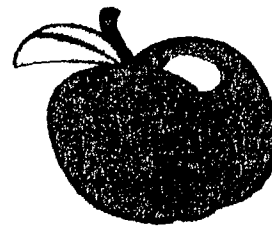
# Way Forward Towards Financial Viability



- Strengthen managerial autonomy
- Increase tariffs up gradually towards cost-covering levels
- Boost efficiency
- Promote elements of financially viable utility
- Implement transparent, focused matching grant programs
- Build an enabling framework for private investment

**ЭФФЕКТИВНЫЕ ИНВЕСТИЦИОННЫЕ СТРАТЕГИИ ПО  
МОДЕРНИЗАЦИИ ИНФРАСТРУКТУРЫ ВОДОСНАБЖЕНИЯ**

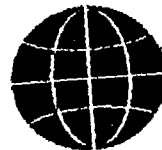
**EFFECTIVE INVESTMENT STRATEGIES FOR WATER  
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**Конференция по  
вопросам  
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Алма-Ата, Казахстан  
15-16 июля 1999 г.**

**CONFERENCE ON WATER SYSTEMS  
ALMATY, KAZAKHSTAN  
15 - 16 JULY 1999**

by Kris Buross **Крис Бурос**  
**CH2M HILL INTERNATIONAL**  
Denver, USA **Денвер США**



**ОРГАНИЗОВАНО ICMA**





# Исходные данные про водоканалы

## WATER UTILITY BACKGROUND

- **В СССР 1950-1980 гг. - ПЕРИОД ЗНАЧИТЕЛЬНЫХ ИНВЕСТИЦИЙ В ВОДОКАНАЛЫ**  
MAJOR INVESTMENT PERIOD FOR UTILITIES IN USSR 1950 - 1980
  
- **СТАНДАРТЫ НА ПРОЕКТИРОВАНИЕ И МАТЕРИАЛЫ**  
STANDARDIZED DESIGNS AND MATERIALS
  
- **ВЛИЯНИЕ ПРОШЛОЙ ПРАКТИКИ НА СЕГОДНЯШНЮЮ СИТУАЦИЮ**  
PAST ACTIONS AFFECT THE PRESENT
  - ✓ **МАТЕРИАЛЫ**  
MATERIALS
  
  - ✓ **ЭФФЕКТИВНОСТЬ**  
EFFICIENCY

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# РАЗВИТИЕ ВОДОКАНАЛОВ

## WATER UTILITY DEVELOPMENT

### ○ **СОВРЕМЕННОЕ СОСТОЯНИЕ**

CURRENT SITUATION

### ○ **ЛОГИКА ЦЕЛИ ДЛЯ ГОРОДОВ**

LOGICAL GOAL FOR URBAN AREAS

- ✓ **КРУГЛОСУТОЧНОЕ ВОДОСНАБЖЕНИЕ В ДОМАХ С ПОСТОЯННЫМ КОМФОРТНЫМ ДАВЛЕНИЕМ**  
IN-HOUSE POTABLE WATER 24H/D AT A USABLE STEADY PRESSURE

### ○ **ШАГИ ДЛЯ ДОСТИЖЕНИЯ ЭТОЙ ЦЕЛИ**

STEPS TO REACH THAT GOAL

- ✓ **РЕАЛЬНОЕ ПЛАНИРОВАНИЕ ПО СРОКАМ, СТОИМОСТИ И ПРИОРИТЕТНОСТИ**  
REALISTIC PLANNING IN TIME, COST AND PRIORITIES
- ✓ **РАЗУМНОЕ УПРАВЛЕНИЕ И ПРИВЛЕЧЕНИЕ ОБЩЕСТВЕННОСТИ**  
FOCUSED MANAGEMENT AND PUBLIC INVOLVEMENT
- ✓ **СРЕДСТВА НА ЭКСПЛУАТАЦИОННЫЕ ЗАТРАТЫ И ИНВЕСТИЦИИ**  
FUNDS FOR OPERATING EXPENSES AND INVESTMENT
- ✓ **ЗНАЧИТЕЛЬНЫЕ И РЕГУЛЯРНЫЕ КАПИТАЛОВЛОЖЕНИЯ**  
SIGNIFICANT AND SUSTAINED CAPITAL INVESTMENT

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# ХАРАКТЕРИСТИКА АМЕРИКАНСКОГО ГОРОДА С НАСЕЛЕНИЕМ 250 000 ЖИТЕЛЕЙ

CHARACTERISTICS OF AN AMERICAN CITY OF 250,000 POPULATION

○ **ВОДОПОТРЕБЛЕНИЕ - 550 л/чел. в сутки**

WATER PRODUCTION - 550 L/P/D

○ **ПРОТЯЖЕННОСТЬ СЕТЕЙ - 1200 км**

WATER MAINS - 1200 KM

○ **ГОДОВОЕ КОЛИЧЕСТВО АВАРИЙ В СЕТЯХ - 350**

MAIN BREAKS PER YEAR - 350

✓ **СРЕДНИЙ ТАРИФ ЗА ВОДУ - 0,6 \$/м<sup>3</sup>**  
AVERAGE WATER TARIFF - US\$ 0.6/m<sup>3</sup>

✓ **СРЕДНИЙ УРОВЕНЬ СБОРА ПЛАТЕЖЕЙ -  
99% (только деньгами)**  
AVERAGE LEVEL OF COLLECTION - 99% (ALL CASH)

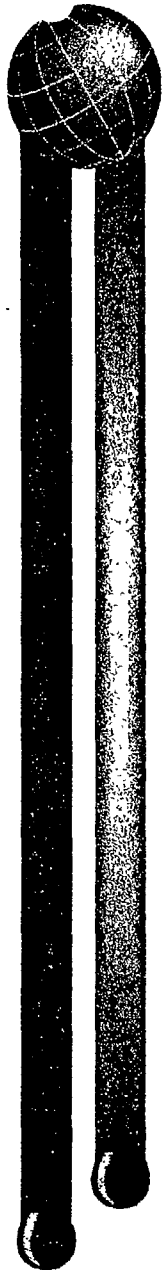
✓ **ЗАДОЛЖЕННОСТЬ ПО КАПИТАЛОВЛОЖЕНИЯМ -  
100 000 000 \$**  
CAPITAL DEBT - US\$ 100,000,000

✓ **СТОИМОСТЬ УСТАНОВКИ СЧЕТЧИКА ВОДЫ**  
METER INSTALLATION FEE

25-MM: 500 \$

100-MM: 2500 \$ - 10000 \$

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# СТАДИИ РАЗВИТИЯ И МОДЕРНИЗАЦИИ СИСТЕМЫ ВОДОСНАБЖЕНИЯ

STAGES OF WATER SYSTEM DEVELOPMENT AND IMPROVEMENT

● **СТАБИЛИЗАЦИЯ**  
STABILIZATION

● **РЕАБИЛИТАЦИЯ**  
REHABILITATION

● **МОДЕРНИЗАЦИЯ**  
MODERNIZATION



# СТАБИЛИЗАЦИЯ

STABILIZATION

- **РЕАЛЬНАЯ ОЦЕНКА СИСТЕМЫ**  
REALISTIC SYSTEM EVALUATION

- **СТРАТЕГИЧЕСКОЕ ПЛАНИРОВАНИЕ  
НА БУДУЩЕ. ПЛАН ДОЛЖЕН  
СООТВЕТСТВОВАТЬ ФИНАНСОВЫМ  
ВОЗМОЖНОСТЯМ**  
STRATEGIC PLAN FOR THE FUTURE  
PLAN SHOULD MATCH FUNDING

- **ВЫБОРОЧНЫЙ РЕМОНТ И  
МОДИФИКАЦИИ**  
SELECTIVE REPAIRS AND MODIFICATIONS

- **УСТРАНЕНИЕ СЕРЬЕЗНОЙ УГРОЗЫ  
ОБЩЕСТВЕННОМУ ЗДОРОВЬЮ**  
ELIMINATE SERIOUS PUBLIC HEALTH THREATS

- **УЛУЧШЕНИЕ ФИНАНСОВОГО СОСТОЯНИЯ -  
КАК МИНИМУМ РАВЕНСТВО ЗАТРАТ И**

**ДОХОДОВ**

UPGRADE FINANCES TO AT LEAST A BREAK-EVEN POINT



# РЕАБИЛИТАЦИЯ

REHABILITATION

- **РЕАБИЛИТАЦИЯ СУЩЕСТВУЮЩЕЙ СИСТЕМЫ**  
RESTORATION OF EXISTING SYSTEM

- **УЛУЧШЕНИЕ КАЧЕСТВА, ДАВЛЕНИЯ И ПОДАЧИ ВОДЫ**  
IMPROVE WATER QUALITY, PRESSURE AND DELIVERY

- **ЗНАЧИТЕЛЬНОЕ СОКРАЩЕНИЕ КРУПНЫХ  
РЕМОНТОВ**  
REDUCE FREQUENCY OF MAJOR REPAIRS

- **УЛУЧШЕНИЕ ФИНАНСОВОГО  
СОСТОЯНИЯ ДЛЯ НАКОПЛЕНИЯ  
ФОНДА КАПИТАЛОВЛОЖЕНИЙ**  
UPGRADE FINANCES TO CREATE A  
SURPLUS FOR INVESTMENT



# МОДЕРНИЗАЦИЯ

MODERNIZATION

- **РАСШИРЕНИЕ И МОДЕРНИЗАЦИЯ МОЩНОСТЕЙ**  
EXPAND AND MODERNIZE FACILITIES
- **СТРОИТЕЛЬСТВО НОВЫХ МОЩНОСТЕЙ**  
BUILD NEW FACILITIES
- **ПОСТОЯННОЕ НАЛИЧИЕ ФИНАНСОВ ДЛЯ  
ИНВЕСТИЦИЙ**  
MAINTAIN FINANCIAL SURPLUS FOR INVESTMENT



# ЭЛЕМЕНТЫ СТРАТЕГИЧЕСКОГО ПЛАНА

ELEMENTS OF A STRATEGIC PLAN

● **ФИНАНСЫ, ИНФРАСТРУКТУРА, ПОЛИТИКА И УЧАСТИЕ  
ОБЩЕСТВЕННОСТИ**

FINANCE, INFRASTRUCTURE, POLICY AND PUBLIC INVOLVEMENT

● **ОЦЕНКА СИСТЕМЫ**  
SYSTEM EVALUATION

● **ПРИОРИТЕТНОСТЬ ИНВЕСТИЦИЙ**  
PRIORITIES FOR INVESTMENT

● **РЕАЛЬНЫЕ ГРАФИКИ**  
REALISTIC SCHEDULE

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# ФИНАНСЫ

FINANCE

## ● ДОХОДЫ И ФИНАНСИРОВАНИЕ INCOME AND FUNDING

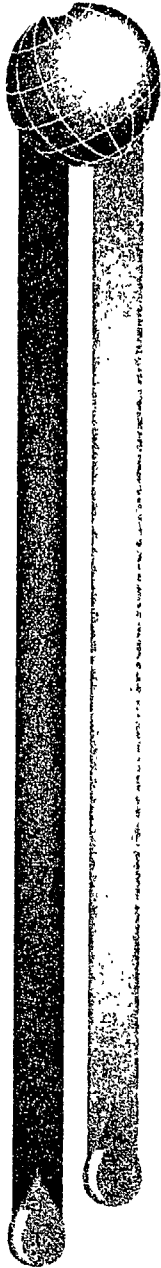
✓ ДОХОДЫ ДОЛЖНЫ ВОЗМЕЩАТЬ ЗАТРАТЫ И ИНВЕСТИЦИИ  
INCOME MUST PAY FOR EXPENSES AND INVESTMENT

✓ ОСНОВНЫЕ СОСТАВЛЯЮЩИЕ ЗАТРАТ СИСТЕМ ВОДОСНАБЖЕНИЯ  
MAJOR COST COMPONENTS OF WATER SYSTEMS

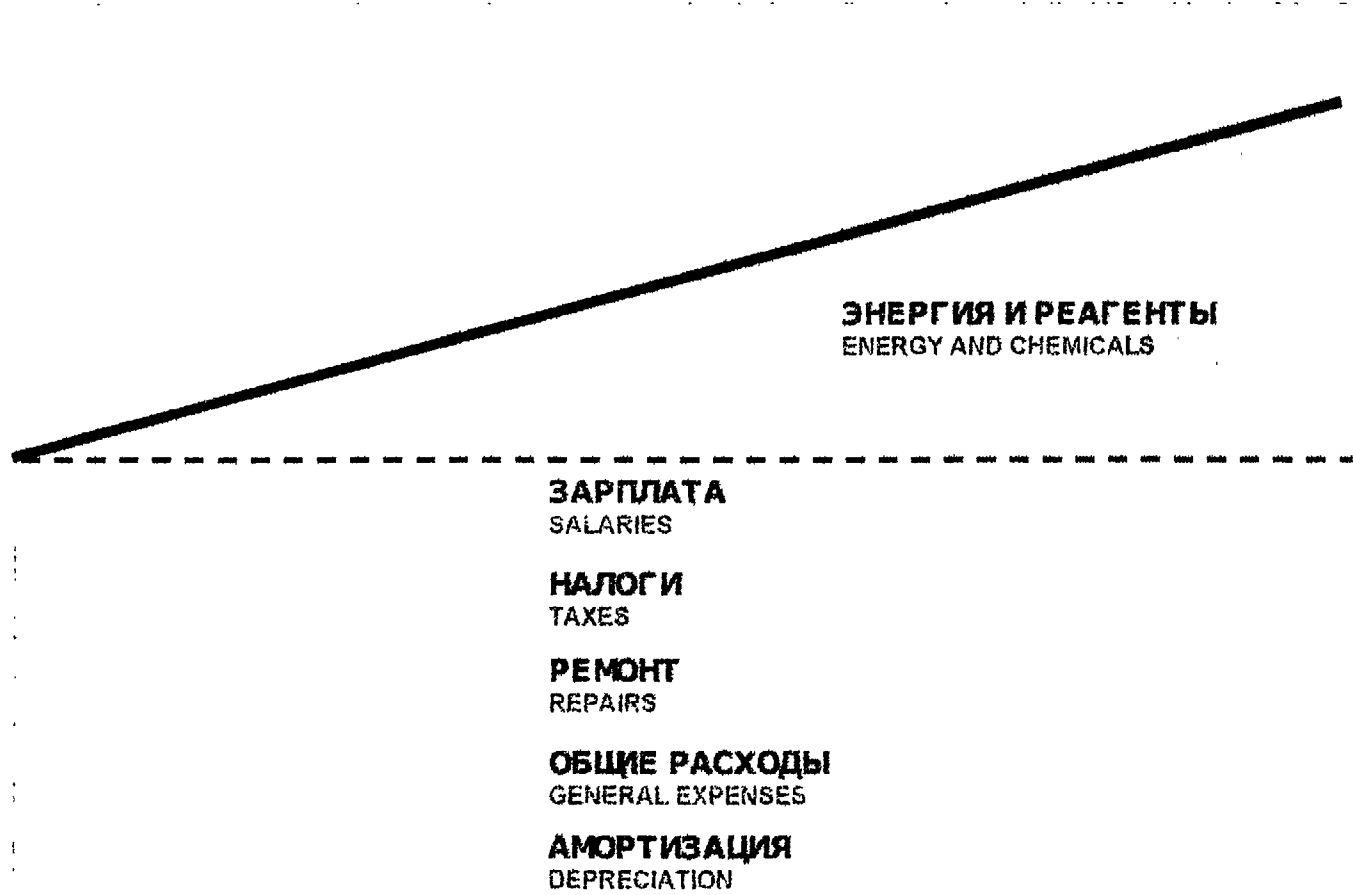
## ● УВЕЛИЧЕНИЕ ДОХОДОВ - ТАРИФЫ И ОПЛАТА INCREASE REVENUES - TARIFFS AND COLLECTIONS

## ● УМЕНЬШЕНИЕ ЭКСПЛУАТАЦИОННЫХ ЗАТРАТ REDUCE OPERATING EXPENSES

## ● СОЗДАНИЕ ФОНДА ДЛЯ КАПИТАЛЬНЫХ ИНВЕСТИЦИЙ CREATE FUNDS FOR CAPITAL INVESTMENT



**СТОМОСТЬ ВОДЫ** WATER COST



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**ПОДАЧА ВОДЫ** WATER PRODUCTION

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# ИНФРАСТРУКТУРА

## INFRASTRUCTURE

- **ВЛИЯНИЕ ПЕРИОДА ЭКСПЛУАТАЦИИ НА СТОИМОСТЬ**  
COST VERSUS SERVICE LIFE

- **УМЕНЬШЕНИЕ ЭНЕРГОПОТРЕБЛЕНИЯ**  
REDUCE ENERGY USAGE

- ✓ **ЭКСПЛУАТАЦИЯ**  
OPERATION

- ✓ **НАСОСЫ, МОТОРЫ И ГИДРАВЛИКА**  
PUMPS, MOTORS AND HYDRAULIC

- **КОНТРОЛЬ ЗА УТЕЧКАМИ И ПОТЕРЯМИ**  
CONTROL LEAKAGE AND LOSSES

- ✓ **МАТЕРИАЛЫ ТРУБ И СТРОИТЕЛЬСТВО**  
PIPE MATERIALS AND CONSTRUCTION

- ✓ **КОНТРОЛЬ ДАВЛЕНИЯ**  
PRESSURE CONTROL

- ✓ **ЗАМЕНА И ВНУТРЕННЯЯ ИЗОЛЯЦИЯ**  
REPLACEMENT AND LINING

- ✓ **ОГРАНИЧЕНИЕ УТЕЧЕК**  
LIMITATIONS ON LEAKAGE REDUCTION



# ИНФРАСТРУКТУРА

INFRASTRUCTURE

## ● ИСПОЛЬЗОВАНИЕ СЧЕТЧИКОВ ВОДЫ METERING

### ● ВЪБОРОЧНОЕ И ОБЩЕ SELECTIVE VERSUS UNIVERSAL

### ● ЦЕЛЬ, СТОИМОСТЬ И ВЪГОДА PURPOSE, COSTS AND BENEFITS

### ● ЭКСПЛУАТАЦИОННЫЙ ПЕРИОД И ОБСЛУЖИВАНИЕ SERVICE LIFE AND MAINTENANCE

### ● ФИКСИРОВАННЫЙ ТАРИФИ ВЪСТАВЛЕНИЕ СЧЕТОВ ПО СЧЕТЧИКУ FLAT RATE VERSUS METERED BILLING

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# ГОСУДАРСТВЕННАЯ ПОЛИТИКА

## NATIONAL POLICY

- **ДОЛЖНА СООТВЕТСТВОВАТЬ ПЛАНОВЕРНОЙ МОДЕРНИЗАЦИИ И ФИНАНСИРОВАНИЮ**  
MUST BE COMPATIBLE WITH ORDERLY IMPROVEMENT AND FINANCING
- **СЛУЖИТЬ РАЗУМНЫМ И ПОЛЕЗНЫМ РУКОВОДСТВОМ**  
PROVIDE SENSIBLE AND SUPPORTIVE GUIDANCE
  - ✓ **СТАНДАРТЫ НА ВОДУ**  
STANDARDS FOR WATER
  - ✓ **СТРОИТЕЛЬНЫЕ СТАНДАРТЫ**  
STANDARDS FOR CONSTRUCTION
  - ✓ **ТАРИФЫ И ОПЛАТА**  
TARIFFS AND COLLECTIONS
  - ✓ **ЭКСПЛУАТАЦИЯ**  
OPERATIONS
- **ЗАЩИТА ОБЩЕСТВЕННОГО ЗДОРОВЬЯ**  
PROTECTION OF PUBLIC HEALTH

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# УЧАСТИЕ ОБЩЕСТВЕННОСТИ




## PUBLIC INVOLVEMENT

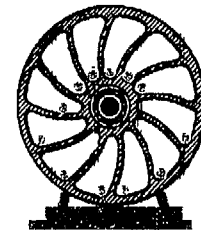
- **ВКЛЮЧАЕТ ВСЕ ГРУППЫ ПОТРЕБИТЕЛЕЙ**  
INCLUDE ALL USER GROUPS
- **ПОТРЕБИТЕЛИ ДОЛЖНЫ ПОМОГАТЬ В ПРИНЯТИИ РЕШЕНИЙ  
О ВОДОСНАБЖЕНИИ**  
USERS SHOULD HELP MAKE DECISIONS ON SERVICE
- **ПОТРЕБИТЕЛИ - ГЛАВНЫЙ ИСТОЧНИК ДОХОДОВ**  
USERS ARE THE MAJOR SOURCE OF REVENUE
- **ПОТРЕБИТЕЛИ ДОЛЖНЫ ЗАПЛАТИТЬ ЗА  
МОДЕРНИЗАЦИЮ ДО ЕЕ ОСУЩЕСТВЛЕНИЯ**  
USERS MUST PAY FOR IMPROVEMENTS BEFORE THEY  
OCCUR
- **УЧАСТИЕ ОБЩЕСТВЕННОСТИ МОЖЕТ  
УВЕЛИЧИТЬ УРОВЕНЬ СБОРА ОПЛАТЫ**  
INVOLVEMENT CAN INCREASE LEVEL OF COLLECTIONS
- **УЧАСТИЕ ОБЩЕСТВЕННОСТИ МОЖЕТ  
УМЕНЬШИТЬ ПОТЕРИ**  
INVOLVEMENT CAN DECREASE WATER WASTAGE

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# ВЫВОДЫ

## CONCLUSIONS

-  **ВОДОСНАБЖЕНИЕ = ФИНАНСИРОВАНИЕ**  
**[ВЕЧНЫЙ ДВИГАТЕЛЬ НЕВОЗМОЖЕН]**  
WATER SERVICE = FUNDING [PERPETUAL MOTION IS NOT POSSIBLE]
-  **ЛОГИКА ЦЕЛЕЙ ГОРОДСКОГО ВОДОСНАБЖЕНИЯ:**  
**ПИТЬЕВАЯ ВОДА КРУГЛОСУТОЧНО С ПОСТОЯННЫМ И**  
**КОМФОРТНЫМ НАПОРОМ**  
LOGICAL GOALS FOR URBAN WATER: POTABLE WATER, AVAILABLE 24-H/D,  
AT A STEADY USABLE PRESSURE
-  **ДОСТИЖЕНИЕ ЭТИХ ЦЕЛЕЙ ТРЕБУЕТ СУЩЕСТВЕННЫХ**  
**ДОЛГОСРОЧНЫХ ИНВЕСТИЦИЙ**  
ACHIEVING THESE GOALS WILL REQUIRE SIGNIFICANT LONG -TERM INVESTMENT





# ВЫВОДЫ

## CONCLUSIONS

**В ИНВЕСТИЦИОННОЙ СТРАТЕГИИ РЕШАЮЩУЮ РОЛЬ ИГРАЕТ ФИНАНСИРОВАНИЕ, ИНФРАСТРУКТУРА, ПОЛИТИКА И УЧАСТИЕ**

**ОБЩЕСТВЕННОСТИ**

AN INVESTMENT STRATEGY COMBINING FINANCE, INFRASTRUCTURE, POLICY AND PUBLIC INVOLVEMENT IS CRUCIAL

**ОРГАНИЗАЦИЯ И УПРАВЛЕНИЕ ВОДОСНАБЖЕНИЕМ ДОЛЖНЫ ОТВЕЧАТЬ ПРИНЦИПАМ БИЗНЕСА - ДОХОДЫ ВОЗМЕЩАЮТ ТЕКУЩИЕ ЗАТРАТЫ И КАПИТАЛОВЛОЖЕНИЯ**

WATER UTILITIES MUST BE MANAGED LIKE A BUSINESS SO THAT INCOME WILL COVER ALL EXPENSES AND CAPITAL INVESTMENT

**ВЬСОКОЕ КАЧЕСТВО МАТЕРИАЛОВ И РАБОТ - ЭТО ВЫГОДНО**  
QUALITY PAYS - MATERIALS AND INSTALLATION





# ВЫВОДЫ

## CONCLUSIONS

**ГОСУДАРСТВЕННАЯ ПОЛИТИКА ДОЛЖНА СПОСОБСТВОВАТЬ ПЛАНОВЕРНОЙ МОДЕРНИЗАЦИИ СИСТЕМ ВОДОСНАБЖЕНИЯ**  
NATIONAL POLICY MUST BE SUPPORTIVE OF AN ORDERLY IMPROVEMENT IN WATER SYSTEMS

**В КОНЕЧНОМ СЧЕТЕ ПОТРЕБИТЕЛИ ЗАПЛАТЯТ ЗА УЛУЧШЕНИЕ ВОДОСНАБЖЕНИЯ, И ЧАСТО ПЛАТИТЬ ОНИ БУДУТ АВАНСОМ**  
ULTIMATELY IT IS THE USER WHO WILL HAVE TO PAY FOR IMPROVEMENTS IN SERVICE AND OFTEN THEY WILL NEED TO PAY FOR THEM BEFORE THE IMPROVEMENTS OCCUR

**ВОВЛЕЧЕНИЕ ОБЩЕСТВЕННОСТИ КРИТИЧЕСКИ ВАЖНО В ДОЛГОВРЕМЕННОЙ ПОДДЕРЖКЕ И ТЕРПЕНИИ ПОТРЕБИТЕЛЕЙ И ПОЛУЧЕНИИ ПРИБЫЛИ**  
PUBLIC INVOLVEMENT IS CRUCIAL TO OBTAINING LONG-TERM SUPPORT, PATIENCE AND REVENUES

**В НОВЫЕ ВРЕМЕНА ИЗМЕНЕНИЯ НЕ ОБХОДИМЫ, НО ДЕЛАТЬ ИХ НУЖНО ХОРОШО ПОДУМАВ - НЕКОТОРЫЕ СТАРЫЕ ИДЕИ НЕ ВСЕГДА ЯВЛЯЮТСЯ ПЛОХИМИ**  
IN A NEW ERA, CHANGE IS NECESSARY BUT IT SHOULD BE DONE WITH CAREFUL

**KYRGYZ REPUBLIC**  
**COMMUNITY-BASED INFRASTRUCTURE SERVICES**  
**SECTOR PROJECT**

**ASIAN DEVELOPMENT BANK**

**RURAL WATER SUPPLY AND SANITATION DEVELOPMENT**  
**IN KYRGYZSTAN**

**Prepared for the Conference on Water Systems**  
**Almaty, July 15-16, 1999**

**Presentation by Erdogan Pancaroglu**

**Introduction**

1. Kyrgyz Republic has requested assistance from the Asian Development Bank (ADB) in preparing a Community-Based Infrastructure Services Sector Project. To respond to Government's request, a Technical Assistance (TA) was included in ADB's operational program for 1998. Following a fact-finding mission in February 1998, and subsequent meetings and discussions with the Government officials, understandings were reached with the Government on key aspects of the TA including objectives, scope, cost estimates, financing plan and implementation arrangements. As result of these initiatives, ADB proceeded in finalizing the TA and selected Consultants Brockman Tym International in association with GlobalWorks and ULG Consultants. The Consultants commenced work on January 20 and the study is scheduled to be completed mid August 99.

**Background**

2. The Government's development policy focuses on the promotion of economic growth, poverty reduction and balanced regional development particularly in the rural areas, including improvement of water supply, and

sanitation. To achieve the goals of the policy, Government's strategy includes (i) improving the capabilities of Local Administrations in financial management, administration and operation and maintenance; (ii) integrating water supply development with improvements in sanitation, and (iii) increasing the access to safe water supply, sanitation and rural roads. ADB's operational strategy focuses on (i) supporting the Government's reform activities, (ii) improving the provision of public services, (iv) improving physical infrastructure, and (v) supporting human resources development. The TA was planned to assist in the preparation of the follow-on proposed investment project by ADB.

### **Objectives of the Technical Assistance**

3. The primary objective of the TA is to improve the access of safe water supply and proper sanitation in rural and urban communities, and;

(i) to analyze and propose measures to strengthen rural infrastructure development policies, including the preparation of a Community-Based Infrastructure Services Sector Strategy and a Medium Term Investment Plan,

(ii) to prepare a program for capacity building of Water User Associations and Local Government Units,

(iii) to prepare feasibility studies for 8 representative subprojects in rural areas and two in urban areas for improving water supply and sanitation services, and,

(iv) to prepare a suitable sector project for financing by ADB covering about 500 rural communities and 5 urban towns.

### **Present Rural Water Supply Situation in Kyrgyzstan**

4. The rural water supply systems were well developed in the former Soviet Union with about 75 percent of the rural population benefiting from such systems. The water supply systems provided drinking water to the villages and to the state and collective farms as well. Since 1991, the financial and technical support of the state was ceased resulting in the breakdown of many systems. The communities did not have the technical capability nor funds for the operation and maintenance of the facilities which

further added to the deteriorating situation of the water supply systems. Consequently, the situation of the water supply systems in the rural areas is in a poor state. Most of the groundwater pumping systems, disinfection facilities and standpipes are currently non-functioning. In those villages where the water supply system has broken down or where there is no system at all, the majority of households collect their drinking water from irrigation ditches or from ponds or go long distances to collect water from rivers and other sources. In some villages, the people pay for transport of water.

5. In addition to the critical situation caused by the termination of the centrally supply driven development of the sector, the deteriorating state of the rural water supply system is also attributed to design standards, use of poor materials and construction methods. Although funds were centrally provided, operation and maintenance was inadequate and no preventive maintenance was practiced.

6. In general, piped water supply system has been the adopted technology for rural water supplies in Kyrgyzstan. It usually consists of pumping groundwater through submersible pumps, storage reservoir with or without intermediate booster system, distribution network and supply through standpipes which serves a number of families. An extensive rural water supply system exists in the Kyrgyz Republic with about 10,000 km of water mains. It is reported that a total of about 830 water supply intakes and over 26,800 street standpipes have been constructed throughout the country, covering about 2.5 million people in 1,770 villages. Many of the submersible pumps in the headworks and the street standpipes, which were constructed in the 1970s, are non-functioning and need replacement.

#### **Present Sanitation Situation in Kyrgyzstan**

7. Incidence of water-borne diseases such as diarrhoea, typhoid and hepatitis is high particularly in the rural areas. According to WHO, diarrhoeal diseases and other intestinal infections are strongly associated with unsafe water supply and poor sanitation and hygiene. These diseases are among the leading causes of morbidity with an incidence rate of about 425 per 100,000. Given the fact that health statistics are based on Government hospital in-patient records only, the prevalence of most of these diseases, and diarrhoeal diseases are much higher than reported.

8. For disposal of human waste in the rural areas of Kyrgyzstan, simple, rudimentary pit latrines are used. Normally, the pit latrine is made of three components, namely, a pit, a squatting plate, and a superstructure. The pit is simply a hole in the ground into which excreta fall. When the pit is filled, the superstructure and squatting plate are removed and the pit filled up with soil. A new pit is then dug nearby. The simple unimproved pit latrine has two major disadvantages: It usually smells, and flies or mosquitos readily breed in it, particularly when the pit is filled closer to the surface. Schools and other village buildings also have similar sanitation facilities, and most of them smell and are kept dirty.

### **Institutional Framework**

9. Formerly, water supply to the rural villages was provided either by collective farms or state farms (*kolckhoze*) all of which were under the control of the former Ministry of Agriculture (MOA). The Construction Department under the Ministry of Water Economy constructed the water supply system and *kolckhozes* operated them. In the late 1980s, due to the reform of the agricultural institutions, the functions of the Ministry of Economy were transferred to *Kyrgyzselremstroi* (KSRS).

10. KSRS was established in 1987 as a self-regulating, self-financed organisation registered with the Ministry of Justice as an Association. The only source of revenue for KSRS was payment made by the state and collective farms with whom they had contracts. Few *kolckhozes* operated their own systems. The MOA was later merged with the Ministry of Water Economy after independence to become the Ministry of Agriculture and Water Resources (MAWR). The KSRS remained under the general supervision of the new Ministry. Its responsibilities have not changed. However in 1998, KSRS received for the first time, funds from the Government budget to operate and maintain the intakes of the water systems, which remained in the ownership of the central government.

11. There is no central body responsible for water supply policy development and administration is carried out by a large number of separate and sometimes overlapping institutions. The exploitation and management of water is complex, involving many Government departments and agencies. Apart from those already mentioned, the Sanitary Epidemiological Services

section of the Ministry of Health is responsible through the oblast and rayon offices to monitor the quality of water. Exploitation of new ground water requires the approval of both the Ministry of the Environment and the Hydrological Expedition of the State Committee of Geology and Mineral Resources. However, before this source can be used, approval must also be got from the Department of Water Resources in the Ministry of Agriculture and Water Resources.

### **Need for An Integrated Approach**

12. Since the independence of the Kyrgyz Republic from the Former Soviet Union, centrally planned supply-driven approach was ceased resulting in a lack of resources. Although limited reforms were initiated in devolving more authority to village level, the system still tends to be centralised. The proposed Project recognises that the Government has insufficient resources to meet costs for providing water supply services. More importantly, there has been no provision for sustained operation and maintenance.

13. Experience elsewhere in the developing world indicates clearly that sustainable developments to water supplies and sanitation are only possible through an integrated approach in which the community participation is the key element which needs to be incorporated from the earliest stages of project design. In other words, the community must take full responsibility in the provision and operation and maintenance of water supply services and have a sense of ownership of projects and facilities. In this context, the community will have the right to choose the level and type of service and willing to pay for their choice of water and sanitation services. Given the background in the previous style of centrally supplied services, this new approach requires a drastic change in attitude and understanding by the local Governments and communities.

### **Sustainable Water Supply and Sanitation Development**

14. Key elements that are critical in the Kyrgyz Republic for development of sustainable water and sanitation are.

- COMMUNITY PARTICIPATION AND OWNERSHIP
- COST RECOVERY
- INSTITUTIONAL DEVELOPMENT

### Community Participation and Ownership

- Community to be involved in every phase of development from the planning stage, implementation to operation and maintenance stages
- Community to decide on their choices
- Water User Councils (WUC) to be established for participation and ownership
- NGO involvement through training processes

### Cost Recovery

- Endorsement of the policy of full cost recovery including capital costs, replacement cost and cost of operation and maintenance of the water supply systems
- Costs to be met directly by the consumers
- Communities to decide on the level of service and how much they are willing to pay
- Full cost recovery to be approved on a case by case basis; exceptions in case of poverty levels

### Institutional Development

- Establishment of a Rural Water Supply and Sanitation Agency/Committee within the Executing Agency
- Oblast Governments to be responsible for implementing externally assisted projects
- Communities to establish WUCs

### Socio-Economic Survey

15. Within the scope of the TA, a socio-economic survey was undertaken covering the three project oblasts (Chui, Osh and Jalal-Abad). The objective of the survey was primarily to identify the willingness of the rural communities to participate in the project and pay for water supply improvements. Also their willingness to assume full responsibility in establishing Water Users Council and responsibility for operation and maintenance of the constructed facilities was identified. About 4000 households were surveyed, and the results show that about 95-100% of the responses attached the highest priority to improvements in water supply.

Improvements in power supply, bathhouse construction and medical services were considered second in priorities. Improvements in local roads and sanitation were the least priorities.

16. There seemed to be mixed responses to willingness to pay. In general, there was a general willingness to pay for improved services, however, there was less willingness for advance payments. There was also a willingness to pay more for individual connections such as yard taps.

### **The Proposed Project**

17. In agreement with the Government, the proposed ADB loan (\$35 million) will cover infrastructure improvements in three oblasts, namely, Chui, Osh and Jalal-Abad. The water supply improvements in the other three oblasts will be covered under the proposed World Bank Project. The scope of the Project will include the following components:

Part A: Water Supply

- *Rural Water Supply (coverage about 500 villages)*
- *Urban Water Supply (coverage about 5 urban towns)*

Part B: Sanitation and Hygiene Education

Part C: Other Infrastructure Components

- *Flood control and local roads*

Part D: Institutional Development

Part E: Technical Assistance

18. The Government was requested to set up a Central Policy Making Agency to deal directly with Rural Water Supply and Sanitation Issues. Furthermore, it is also proposed to set up a Project Management Unit (PMU) at the central level and Project Implementation Unit (PIU) at the oblast level respectively. The Ministry of Agriculture is agreed to be the Executing Agency for the proposed Project. Villages which are going to be included in the Project will establish Water Users Councils.

### **Conclusion**



19. The proposed Community-Based Infrastructure Services Project to be financed by ADB will cover primarily the basic infrastructure elements such as rural and urban water supply and sanitation improvements. It is anticipated that about 500-600 villages will be covered under the ADB Project. Two issues are of importance in the design and implementation of a sector project of this magnitude:

- The Project is, indeed, a major undertaking and requires mass implementation techniques. Of importance, is the achievement of effective community participation on a large scale. Community participation is easy to say but very difficult to implement at the grass roots level. At the outset, it will require an understanding of the principles of community participation by all levels of the Government and by the communities. It will also require full support by the Government and the ADB. The Project
- The objective of development of water supply and sanitation in the rural areas, is the improvement of the health of the rural population. In 1995, the Government stated in the NATIONAL ENVIRONMENTAL ACTION PLAN that one of its key priorities was the rehabilitation and operation and maintenance of the rapidly deteriorating physical infrastructure, in particular water supply and sanitation infrastructure. In this connection, it can be said that health benefits can not be achieved by water supply alone; an integrated community-based approach, which includes complementary sanitation and hygiene education, is essential to improve the health of the rural communities.

**U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT AND WORLD BANK**

**CONFERENCE ON WATER SYSTEMS**

**Financial Aspects of Rural Water Supply in Kyrgyzstan  
Presentation by Keith Soffe**

**1. Background to Village Water Supply**

The Kyrgyz Republic, or Kyrgyzstan, is a country of contrasts.

It is a beautiful country

It has an abundance of water.

The people are well educated, and large numbers are technically and professionally trained.

Kyrgyzstan is often called "The Switzerland of Central Asia".

Yet, financially, Kyrgyzstan is a poor country.

High poverty levels in the rural areas

At least half of the population lives by commercial or subsistence farming.

Many people have little access to money.

Financial and business transactions are often done through barter.

Low salary levels and late payment

Few village people have access to clean safe drinking water.

If the Government is unable to pay for rural water systems, how can these people do it?

Thinking has to change and systems have to change.

**2. The Value of Water**

Water is a valuable financial and social resource.

Water is a product with a commercial value.

Water must be managed by using commercial management principles.

People should pay for the water they use

Traditionally, water has always been free

The principle of paying for water is new.

In many villages there are no water tariffs

Where there are tariffs they are very low

Even then the collection of money is poor

Contrast the financial burdens imposed by the development of new systems.

Water management under the present system is very bad

Unless management systems change in five or ten years time we are back to the present situation.

If we want:-

- good quality drinking water
- a sustainable investment
- repayment of loans

The management system must change before putting in new systems.

The order of priorities must be -

- Institutional Change
- Capacity Building
- Infrastructure Investment

### **3. Levels of Service**

Mostly, village people no longer have water.

A good water supply is a priority of the people and they are prepared to pay for it.

The willingness to pay seemingly contradicts the poor record of payments.

But under the present system, water tariffs are a form of Government taxation

And consumer confidence has reached zero.

People's expectation of the price of water is another factor in the willingness to pay equation

They only know free or inexpensive water.

They do not know the real value.

Villagers' aspirations are high.

The amount they expect to pay is well below that required for a sustainable system

The need to choose between paying or further deterioration.

Water must be provided at least cost.

The villagers will contribute a large portion of the labour.

Training will concentrate on cost saving.

The norms of the FSU beurocracy will be replaced by proper market prices.

But it is no good replacing one beurocracy with another.

Implementation, finance and procurement has to be flexible.

### **4. The Vicious Circle**

In Kyrgyzstan as in many parts of the world we have a vicious circle caused by:-

- Lack of Money which leads to
- No Maintenance or Development which leads to
- Poor Service which leads to
- Reluctance to Pay which leads to
- Lack of Money, etc

The circle must be broken by -

- Improving the service so that people are willing to pay
- Persuading people to pay to raise money
- Raising Money to rehabilitate and operate and maintain the system
- Maintaining and managing the System to give a better service

Once the system is working it must continue to work.

The System must be sustained

## **5. Sustainability**

Sustainability means that we have to keep the system:-

- Working
- Growing
- Improving

It is keeping the system working for future generations.

To keep the water systems working we must have:-

- Efficient operation to provide a good service
- Good maintenance keeps the system operating.
- Efficient management to deliver the service.
- Planning and development to ensure that the system keeps growing and improving
- Replacement of assets when they wear out.

All of this needs:-

- People to do the work and
- Money to pay for the work.

## **6. Cost Recovery - Community Participation**

World Bank estimates \$400-500 million is needed for Kyrgyz water supply and sanitation.

This amount of money is way beyond the borrowing capability of the Kyrgyz Government.

Therefore, the Government is having to accept a radical new approach.

The Kyrgyzstan Government agrees with the principle of cost recovery.

But doesn't fully understand the implications

Cost recovery comes with strings attached.

It should not be another tax, levied, controlled and collected by Government.

There is already a breakdown of trust between rural communities and Government.

This trust must be revived

Changes must be accepted willingly and not be decreed by government.

Consumer confidence must be restored

## **7. Cost Recovery - Community Management**

Cost recovery must be linked to better management, service and supply.

Costs must be controlled and management must be improved.

All of these are available and possible within village communities.

People should be entitled to value for the money they pay.

These issues are not easily understood by government officials

Crucial changes are needed to centralised thinking.

The Government has a policy of decentralisation but is not going to change overnight.

Other procedures have to change more quickly.

Village water management has to involve the whole structure of the community.

It is important to use existing strengths.

New water supply systems must be demand led.

Villagers should decide the level of service linked to affordability and willingness to pay.

Community involvement in operation must be encouraged.

Village water systems should come under community management.

Ownership should be vested in the village community.

The village water management must be allowed to create its own tariffs.

This will involve large investment for training in both technical and management skills.

The government still believes that new pumps and other equipment is the solution.

## **8. Cost Recovery - What it Means**

There are three element of cost involved in Cost Recovery.

Operations and Maintenance

Investment Costs

Depreciation

Recovery of operating costs is the minimum level of recovery.

Recovery of investment and operating costs repays loan debt but does not sustain the system.

The only way to fully sustain the system is to replace the assets when they wear out or break down

The Western system of depreciation builds up reserves to pay for the replacement of assets.

To break the circle and repay the loans and to have sustainability all three types of cost should be recovered.

## 9. Subsidies

Moving the cost of water supply from the taxpayer to the consumer should reduce taxation. But, if water tariffs are introduced without reducing taxation, an extra financial burden is created.

This strengthens the case and the need for Government subsidies.

Circumstances might include supporting the poor or staving off a public health threat.

Subsidies should be targeted to deserving recipients, or areas with the highest need.

Examples of subsidies for the Kyrgyz water supply sector:-

- government departments could pay their liabilities for water in advance.
- free provision of a minimum amount of water per day.
- support for the poor.
- increased budget subsidies in areas that have undertaken to pay for their water supply.
- contributions to projects that need the highest per capita investment.
- meeting foreign exchange fluctuations.
- meeting customs and excise duties.

## 10. Tariffs

Village Water Tariff Policy.

Government should deliver national policy and leave local decisions to the community.

Tariff policy should reflect the needs and wishes of the local community.

Balance between consumers aspirations, levels of service and tariffs.

People should decide and pay for the level of service they require and are willing to support.

The amount will vary from oblast to oblast and from village to village.

National or regional tariffs create some tariffs that are too high and others that are too low.

Central or local government intervention should not be required.

Intervention causes delays, leads to loss of income, and creates the vicious circle

Tariffs must be properly calculated

Annual budgets

Various types of tariff

A flat rate does not create a true sense of value

Metering and paying for consumption

Payments based on household amenities

Self-regulation between villagers

## 11. Sanctions

Threat of disconnection is a useful deterrent for non-payers.

Usually, the threat is sufficient to bring immediate response.

The argument of a health threat is minimal compared with a totally broken down system.

Disconnection and reconnection charges ensure that the costs are not met by other consumers.

Disconnection does not work for communal stand-pipes

Village communities can impose their own systems

## **12. Financial Management**

Current expenditure statistics for rural water supply.

Kyrgyz accounting staff are well trained and competent.

Standard accounting system produces figures but not information.

It does not help decision making or provide solutions to management problems.

Financial control is practised but is labour and paper intensive.

Revenue collection management is poor.

Some basic management procedures are not used due to economic circumstances.

Many transactions use barter rather than cash.

There is no financial management.

No proper financial management information.

No supply, flow or consumption meters

No measurement of water supply or sales.

No measurement of leakage rates or unaccounted for water.

No job costing.

Use of former Soviet Union norms.

Cost recovery brings a need for new methods of management, accounting and collection.

Financial management must be improved from the outset.

Financial strategy must be subject to consultation and accepted by the local community.

No project should start before a village shows financial and technical management ability.

Essential initial assistance should include training in:-

- simple business planning
- buying
- accounting
- budgeting and budgetary control
- cash management and the use of credit.

Ordering and procurement procedures should be speeded up.

Payments to suppliers should be made quickly

Revenue collection procedures will have to be designed and implemented.

A firm policy for dealing with payment defaulters will have to be initiated.

## **13. Recipe for Success**

Full community participation and management

Well designed projects, combining quality with low cost.

Local tariff calculation and setting

Full cost recovery and sustainability

Efficient tariff collection policy, procedures and imposing of sanctions.

Government should give a commitment to pay its water bills.

Strong financial management

A strong institutional framework and trained staff before rehabilitation work begins.

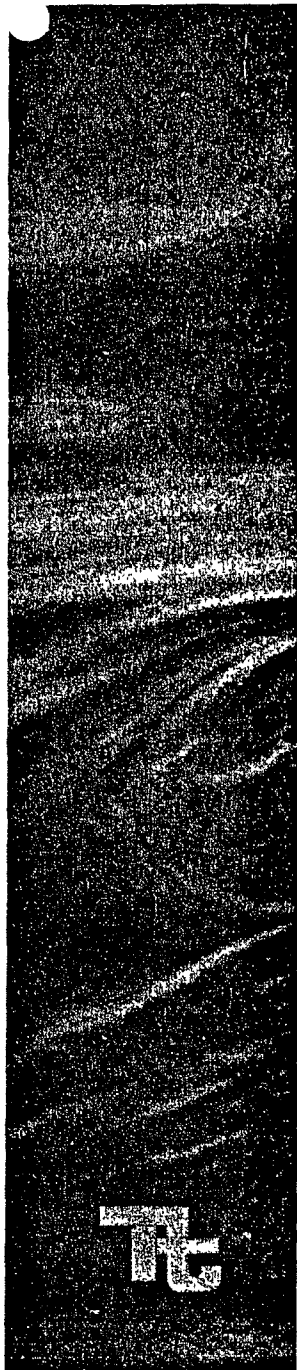
Water Systems Conference  
Almaty, Kazakhstan  
Jul 15-16, 1999



PRIVATIZATION OPTIONS

Fred Zobrist

Tetra Tech EM Inc.







# Privatization

- ~ Presentation Outline
  - ~ What is Private Sector Participation
  - ~ Terminology
  - ~ Options for Privatization
  - ~ Stakeholder Participation
  - ~ Pros and Cons of Private Sector Participation
  - ~ Key Factors for Success



## Presentation Outline continued

- ~ Identification of Best Options
- ~ How Do We Reach and Agreement
- ~ How Long Will This Take
- ~ Pitfalls and How to Avoid Them
- ~ Getting Started



# Public-Private Partnerships

- ~ What is Private Sector Participation
  - ~ General Term Covering a Range of Options for Public and Private Sector Participation
  - ~ All Involve a Partnership Between the Government and the Private Sector
  - ~ Range from a Simple Consulting Agreement to Total Ownership
  - ~ Possibilities are almost unlimited



# Terminology

- ~ Privatization - Divestiture of Public Interest in Public and Gov. Owned Properties. This may be totally or partially.
- ~ Public-Private Partnerships (PPP's) - a Cooperative Venture between the Gov. and Private Sector, usually to develop, improve or manage public works or services.



# Terminology

- ~ Stakeholders - All parties having an interest in the project
  - ~ Government
  - ~ Users or beneficiaries
  - ~ Existing Utility Employees
  - ~ Environmental Groups
  - ~ Donors/Multilateral Banks
  - ~ Private Sector Investors



# Terminology

- ~ BOO - Build-Own-Operate
- ~ BOT - Build-Operate-Transfer
- ~ DBO - Design-Build-Operate
- ~ Turnkey - Design Build
- ~ Service Contract -i.e..., O&M
- ~ LDO - Lease-Develop-Operate
- ~ BTO - Build-Transfer-Operate



# Privatization Options

- ~ Divestiture
  - ~ Private or private/public ownership
  - ~ Private operation and maintenance
  - ~ Private capital
  - ~ Private commercial risk
  - ~ Indefinite period



# Privatization Options

## ~ BOT/BOO

- ~ Private and public ownership
- ~ Private operation and maintenance
- ~ Private capital
- ~ Private commercial risk
- ~ Duration of 20-30 years





# Privatization Options

- ~ Concession
  - ~ Public ownership
  - ~ Private operation and maintenance
  - ~ Private capital
  - ~ Private commercial risk
  - ~ Duration of 25 - 30 years



# Privatization Options

- ~ Lease
  - ~ Public ownership
  - ~ Private operations and maintenance
  - ~ Public capital
  - ~ Shared commercial risk
  - ~ Duration of 8-15 years



# Privatization Options

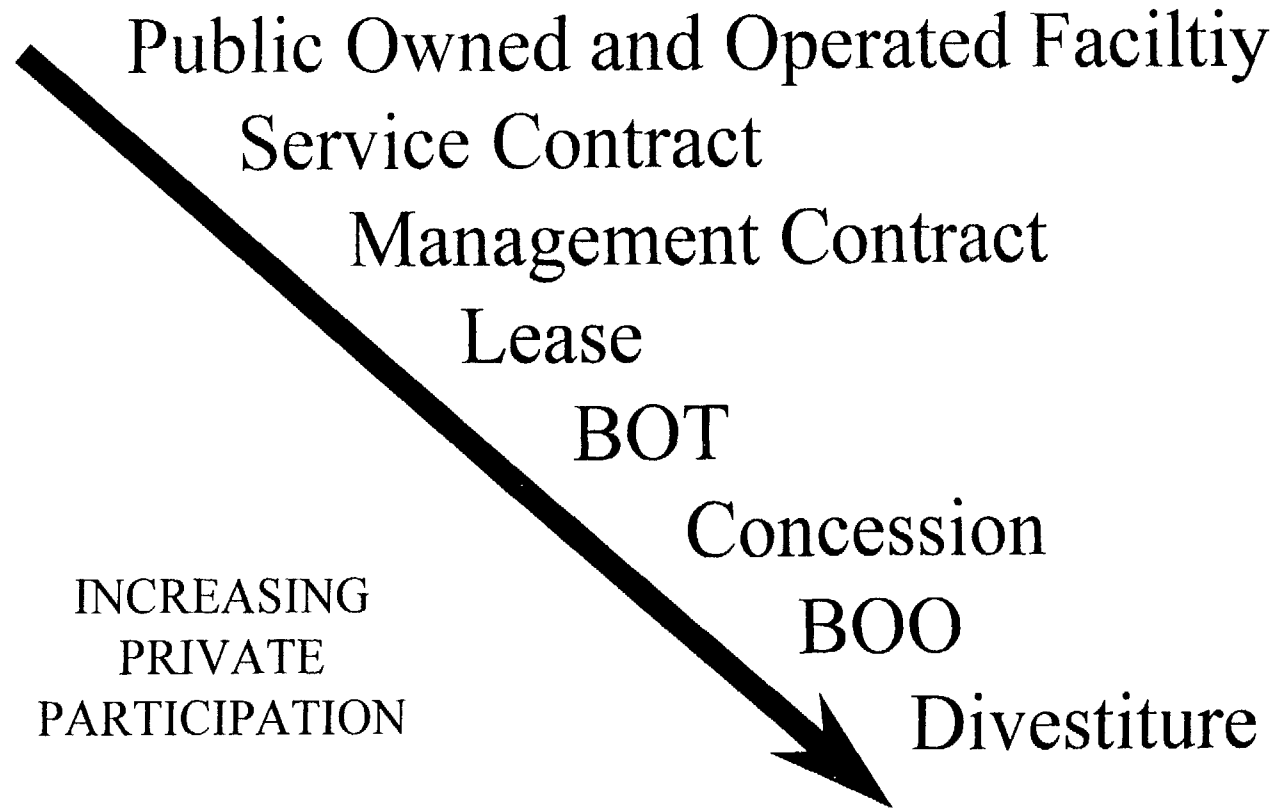
- ~ Management Contract
  - ~ Public ownership
  - ~ Private operations and maintenance
  - ~ Public capital
  - ~ Public commercial risk
  - ~ Duration of 3 - 5 years



# Privatization Options

- ~ Service Contract
  - ~ Public ownership
  - ~ Public and private O&M
  - ~ Public capital
  - ~ Public commercial risk
  - ~ Duration of 1 - 2 years

# Public-Private Relationships



INCREASING  
PRIVATE  
PARTICIPATION

TE



# Pros and Cons

- ~ Benefits of a Private Sector Partner
  - ~ bring technical and managerial expertise
  - ~ improve operating efficiency
  - ~ large-scale capital injections
  - ~ greater efficiency in use of capital
  - ~ reduce the need for subsidies
  - ~ increase responsiveness to consumer needs



# Pros and Cons

- ~ Concerns and Problems
  - ~ Loss of management control
  - ~ Labor unrest from reductions
  - ~ Tariff increases that will not be accepted or afforded
  - ~ Lack of regulatory structure
  - ~ Lack of political will



# Key Factors for Success

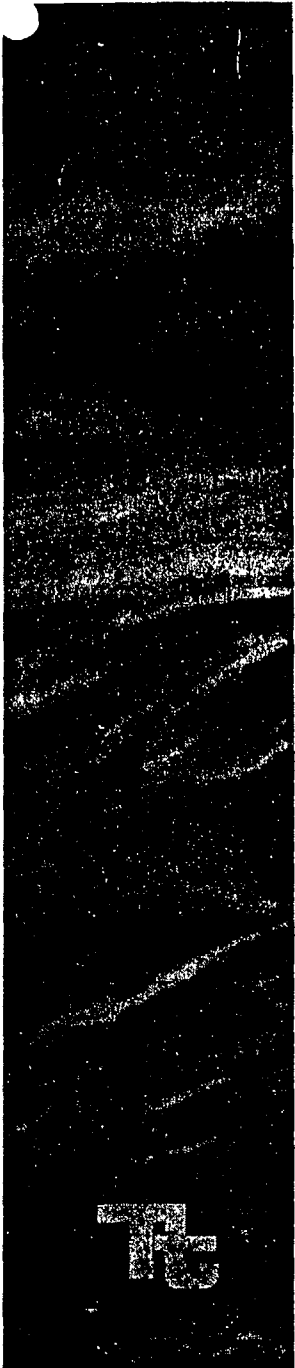
- ~ Option must be right for the local conditions and needs
  - ~ need a mentor
  - ~ legal and regulatory authority in place
  - ~ strong political commitment
  - ~ stakeholders are agreeable





# Key Factors for Success

- ~ Implementation must be well planned, thorough, creditable and transparent
  - ~ need a qualified project management team
  - ~ need an adequate master plan, feasibility studies and related technical, environmental, economic, and financial analysis
  - ~ risks must be fairly shared



# Identification of Best Option

- ~ Should address the Governments needs; for example,
  - ~ efficiency problems can be solved with a management contract or a lease
  - ~ new investment and capital is best obtained with a concession, BOT or divestiture
  - ~ ability for repayment
  - ~ meets need of local stakeholders



# Best Option

- ~ Provides climate in which private sector feels comfortable in taking risk
- ~ Works toward establishing a track record of PPP's



# Reaching an Agreement

## ~ Steps

- ~ 1. Identify need
- ~ 2. Establish a project management unit
  - ~ include technical, legal, financial and social representatives
- ~ 3. Obtain consultant to support project management unit (PMU)
- ~ 4. Undertake needed master planning and feasibility studies



# Reaching an Agreement

- ~ 5. Pre-qualify private sector partners
- ~ 6. Develop and issue a request for proposals
- ~ 7. Select a private partner
- ~ 8. Award or negotiate final agreement



## Duration

- ~ The process is not fast; especially for first time participants
- ~ A management contract can take up to 12 months
- ~ A concession may take up to two years
- ~ A BOT may take longer
- ~ Much depends on the quality of existing plans and studies



# Pitfalls & Avoidance

- ~ Lack of Competition
- ~ Lack of Transparency
- ~ Unfair Risk allocation
- ~ Poor feasibility and financial analysis
- ~ Poor contract documents
- ~ Lack of contractor team experience
- ~ Lack of contractor team financial capacity



# Implementation

- ~ Discussion Points
  - ~ Program Management
  - ~ Project Phases
  - ~ Risk Management
  - ~ Financing Options





TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### 1992 - 1998: FACING SIX MAJOR ISSUES

#### 6 - Outside communication: relations with mass-media

- ⇒ creation of strong and modern corporate image
- ⇒ active participation of, or relationships with local and national bodies
- ⇒ regular publications in the newspapers of the analyses of the quality of water
- ⇒ recruitment of a person responsible for public relations
- ⇒ regular press conferences





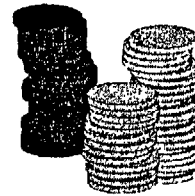
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## *The experience of SAUR NEPTUN GDANSK*

### CONCLUSION: THE EFFECTS OF THESE FIVE YEARS OF MANAGEMENT

#### ◇ The contractor's point of view

Art. 79 ECONOMY



Art. 60 EUROPEAN STANDARDS



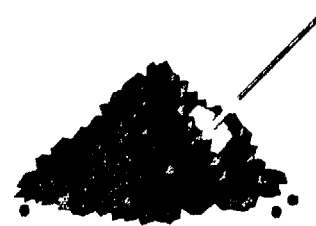
Art. 81 COMPUTERIZATION



Art. 82 TRAINING



Art. 42.3 EMERGENCY



Art. 9 EXPERTISE



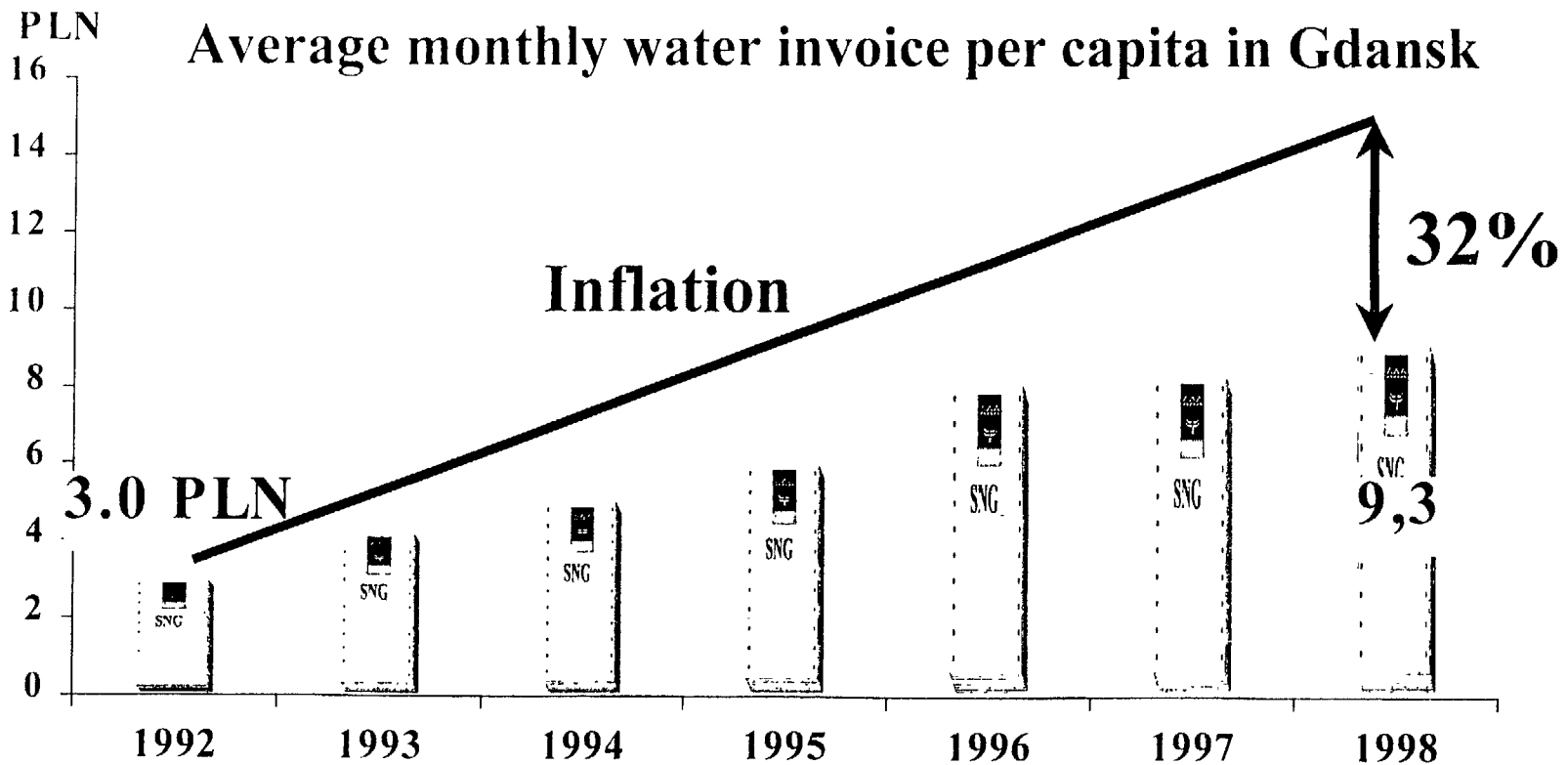


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#### ◇ The client point of view

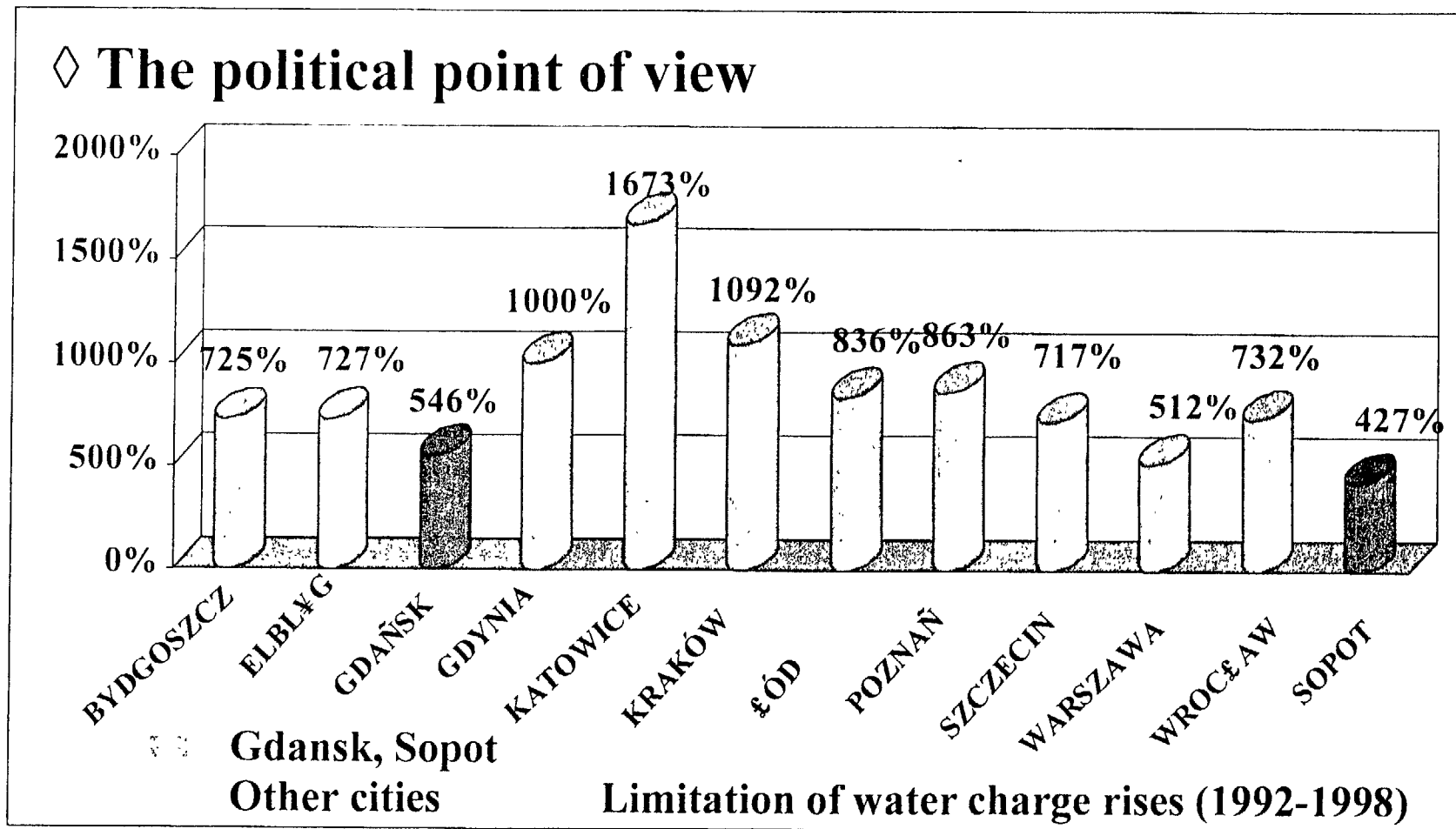




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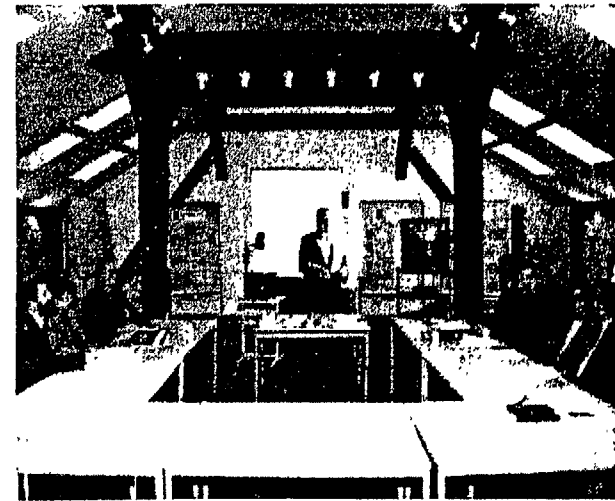
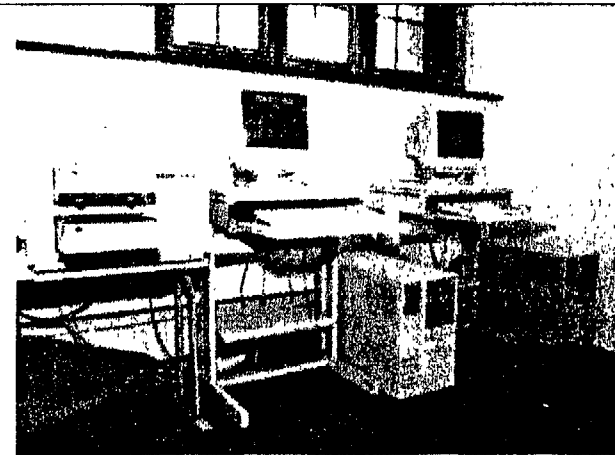


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- ◇ The employees point of view
    - ⇒ Modern work environment
    - ⇒ the possibility to develop knowledge and professional skills
    - ⇒ further career development
    - ⇒ average salary of the company higher than average national salary
    - ⇒ no economic layoffs
- On the other hand the SNG management requires more individual responsibility and engagement.

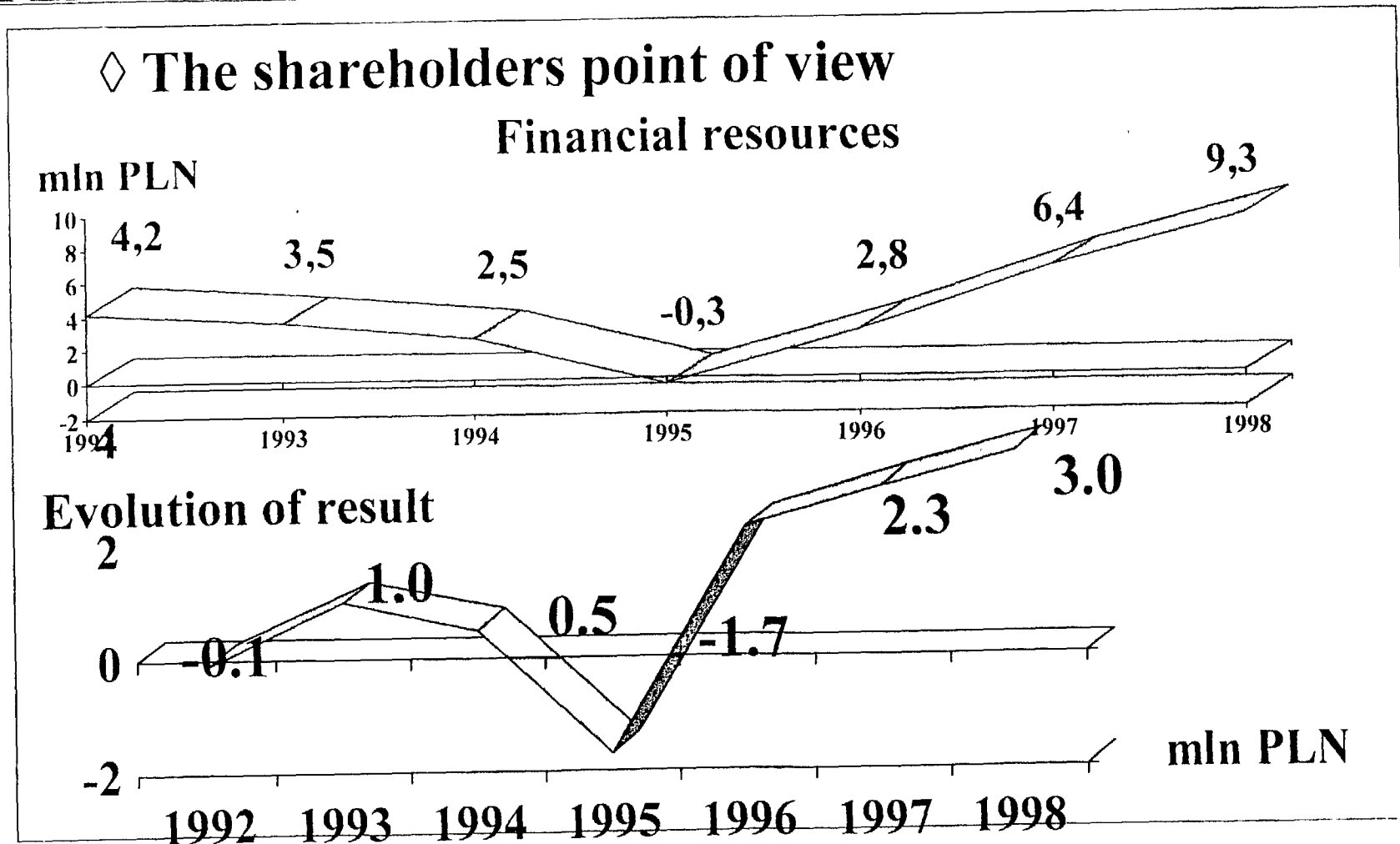




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#### ◇ Perspectives



The ISO9000 certification in progress will allow SNG to reach a new step in quality.



# Program Management

- ~ PMU team
  - ~ Primary manager of the implementation process over life of project
- ~ Contract management team
  - ~ Technical, Legal, Financial support to PMU over life of project or as needed





# Project Phases

- ~ Project Identification
- ~ Selection of Private Partner
- ~ Agreement/Contract Execution
- ~ Project Construction
- ~ Operations
- ~ Transfer or Renegotiation



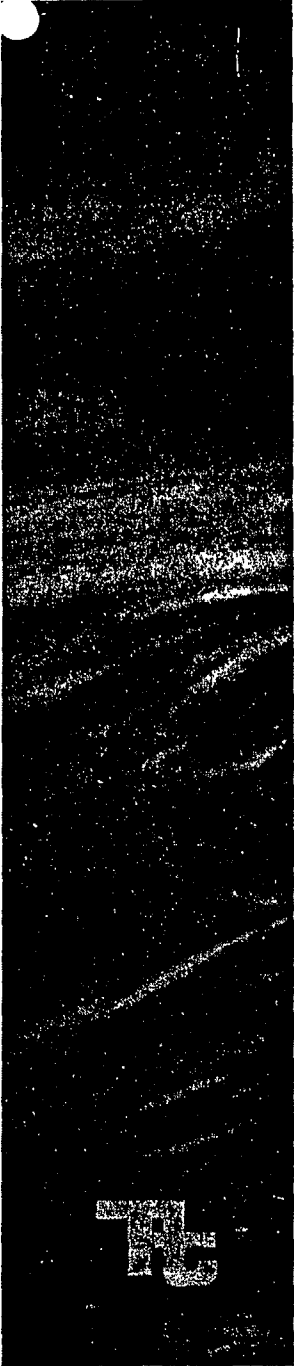

# Project Identification

- ~ Identify Project Need
  - ~ Master Plan
  - ~ Community need
  - ~ Unsolicited vs. solicited
- ~ Establish Project Management Unit
  - ~ Range from committee to authority
- ~ Prepare pre-feasibility study



## Selection of Private Partner

- ~ Prepare pre-feasibility study
- ~ Prepare proposal invitation
- ~ Prepare pre-qualification documents
- ~ Advertised, evaluate qualifications
- ~ Develop qualified short list
- ~ Proposal invitations to short list
- ~ Evaluate and select winner
- ~ Appropriate government approvals



# Contract Execution and Financing

- ~ Prepare negotiating position and memorandum of understanding
- ~ Conduct Feasibility Study
- ~ Review and evaluate results of Feasibility Study
- ~ Approve Feasibility Study
- ~ Negotiate and execute development agreement



## Financing (cont)

- ~ Financing Package by Contractor
- ~ Execute Contracts
  - ~ Take or pay agreement (purchase)
  - ~ Operations agreement
  - ~ Transfer agreement
- ~ Secure Private Financing



# Project Construction

- ~ Establish oversight team (PMU)
- ~ Prepare construction documents (contractor)
- ~ Construct Project Facilities (contr.)
- ~ Issue certificate of completion
- ~ Start-up - trial period of operation
- ~ Issue certificate of operation



# Operations

- ~ Establish Monitoring Team (PMU)
  - ~ Periodic Inspections
  - ~ Assure operations, maintenance and replacement plan being followed
- ~ Training programs (contractor)
  - ~ O&M - Safety - Environment/Health
  - ~ Records - Accounting - Billing



# Transfer/Renegotiation

- ~ Conduct Feasibility Study to evaluate Transfer Option
  - ~ Tariff and cash flows
  - ~ Economic life of facility
  - ~ Economic life of Equipment
  - ~ Financial Capacity of Government
  - ~ Performance of Contractor





# Transfer/Renegotiation

- ~ Negotiate extension with current contractor
- ~ Optional
  - ~ Advertise for new O&M Contractor
  - ~ Transfer ownership and/or operations to Government
  - ~ Transfer operations to new entity
  - ~ Modify existing contract agreements



# Risk Management

- ~ Risks exist on both sides of the public-private equation
- ~ Success requires understanding risks and sharing such risks between parties
- ~ Those risks best managed by a party should be allocated to that party



# Examples of Risks

- ~ Construction Problems
- ~ Extraordinary Operation and Maintenance Costs
- ~ Political Risks
- ~ Revenue Risk
- ~ Regulatory Risk
- ~ Financial Risks



# Example Financial Risks

- ~ Lending Institution Defaults
- ~ Government Financial Problems
- ~ Contract Team Equity Problems
- ~ Legal and Regulatory Risk
- ~ Interest Rate
- ~ Foreign Exchange
- ~ Contractor Failure



# Financing Options

- ~ General Revenue
- ~ Local Development Banks
- ~ Bond Market
- ~ Donors
- ~ Multilateral Banks (Recourse)
- ~ Commercial Banks
- ~ Project Returns (Nonrecourse)
- ~ Private Sector Equity



TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Operating in GDANSK





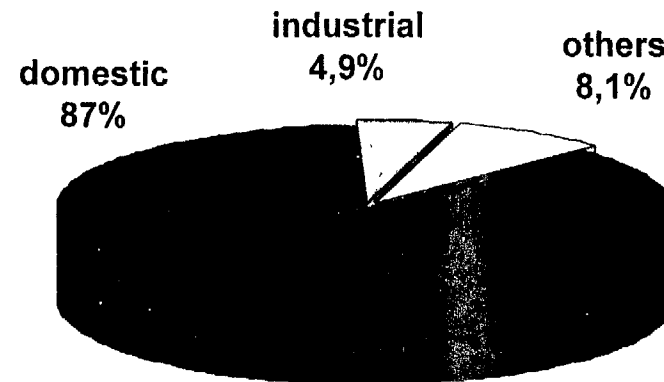
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### SNG serving 550.000 inhabitants:

- ◇ Water sales : 32 Mln M3
- ◇ Sewage sales : 34 Mln M3
- ◇ Turnover (97) : 81 Mln PLN  
(23 Mln USD)
- ◇ Population served : 550.000 inhabitants
- ◇ Employment : 780 employees

### Structure of clients of Gdansk





TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Operating in GDANSK

- ◇ The existing water and wastewater infrastructure has been developed over the last 125 years, and about 20% of the network is over 100 years old
- ◇ The water network is 1230 km long. We are using 17 ground water intakes, and one surface water intake ( 70% of the water produced coming from boreholes).
- ◇ The sewerage network is 930 km long, with two wastewater treatment plants.





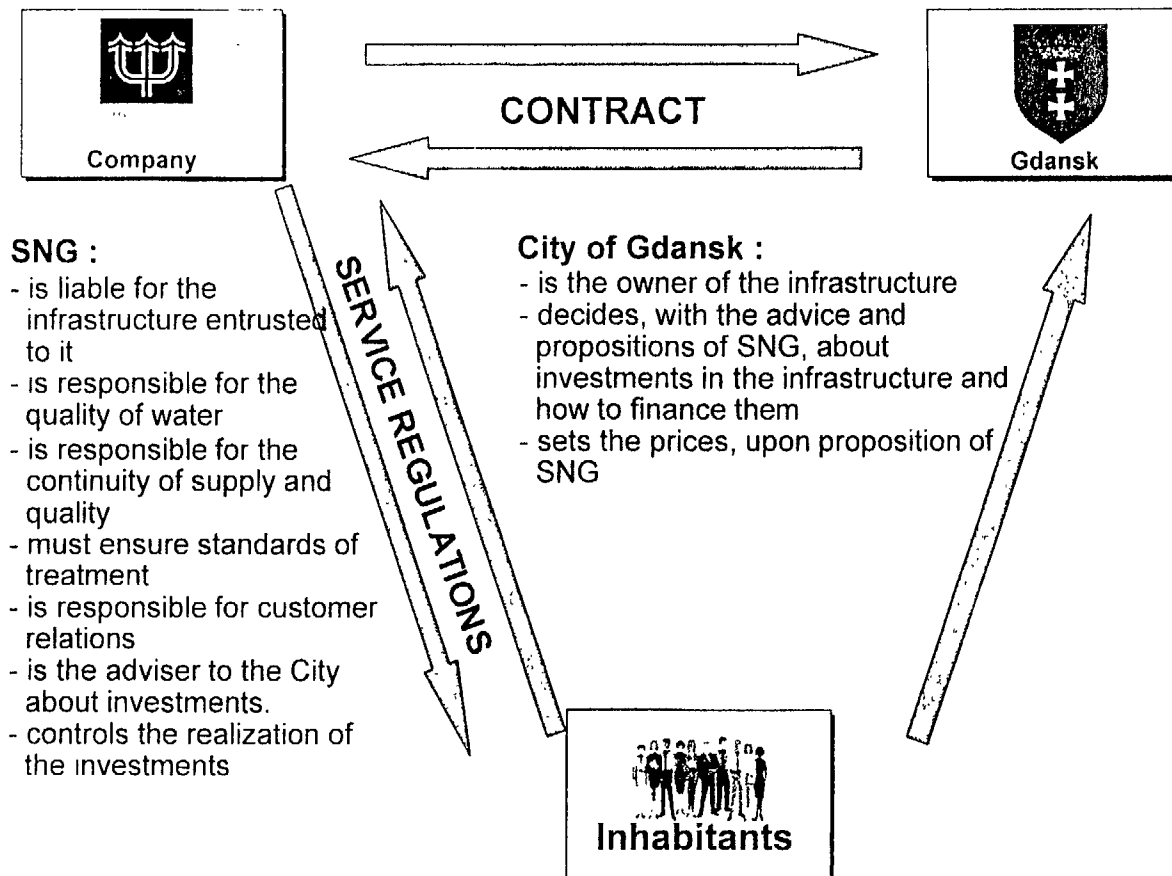


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### The lease contract with the City of Gdansk

◇ The share of competencies between the two partners is basically the following:

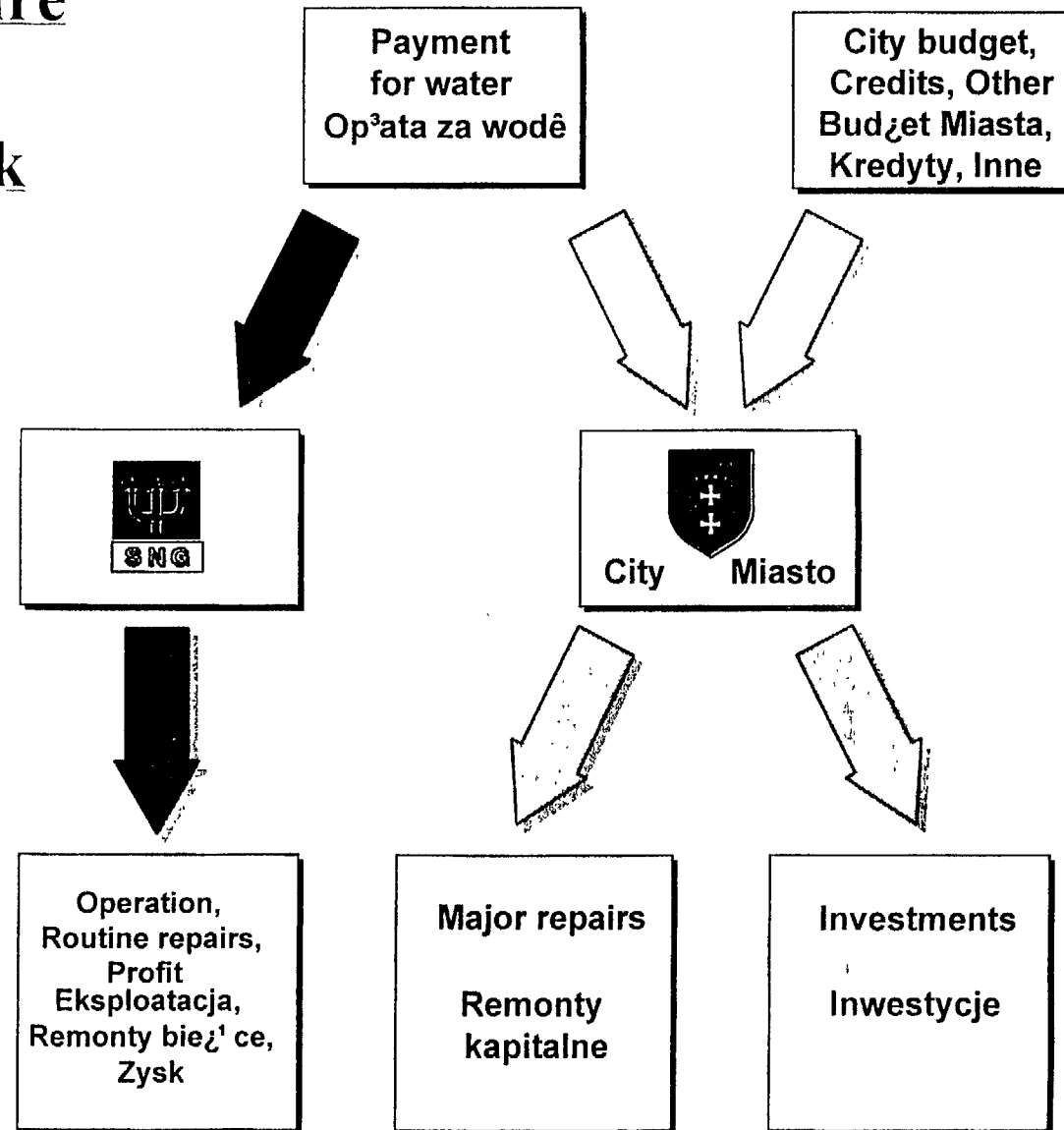




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### Internal structure of payment for water in Gdansk





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## *The experience of SAUR NEPTUN GDANSK*

### The situation before 1992: an important problems of quality of water, and the lack of long term economic and technical policy

- ◇ Poor water quality
- ◇ An excessive number of supply interruptions due to the poor state of repair of the network
- ◇ Problems with pressure
- ◇ Gdansk's beaches on the Baltic Sea closed because of inadequate wastewater treatment
- ◇ Distribution losses and consumer waste
- ◇ An excessive level of arrears
- ◇ Limited finances to improve the situation



TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### 1992 - 1998: FACING SIX MAJOR ISSUES

- ◇ **Technical:** to quickly improve the quality of drinking water and the level of wastewater treatment
- ◇ **Operation:** to optimize the utilization of resources (reduction of water loss - limitation of failures)
- ◇ **Relations with the local population:** from consumer to client
- ◇ **Personnel Management:** to improve productivity without economic redundancy
- ◇ **Economic Management:** to manage a 40% decrease of water consumption
- ◇ **Outside communication and relations with mass-media**



TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Technical: to quickly improve the quality of drinking water, and the level of wastewater treatment

#### ◇ **Effects achieved**

- ⇒ The obligation to achieve EU drinking water quality standards for surface water was achieved within less than 18 months
- ⇒ As a result of the improvement in wastewater treatment, Gdansk's beaches on the Baltic Sea were reopened
- ⇒ % of volume of water meeting EU standards rose from 8% in 1992 to 77% in 1998

#### ◇ **Difficulties encountered**

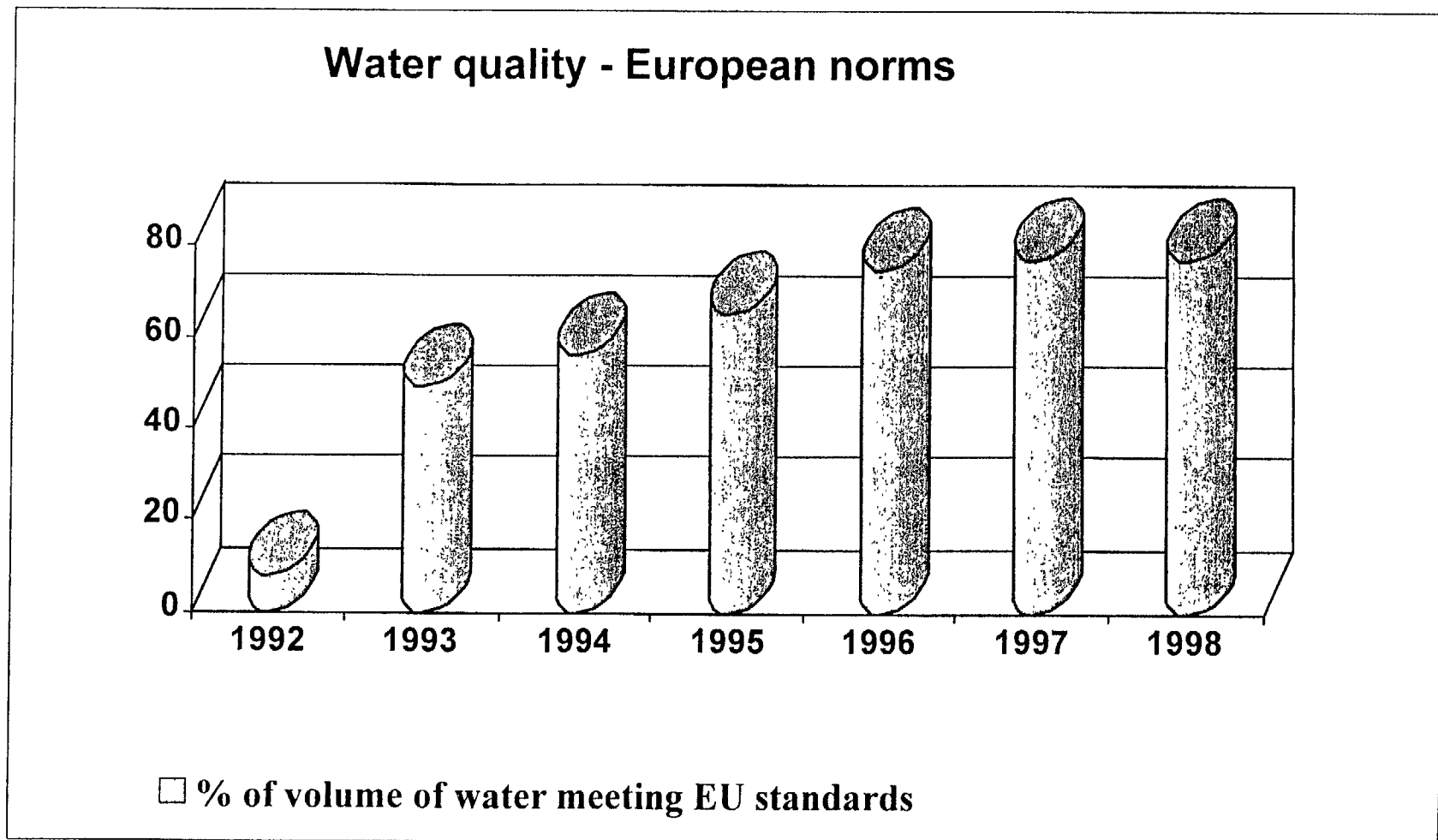
- ⇒ The investment policy primarily oriented towards the extension of the wastewater network, resulted in postponing some investment necessary to achieve EU standards for all the ground water



TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

Technical: to quickly improve the quality of drinking water, and the level of wastewater treatment





TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Operation: to optimize the utilization of resources

#### ◇ **Effects achieved**

⇒ Water loss over 25% in 1992 are now at 11,3%

⇒ The Company's Operations Division has succeeded in reducing the number of failures by 55% over this five year period

#### ◇ **Difficulty encountered**

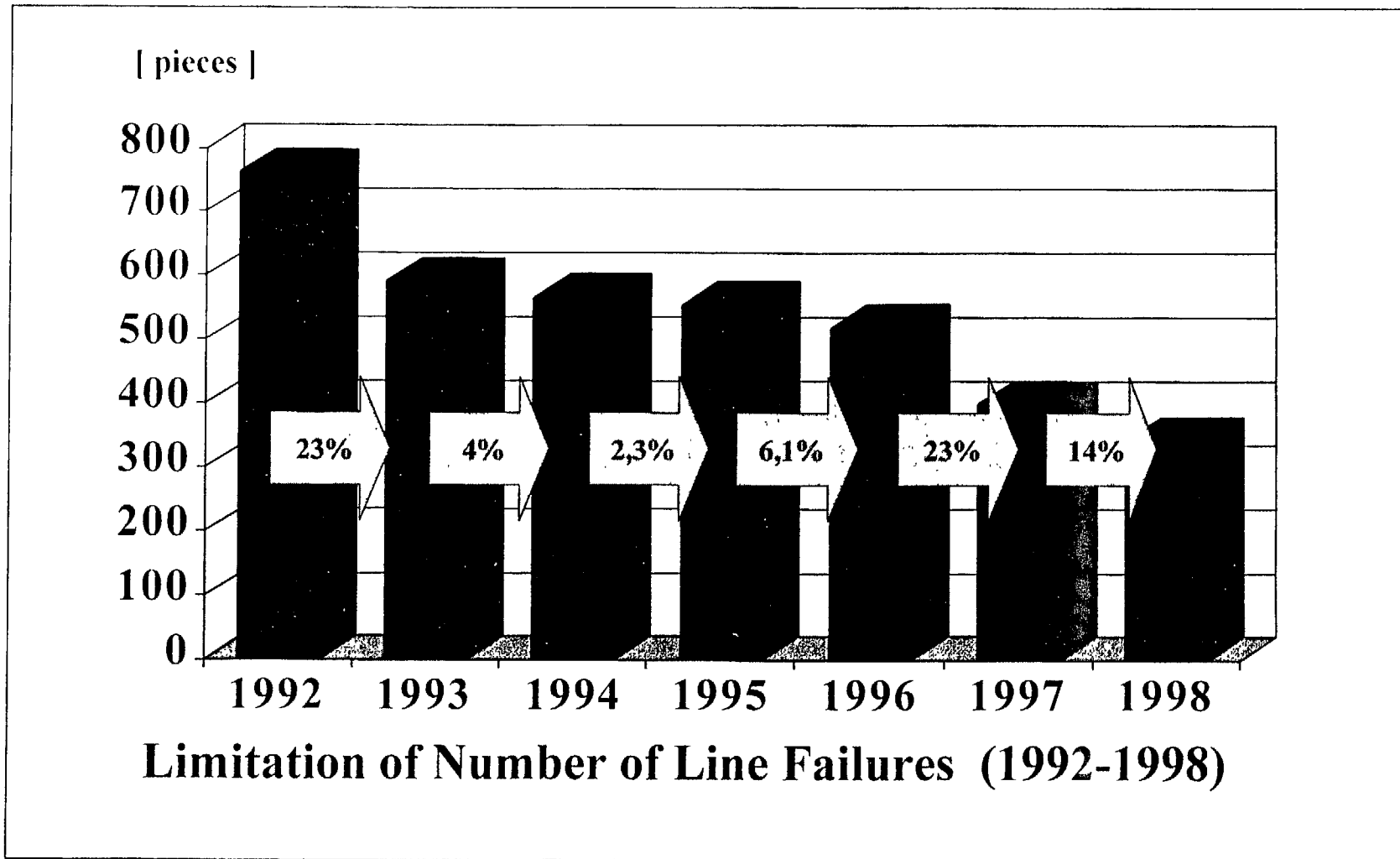
⇒ The very old and poor state of the network in 1992



TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Operation: to optimize the utilization of resources







TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Relations with the local population: from consumer to client

#### ◇ **Effects achieved**

- ⇒ More frequent and regular billing
- ⇒ real level of services
- ⇒ A shortening of the cycle of payment by more than 55%

#### ◇ **Difficulty encountered**

- ⇒ One of the main problems linked with the creation of a new relationship with clients was **to anticipate the needs, but not to go beyond**. To give too much, for example an overly luxury documentation, would be perceived as negative.



TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Officialization in 1998 of the Card of service upon which SNG is engaging itself

◇ Decision to officialize the level of service upon which SNG is engaging itself outside of the general obligations of the contract



• **Maximum time to answer a question or claim of a client**



• **Regular checking of water quality**

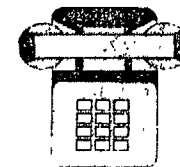
• **Emergency services**

• **Technical conditions**



• **Frequent meter reading**

• **Providing information 24 hours a day**

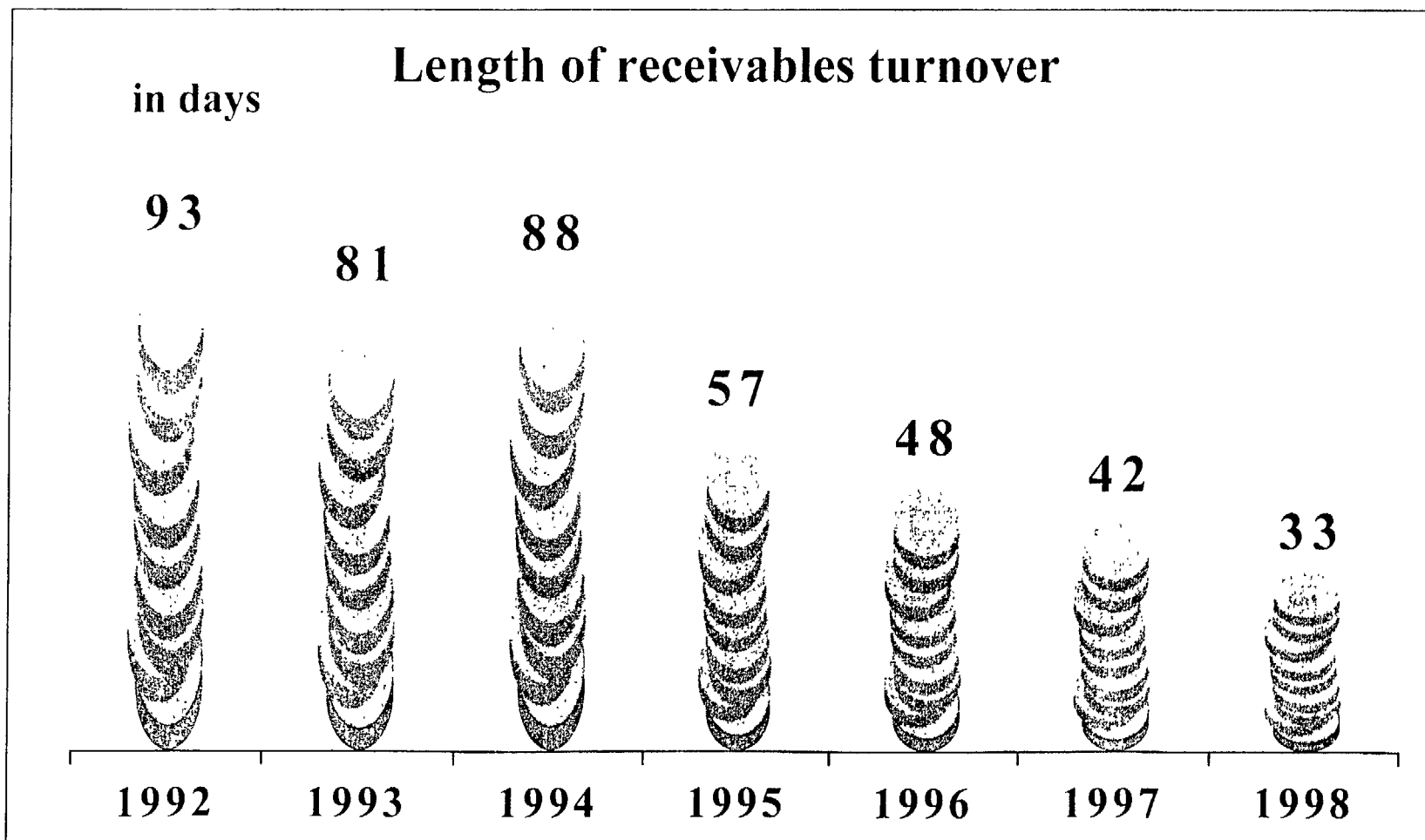




TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Relations with the local population: from consumer to client





TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

# *The experience of SAUR NEPTUN GDANSK*

## Personnel Management; Improving productivity without economic redundancy

1996										
				1	2	3	4			
5	6	7	8	9	10	11				
12	13	14	15	16	17	18				
19	20	21	22	23	24	25				
26	27	28	29	30	31					

**3 years' strategic plan**

Management quality  
City Partner  
Inhabitants' friend  
Jakość  
menedżmentu  
Partner Miasta  
Przyjaciół mieszkańców

MODEL COMPANY / WZORCOWA FIRMA

- Meeting the clients' needs
- Common goal - actions harmonised with the City
  - High quality services
- Tap water of good quality
  - Environmental pollution prevention
- Professionalism and technical potential
  - Proecological actions
- Personal involvement of workers in Company philosophy
- Prestige and influence on environment
  - Development
  - Profitability
- Wychodzenie naprzeciw potrzebom klienta
- Wspólny cel - zharmonizowane działanie z Miastem
  - Usługi wysokiej jakości
  - Woda z kranu dobrej jakości
  - Zapobieganie zanieczyszczeniom środowiska
- Profesjonalizm i potencjał techniczny
- Postępowanie proekologiczne
- Osobiste zaangażowanie pracowników w filozofię Spółki
- Prestiż i oddziaływanie na otoczenie
- Rozwój
- Rentowność

1998										
				1	2	3	4			
5	6	7	8	9	10	11				
12	13	14	15	16	17	18				
19	20	21	22	23	24	25				
26	27	28	29	30	31					

**Management by Objectives**

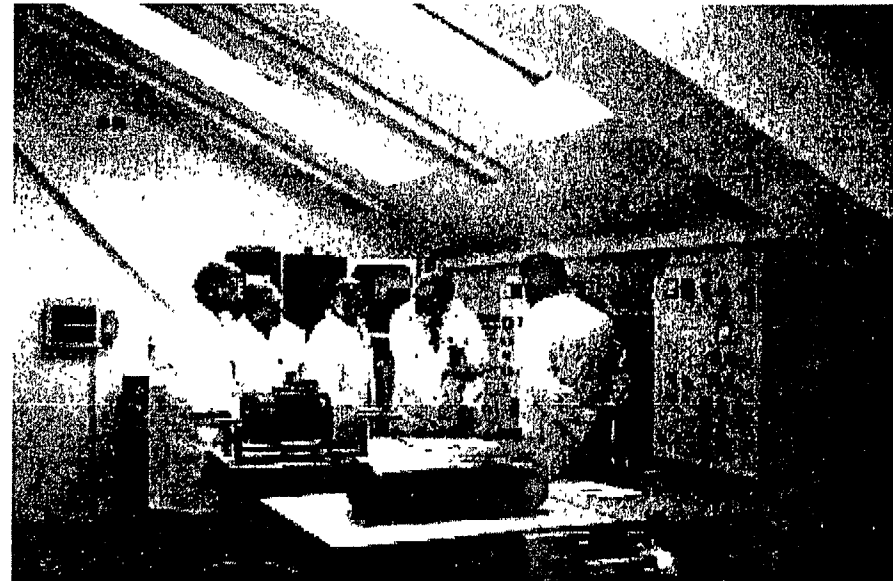
Numerous detailed tasks for implementation by particular Company services  
Liczne szczegółowe zadania do realizacji przez poszczególne komórki Spółki



TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Personnel Management; Improving productivity without economic redundancy



Training centre  
receiving more than  
1000 trainees a year





## *The experience of SAUR NEPTUN GDANSK*

### Personnel Management; Improving productivity without economic redundancy

#### ◇ **Effects achieved**

- ⇒ Strong adhesion and involvement of the management staff and generally of all the staff of the company
- ⇒ As consequence of training, progressive suppression of non qualified workers
- ⇒ Decrease of 25% of the employment, without economic redundancy
- ⇒ improvement of the productivity: 1,7 km of network per employee in 1992, 2,8 in 1998

#### ◇ **Difficulties encountered**

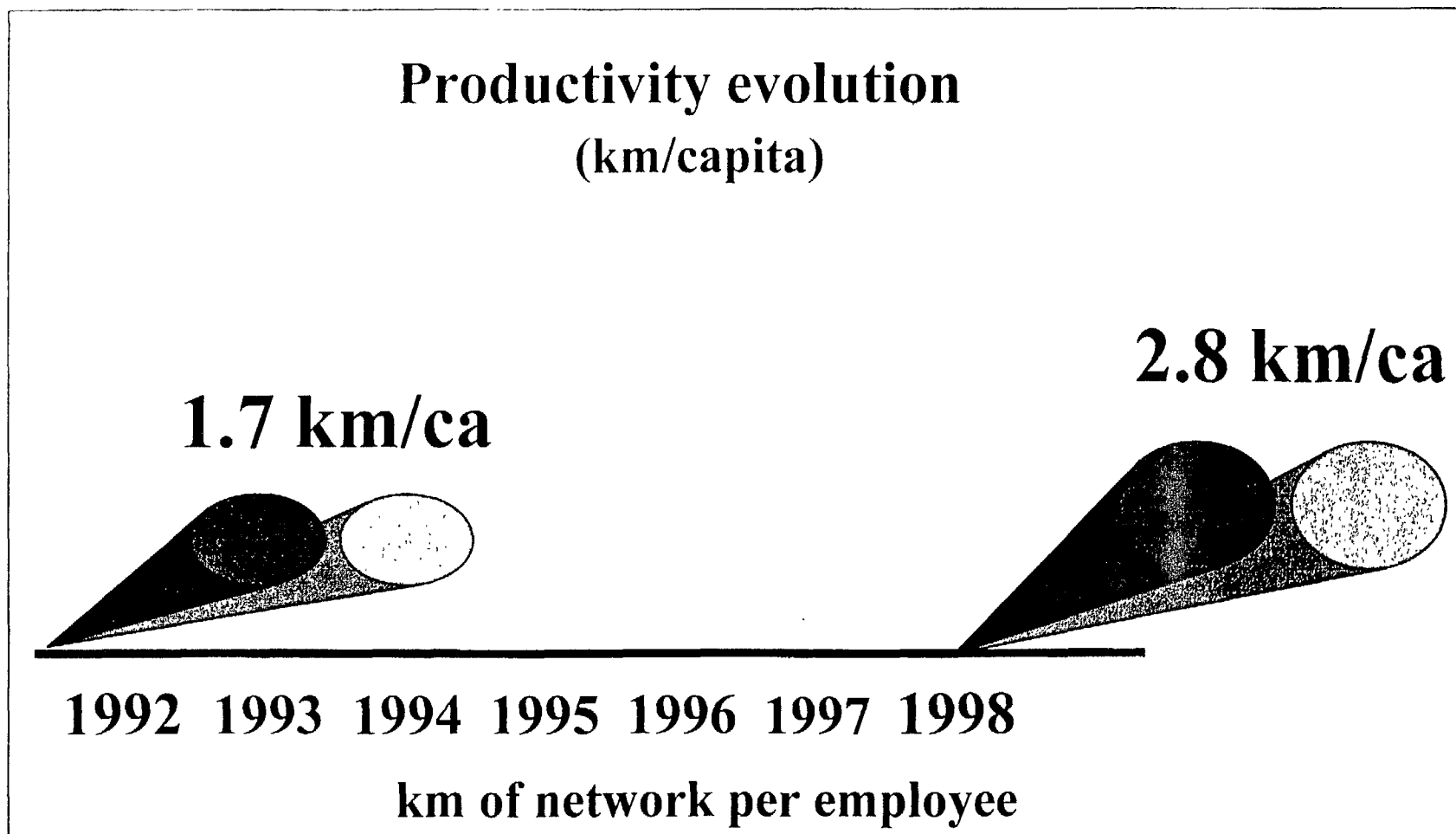
- ⇒ As a result of the rapid development of Poland strong salary pressure, of the market, on young specialists
- ⇒ ensuring dissemination of correct and complete information on all levels of the staff



TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Personnel Management; Improving productivity without economic redundancy



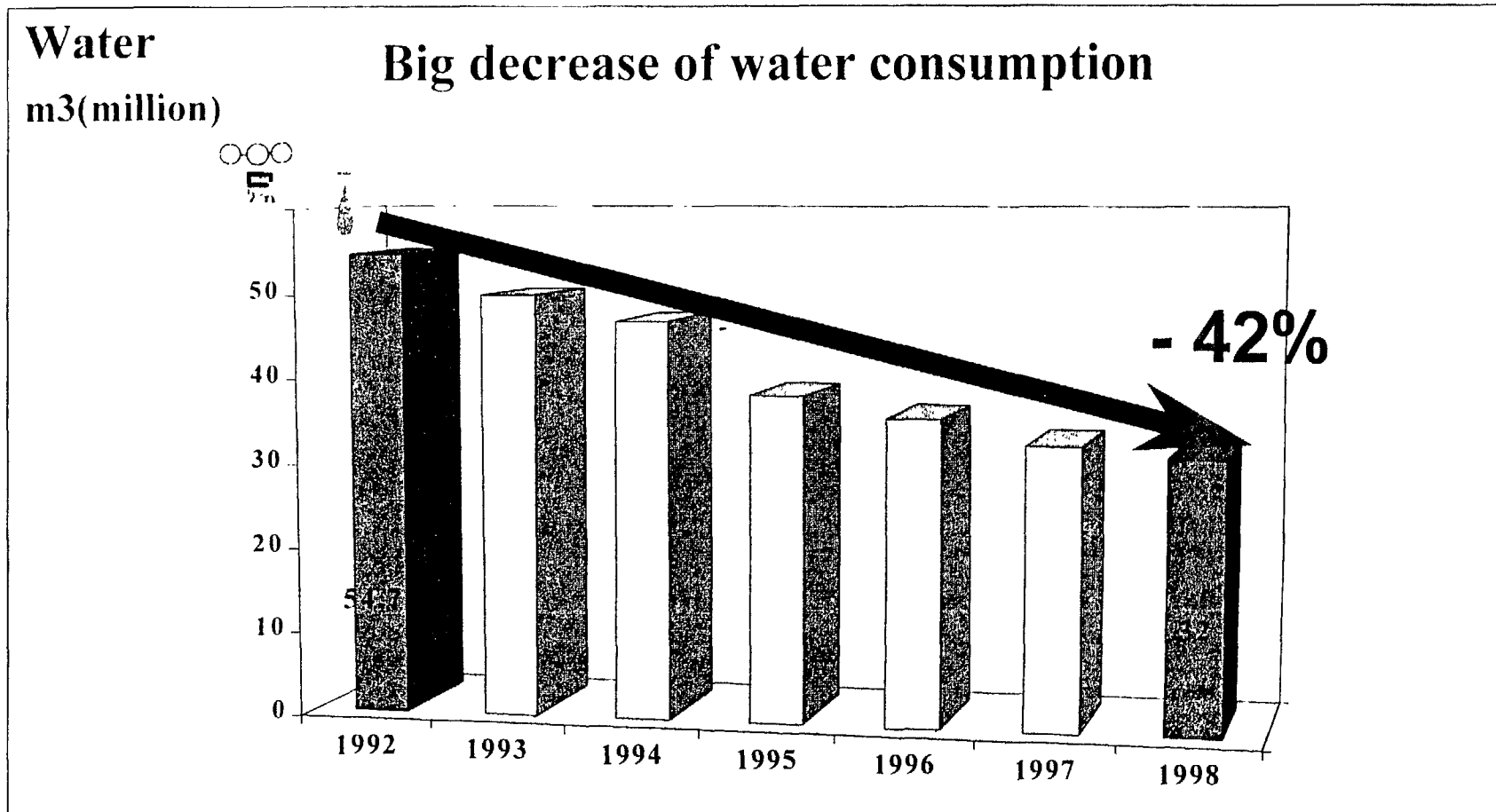


TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### 1992 - 1998: FACING SIX MAJOR ISSUES

### 5 - Economic management: managing a 40% decrease of water consumption



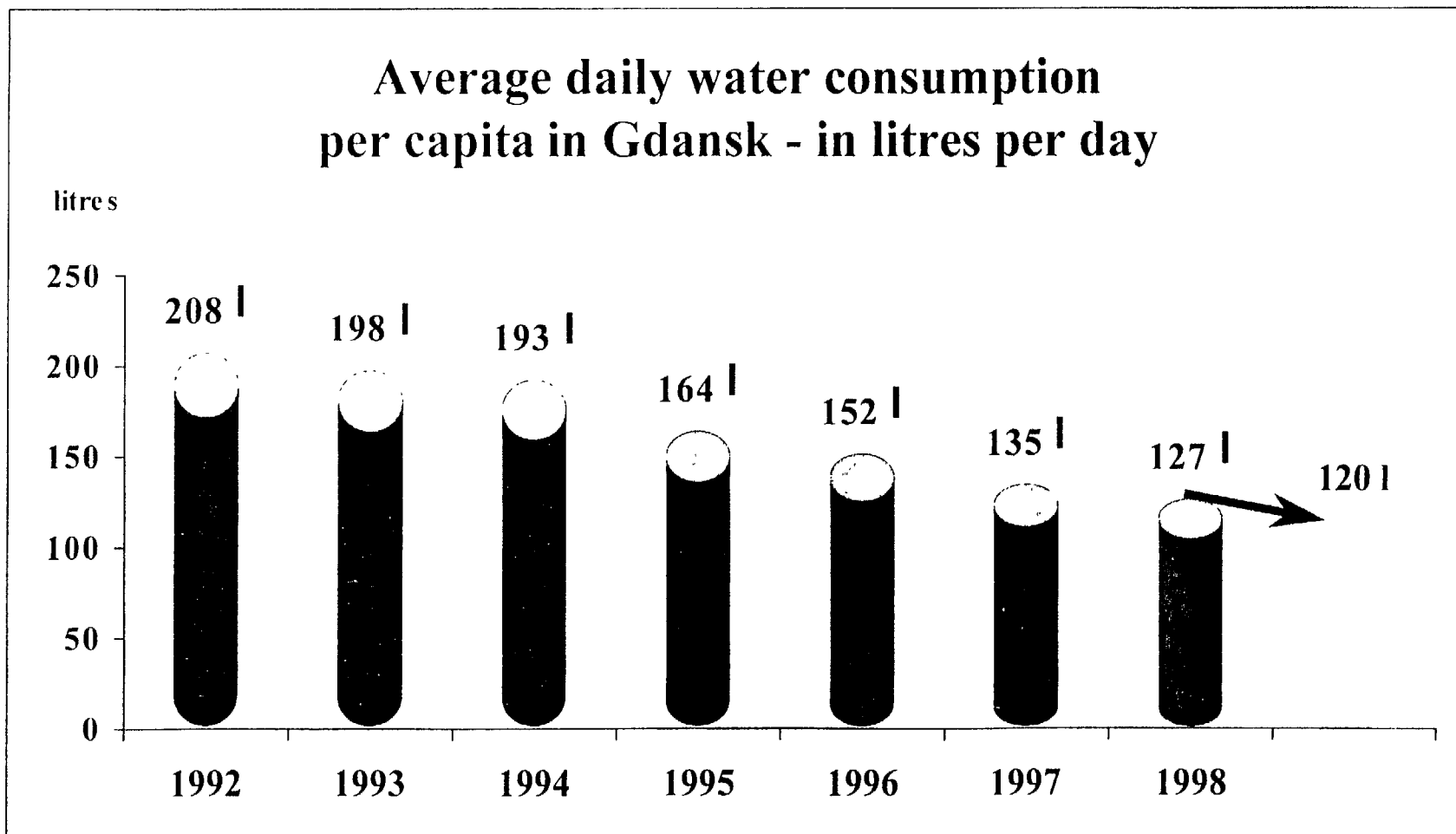




TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Economic management: managing a 40% decrease of water consumption

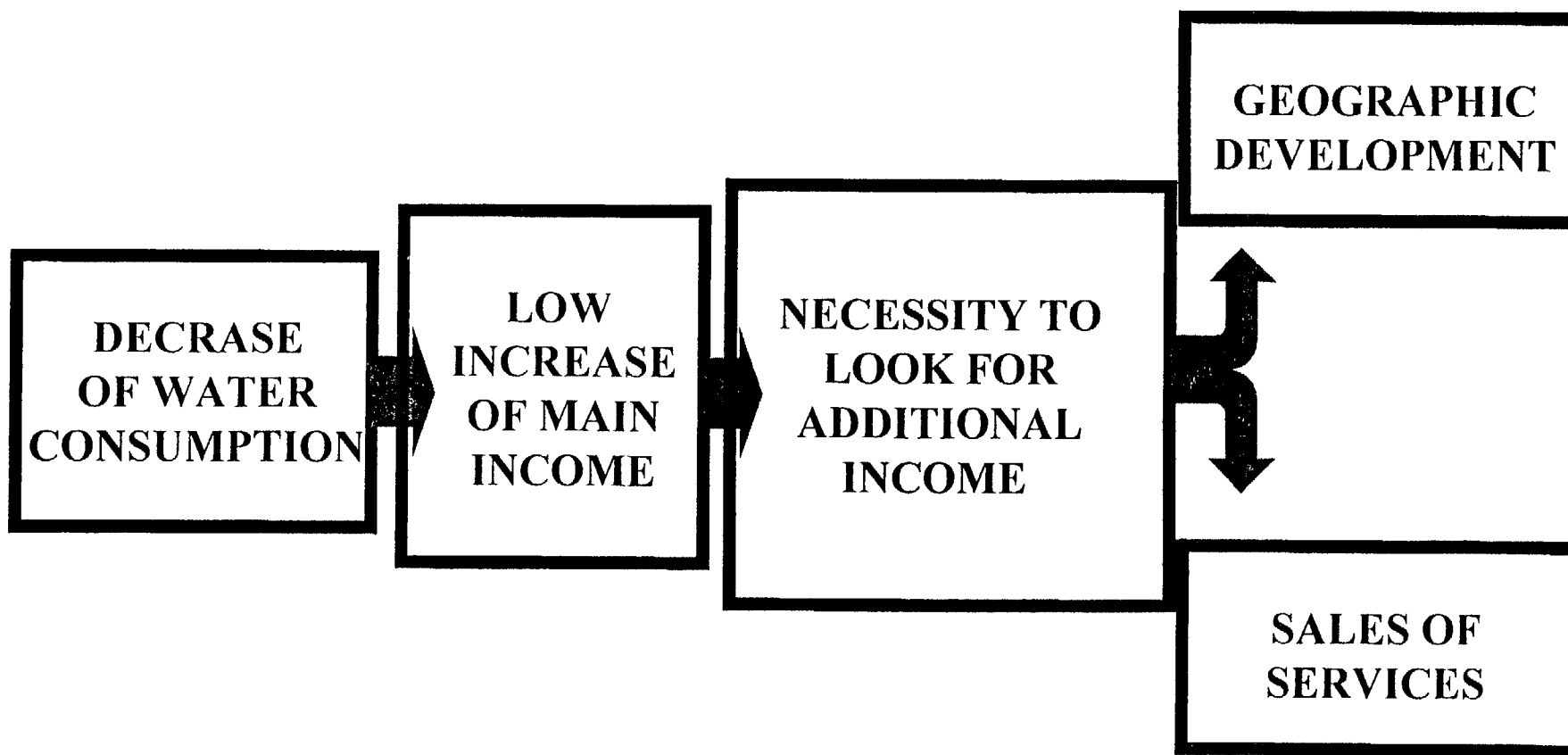




TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Economic management: managing a 40% decrease of water consumption



Increase of activity range - development



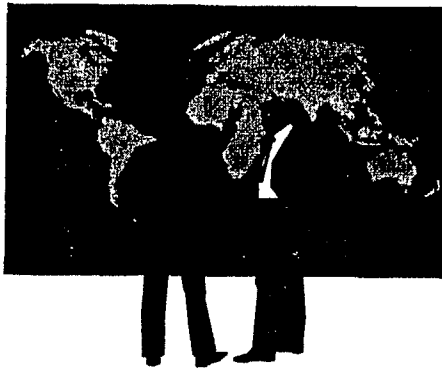
TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Economic management: managing a 40% decrease of water consumption

#### •Geographic development

- 1996, beginning of new operation in Pruszcz Gdanski



- Entering into relations with neighbouring communes of Northern Poland



TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Economic management: managing a 40% decrease of water consumption

#### •Sales of services

##### •Services provided by:

•Research Bureau



•Central Laboratory



•Training Center



•Technical expertises



•Financial & administration expertises

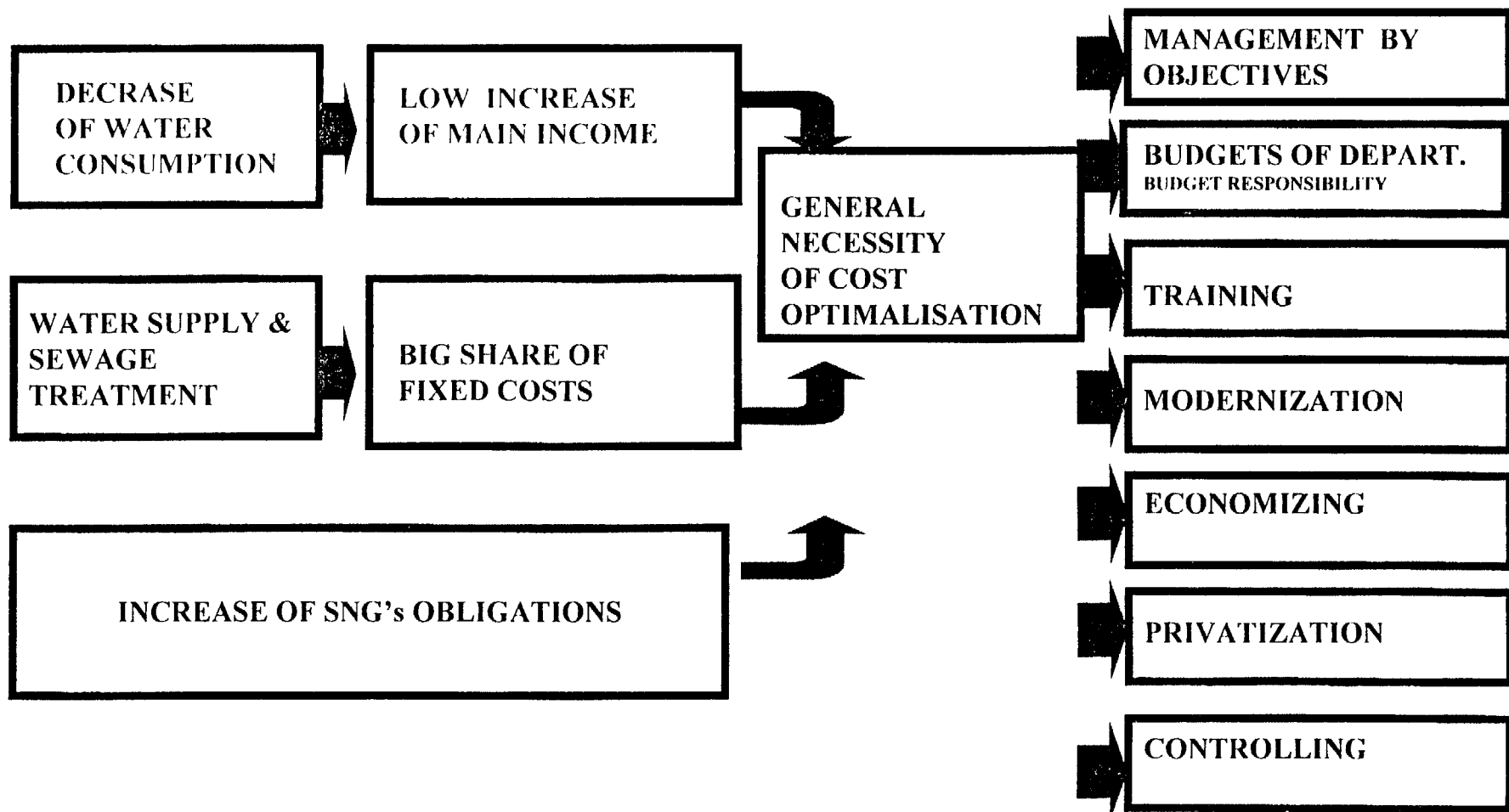




TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Economic management: managing a 40% decrease of water consumption





TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Economic management: managing a 40% decrease of water consumption

#### ◇ **Effects achieved**

- ⇒ A strong reduction of costs: during the period of 1992-1998, inflation in Poland was 29% higher than the increase of costs at SNG
- ⇒ A growing percentage of other income

#### ◇ **Difficulties encountered**

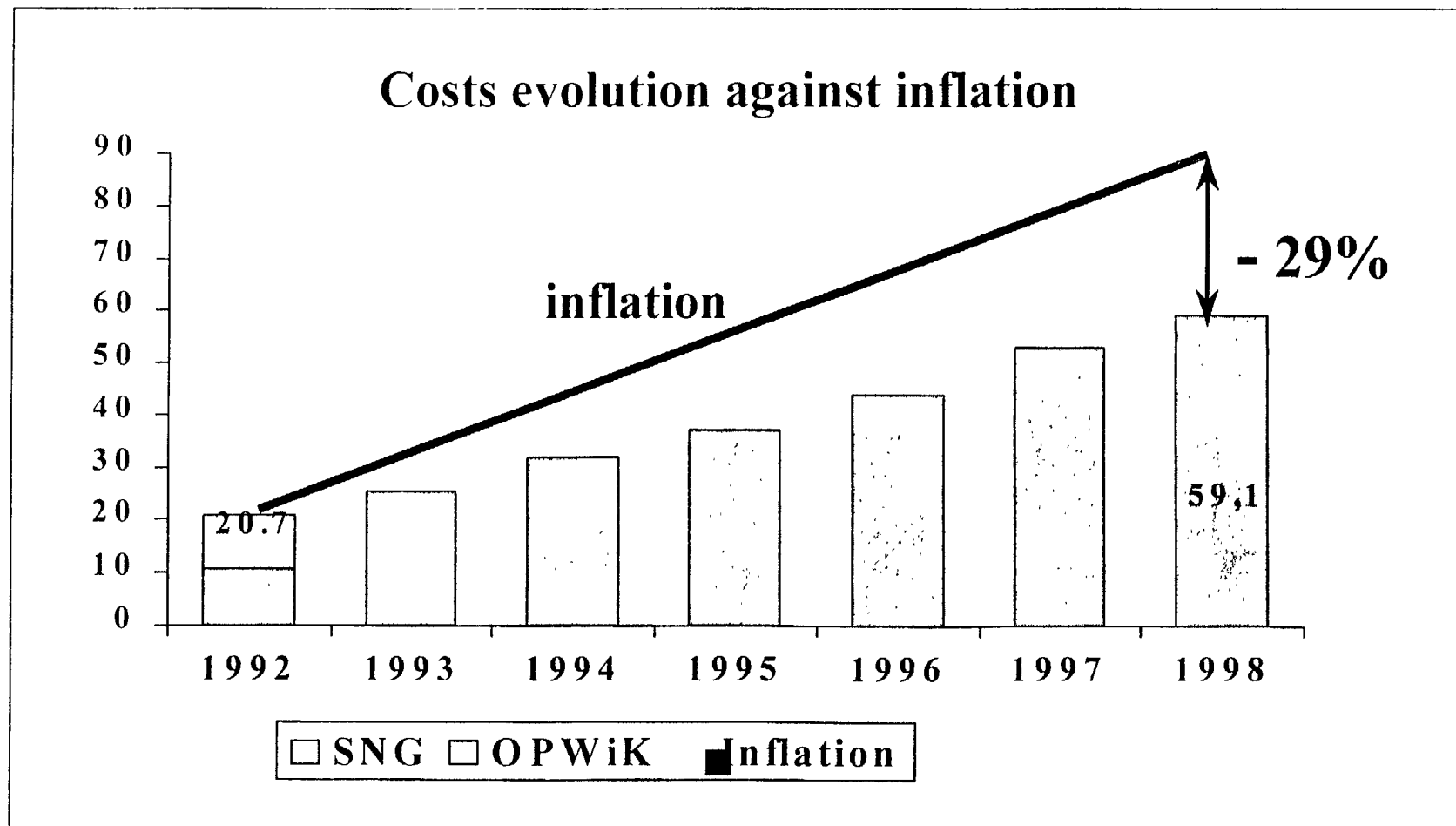
- ⇒ Continually changing fiscal legislation
- ⇒ In the first years some delays in the fixation by the City Council of the water and wastewater rates
- ⇒ In 1995, a decrease in consumption and sales of more than 18%, too much to succeed in balancing the accounting result of the year




TURNING THE TIDE OF W&S UTILITIES, HOW PRIVATE OPERATORS GO ABOUT IMPROVING SERVICES

## *The experience of SAUR NEPTUN GDANSK*

### Economic management: managing a 40% decrease of water consumption





# **Management Contract Yerevan, Armenia**

Judy L. Wilson

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**BLAKE, CASSELS & GRAYDON**



## *Management Contract - Yerevan*

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### **Establishing a Management Contract**

#### **Step 1 - Information Gathering/Contract Processing**

For example:

- does the entity have the jurisdiction to enter into the contract
- what are the institutional/legal restrictions to the contract
- does sufficient technical data exist?
- is there political or institutional willingness?
- how will approvals for the document review be sought and carried out
- establishing the review/project team

## *Management Contract - Yerevan*

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### **Establishing a Management Contract**

#### **Step 2 - Fundamental Decisions/Principles and the Development of the Contract Framework**

For example:

- the type and extent of private sector involvement
- the service area
- compensation to the Operator
- the appropriate allocation of risk
- use of existing contract precedents



*Management Contract - Yerevan*

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**Establishing a Management Contract**

**Step 3 - Issuance of the RFQ/Evaluation of Submissions for Shortlisting**

**Step 4 - Preparation of Initial Drafts of Documents**

**Step 5 - Review of Drafts and Revisions**

**Step 6 - Finalisation of Documentation**

**Step 7 - Issuance of RFP**

**Step 8 - Clarification / Site Visit / Data Room Process**

**Step 9 - Addenda Issued**

**Step 10 - Proposals Submitted**

**Step 11 - Proposals Evaluated and a Successful Bidder Identified**

**Step 12 - Finalisation of the Contract Documents**

**Step 13 - Execution of the Contract Document**

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**BLAKES**

## *Management Contract - Yerevan*

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### **Structure of a Typical Management Contract Document**

A typical set of RFP Documents for a management contract would include the following:

**(i) Request for Proposals**

This document outlines the “rules” of the public Request for Proposals/public tendering process.

**(ii) General Conditions of Contract**

This document establishes the general legal relationship between the parties and deals with such issues as insurance, methods of compensation, settlement of disputes and fundamental rights and responsibilities of the parties.

*Management Contract - Yerevan*

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**Structure of a Typical Management Contract Document**

**(iii) Appendices to the General Conditions of the Contract**

**Contract Particulars** - specific contract details

**Description of the Services** - the services which the Operator is to provide

**Description of the Facilities** - list of the facilities in the service area which the Operator is to be responsible for

**Description of the Service Area**

**Performance Standards** - description of the performance standards

**Management, Supervisory and Technical Staff** - the expertise which the Operator is expected to have on its management staff

**Staffing Policy** - the rules with respect to the Operator's involvement with the existing staff

**Performance Incentive Compensation** - the rules as to how the Operator's Performance Incentive Compensation will be calculated

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**BLAKES**

## *Management Contract - Yerevan*

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### **Workplan - Management Contract**

#### **Phase I - Establishing the Contract Framework**

Task:

##### **Prepare Background Information**

- Questionnaire provided to the water utility with respect to various items of information which are required in the drafting of the contract document
- A list of tasks of the water utility that must be completed in order to develop a comprehensive RFP document, draft contract, and all technical appendices to the RFP contract
- Discuss and explain the RFP process with the water utility

## *Management Contract - Yerevan*

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### **Workplan - Management Contract**

#### **Phase II - Drafting of the RFQ Document**

Task:

**Draft the comprehensive Request for Qualification document**

The RFQ must deal with such issues as:

- the selection process for prequalification
- the prequalification timetable
- joint venture submission “rules”
- methods of evaluating qualifications
- experience and financial requirements for prequalification

## *Management Contract - Yerevan*

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### **Workplan - Management Contract**

#### **Phase III - Drafting of the Request for Proposals Documents**

Task:

##### **Prepare the RFP Document**

Issues:

- establishing the list of documents which comprise the RFP (the RFP itself, draft contract, appendices)
- establishing procedures for clarification of the proposal documents
- timetable and program (submission dates, pre-bid conference, etc.)
- costs of proposals
- corrupt or fraudulent practices
- rules for joint venture proposals
- proposal security specifications
- submissions receipt and signing of proposals
- opening and evaluation of proposals



*The Management Contract in Yerevan, Armenia*

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**Workplan - Management Contract**

**Phase III - Drafting of the Request for Proposals Documents**

Task:

**Draft the General Conditions**

Issues:

For example:

- rules for contract interpretation
- law governing the contract
- settlement of disputes
- defining the services and the performance standards for the services
- term, commencement, and completion of the contract
- equipment materials and supplies
- records management, accounting inspections and auditing
- indemnity and insurance
- compensation to the operator

## *Management Contract - Yerevan*

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### **Workplan - Management Contract**

#### **Phase III - Drafting of the Request for Proposals Documents**

Task:

##### **Prepare the “Technical Appendices”**

- description of the services to be provided by the Operator
- description of the facilities which the Operator is to take over
- description of the service are which the Operator is responsible for
- specifications with respect to testing and laboratory analysis procedures
- the staffing polity which is to apply to both existing staff and new staff
- performance incentive compensation which the Operator is eligible to receive
- description of the operating investment fund program

*Management Contract - Yerevan*

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**Workplan - Management Contract**

**Phase IV - Managing the Public Tender Process after the  
Issuance of the RFP**

- Clarifications - Response to Questions document
- Addendum

## *Management Contract - Yerevan*

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### **Workplan - Management Contract**

#### **Phase V - Evaluation of the Proposal Submissions**

- “Evaluation Documents” that set out a checklist of all of the requirements in the RFP documents that must be met for the proposal to be “responsive
- “qualified proposals”

*Management Contract - Yerevan*

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**Workplan - Management Contract**

**Phase VI - Finalisation**

- getting the parties to agree on a final document

## *Management Contract - Yerevan*

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### **Legal Issues to be Addressed by a Local Lawyer**

#### **Jurisdictional Issues**

- any agreements among the municipalities which ensure that the utility has the appropriate jurisdiction to enter into the contract
- the enabling legislation which created the utility
- the legislation or agreements which demonstrate that the utility has ownership/control of the infrastructure.

## *Management Contract - Yerevan*

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### **Legal Issues to be Addressed by a Local Lawyer**

#### **Staffing Issues**

- how municipal salaries are established
- how pay increases, if any, are established
- how people are paid (weekly, monthly, cheque, bank deposit, etc.)
- any rules which may exist with respect to hiring, firing, layoff, strikes and reorganisation of the work force
- any rules with respect to employee benefits (any health, pensions, vacation leave or disability rules).

## *Management Contract - Yerevan*

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### **Legal Issues to be Addressed by a Local Lawyer**

#### **Environmental and Health Standards**

- What are the standards for wastewater effluent or water quality?
- What are the applicable occupational health and safety rules/regulations?
- Can various utility operations be delegated to the Operator (e.g.. disconnection)



## *Management Contract - Yerevan*

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### **Legal Issues to be Addressed by a Local Lawyer**

#### **Taxes, Customs, Duties and Other Charges**

- How the payment of taxes, customs, duties and other charges is to be handled and whether these costs are to be included in the Operator's price?
- Will the Operator have to pay any kind of VAT or sales tax on its management fixed fee or on its incentive compensation?
- Will the Operator have to pay customs or duties on materials brought into the country?

*Management Contract - Yerevan*

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**Legal Issues to be Addressed by a Local Lawyer**

**Overall Review by Local Lawyer**

It will be important for a local lawyer in the preparation of any management contract to ensure overall compliance with the local law.

## CONDUCTING SELF ASSESSMENTS OF VODOKANALS

(revised June 29, 1999)

by Franklin R. Schutz, P.E.

### I - Why conduct vodokanal self assessments?

To improve productivity, quality of service and most importantly financial viability.

### II - The ultimate assessment of Vodokanal performance resides in this equation:

$$[\text{Revenue Collected}] - [\text{Cost of Production} + \text{Cost of Administration} + \text{Cost of Billing} + \text{Cost of Collection}] = ?$$

If the answer is positive, things are looking good. Could they be better?

If the answer is negative, things are not looking good. They are going to have to get better.

### III - Can we improve the results of this equation?

Where can we do better?

How much better can we do?

How should we start?

### IV - The process to accomplish this consists of:

Data collection and measurement

Calculation of ratios and relationships

Making comparisons between your own operation and those of other vodokanals and public utilities.

Interpreting and Evaluating the results

There is a name for this process. Its called "benchmarking"

## V - Types of Benchmarking

There are two types of Benchmarking. Both are equally useful.

One measures progress. Where are we now? Where have we been? Where do we need to go? Are we moving in the right direction towards our goals?

This is called "metric" benchmarking

The second process makes comparisons between the operation of our vodokanal and those of others. It helps us set realistic goals.

This is called "process" benchmarking.

## VI - How to utilize the process

1 - Start with "process" benchmarking. Compare your vodokanal's performance with that of others.

2 - Identify areas where improvement is possible.  
Where improvement is needed.

3 - Set realistic, accomplish able goals

4 - Begin a "metric" program to measure and track your progress.

## VII - Specific Steps:

1 - Data collection and measurement. (Concentrate on utilizing data which you already collect or can easily obtain. Exception - if your utility does not currently have flow meters, this is a worthwhile and essential investment. It is possible to install external "strap on" type ultrasonic flow meters without cutting into existing lines)

a - Physical Measurements:

i - Water - daily volume of:

a - raw water collected or pumped into the plant

b - finished water produced

c - finished water delivered to customers

ii - Electricity - daily kilowatt-hours of power:

- a - used for raw water pumping
- b - used for finished water pumping into distribution system

iv - Facilities Inventory

- a - kilometers of pipe installed  
(length by material and age if possible)
- b - number of pumps  
(size, type, age)

Customer Base Data:

- 1 - Customers by class
  - a - residential
    - individual homes
    - communal structures
  - b - industrial
  - c - institutional

Vodokanal Staff and Payroll Data:

- a - employees and staff by department  
function
- b - payroll cost by department  
function

Fiscal Data:

- Cost of Production
- Cost of Administration
- Cost of Billing and Collection
- Monthly and annual billings by customer class
- Monthly and annual payments by customer class
- Outstanding indebtedness by customer class

Quality of Service Data

- number of hours of service provided per day / week
- frequency and duration of unscheduled service interruptions

2 - Calculation of benchmarking ratios: (Concentrate on those ratios for which input data can be easily obtained and for which comparative data is maintained and published by other vodokanals and water utilities of similar size.) Suggested ratios include:

## 1 - Water Production Efficiency and Lost Water Determination

a - total production efficiency:  
$$\frac{\text{finished water delivered to customers}}{\text{raw water entering plant}}$$

b - lost water determinations

i - in plant lost water\*:  
$$(\text{raw water entering plant}) - (\text{finished water leaving plant})$$

\*losses include filter backwash water

ii- distribution system lost water:  
$$(\text{finished water leaving plant}) - (\text{finished water billed to customers})$$

c - wire to water electrical efficiency:  
$$\frac{(\text{discharge pressure}) \times (\text{cubic meters of water pumped})}{\text{electrical energy consumed}}$$

## 3 - Comparisons of Findings

a - Potential Sources of Comparative Water System Data:

Published information:

American Water Works Association  
World Bank

Peer Review

AWWA Qualseve Program  
Locally organized Vodokanal peer reviews

b - Examples of data available for benchmark comparisons

1 -Selected World Bank Indicators (source: Water and Wastewater Utilities - Indicators, second edition)

2 - Selected Benchmarks

a - per capita water consumption

b - % lost water

c - system personnel

d - outstanding accounts receivable

e - billing cost per account

f - system operation and maintenance cost per account

g - administrative cost per account

4 - Interpretation, Evaluation and Utilization of Self Evaluations and Benchmark Study Results:

a - Aren't benchmarks and norms essentially the same thing ?

A benchmark is a goal. It is subject to constant measurement, verification, modification and improvement as actual conditions change.

A norm may have started as a benchmark but it is now treated as fact. It is static, a substitute for measurement without updating, verification or proof.

[Revenue Collected] - [Cost of Production  
+ Cost of Administration + Cost of Billing +  
Cost of Bill Collection]

= ?

Working Ratio =

[Cost of Production + Cost of Administration  
+ Cost of Billing + Cost of Bill Collection]  
divided by [Revenue Collected]



-15922 May 19K



Water and Sanitation  
Division  
The World Bank

# Water & Wastewater Utilities

Indicators 2nd Edition

Guillermo Yepes  
Augusta Dianderas

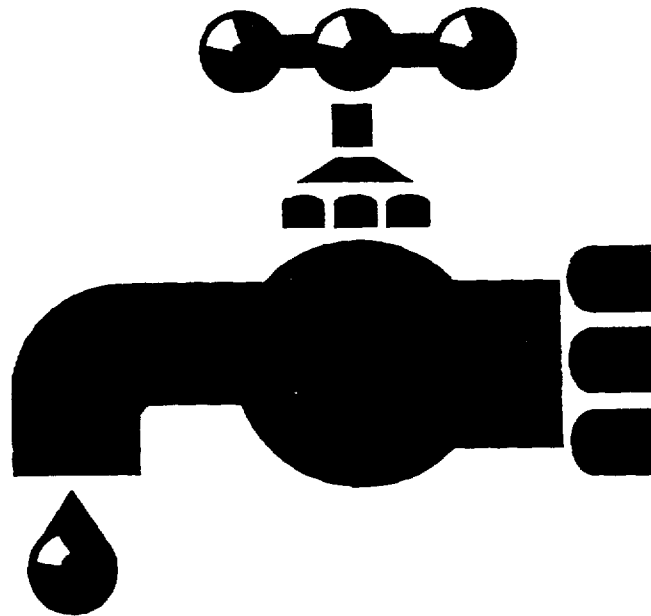
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INDICATORS  
2nd EDITION

WATER & WASTEWATER  
UTILITIES

SET I

OPERATIONAL INDICATORS



## A. WATER CONSUMPTION

### A.1. UNIT CONSUMPTION

Total water consumption, based on metered consumption, is reported as:

- average daily consumption per person served (liters per capita per day, lpcd).
- average consumption per connection per month (m<sup>3</sup>/month/connection, m<sup>3</sup>/m/c).

Countries		Water Consumption	
Country/City	Year	lpcd	m <sup>3</sup> /m/c
Algeria (average)	1990	46	N/A
Brazil (average)	1989	151	25 a/
• Brasilia	1989	211	60 b/
• Sao Paulo	1988	237	38 c/
• Sta. Catarina	1990	143	22
• Minas	1990	154	25
Chile			
• Santiago	1994	204	34 d/
• Valparaiso	1992	N/A	23
China, Changchun	1990	260	33
Colombia, Bogotá	1992	167	30
Costa Rica	1991	208	29
	1994	197	26
Cote d' Ivoire, Abidjan	1993	N/A	34
Senegal, Dakar	1993	N/A	36
Belgium, Brussels	1991	N/A	29
Canada (average)	1984	431	82
France, Paris, C. Banlieue	1987	256	75 e/
Japan, Tokyo	1990	355	57
Spain			
• Alicante	1987	267	16
• Murcia	1992	268	33
UK (average)	1990	136	18
USA (average)	1984	666	89

N/A = data not available

Note: One connection serves more than one housing unit.

a/ 1.3 units/water connection

b/ 2.3 units/water connection

c/ 1.4 units/water connection

d/ 1.1 units/water connection

e/ 3.5 units/water connection

### B.3. PIPE BREAKS

Number of pipe breaks per year per 100 kms of pipes in the water system.

A higher number is indicative of problems due to materials, installation, age, soil conditions, traffic and of inadequate maintenance.

Country/City	Year	Pipe Breaks Breaks/100km/yr.
Chile, Santiago	1994	31 <sup>a/</sup>
Colombia, Bogota	1994	187
Belarus		
• Minsk	1993	70
• Gomel	1993	25
Belgium, Brussels	1991	21
Singapore	1990	17
USA (average)	1990	17
• Denver, Colorado	76-83	7
• Oakland, California, EBMUD	73-82	16

Note: a/ Down from 39 in 1991.

### B.4. PIPE BREAKS AS A FUNCTION OF PIPE MATERIAL

Information on different types of pipes materials. It is useful when designing strategies to reduce physical water losses.

Pipe Material	Pipe Breaks/100km/yr.			
	City			
	Denver <sup>a/</sup>	EBMUD <sup>a/</sup>	Bogota	Santiago
A.C.	3.7	10.3	294	38
Cast Iron	7.5	2.6	---	23
Concrete	0.9	---	---	---
Ductile Iron	1.8	---	---	---
Galv. Iron	35.5	5.6	---	---
PVC	---	---	78	8
Steel	0.4	---	---	6
Other Materials	---	---	58	---
Average	6.8	16.8	187	31

Source: a/ Guiding Manual. Rehabilitation Criteria for Water mains. AWWA, 1986.

UNACCOUNTED FOR WATER (UFW)

Country/City	Year	Water Losses % UFW	Water Losses m <sup>3</sup> /day/km d.s.
Brazil (average)	1989	39	42
• Brasilia	1989	19	27
• Sao Paulo Metrop. Area	1992	40 a/	70
• S. Catarina	1990	45	n.d.
• Minas	1990	25	n.d.
Chile			
• Valparaiso	1990	41	n.d.
• Santiago	1990	28	52
	1994	22	44
Colombia, Bogota	1991	40	135
Costa Rica	1991	45	n.d.
Ivory Coast, Abidjan	1993	17	n.d.
Algeria, Annaba	1992	35	n.d.
Gambia, Banjol	1993	27	n.d.
Guinea, Conakry	1993	53	n.d.
Senegal, Dakar	1993	29	n.d.
Ghana	1988	49	n.d.
Morocco	1990	32	n.d.
Nigeria			
• Katsina	1990	44	n.d.
• Kaduna	1990	41	n.d.
Togo	1990	22	7
Turkey			
• Bursa	1991	62	n.d.
• Ankara	1988	45	n.d.
Pakistan, Karachi	1989	40	n.d.
China, Changchun	1990	40	n.d.
Philippines, Manila	1988	59	n.d.
Thailand, Bangkok	1990	33	73
France, Bordeau	1982	15	n.d.
Canada (average)	1984	15	16
Japan (average)	1990	11	13
• Tokyo	1990	15	35
Macao	1991	11	n.d.
Singapore	1994	6	9
Spain, Murcia	1993	25 b/	22
USA (average)	1984	12	17

Notes: a/ Up from 25% in 1988.  
b/ Down from 45% in 1989.

## F. PERSONNEL

### F.1. NUMBER OF STAFF

Number of staff as a function of:

- staff per thousand water connections (W/000) or per thousand water plus sewerage connections ((W + S)/000).
- thousands of m<sup>3</sup> of water sold per year per staff (m<sup>3</sup>[000]/staff).
- kms. of pipes in the water supply system per staff (km/staff).
- persons served [thousands] per staff (PS [000]/st).

Country/ City	Year	Staff Ratios				
		W/000	W+S/1000	000M <sup>3</sup> /staff	km/staff	000 PS
Belarus						
• Minsk	1993	n.a.	n.d.	56	n.d.	0.7
• Gomel	1993	n.a.	n.d.	20	n.d.	0.3
Belgium, Brussels	1992	3.2	n.d.	105	3.3	3.5
Brazil (average)	1989	6.5	5.0	47	1.9 a/	0.8
• Brasilia	1989	13.5	7.1	54	1.3 b/	0.7
• Sao Paulo	1993	5.1	3.1	n.d.	2.1	0.8
Canada (average)	1984	2.0	n.d.	424	n.d.	1.7
Chile, Santiago	1990	2.1	1.1	191	4.1	2.1
Colombia, Bogota	1994	3.6	1.8	106	1.1	1.1
France, C. Banlieue	1987	4.5	n.a.	200	n.d.	2.1
Guinea (average)	1993	15.0	n.d.	8	n.d.	n.c.
Ivory Coast (average)	1995	4.8	n.d.	22	n.d.	n.c.
Japan (average)	1990	1.7	n.a.	n.d.	7.0	1.1
Macao	1991	2.2	n.a.	148	n.d.	n.c.
Mexico, Monterrey	1987	4.1	2.2	86	2.2	1.1
Romania, Bucharest	1994	n.a.	n.d.	75	n.d.	0.8
Senegal (average)	1993	8.6	n.d.	13	n.d.	n.c.
Spain						
• Alicante	1987	1.1	0.6	170	n.d.	1.1
• Murcia	1992	2.5	n.d.	165	4.9	1.1
Togo	1990	22.4	n.d.	26	3.3	0.8
Turkey, Bursa	1992	4.6	n.d.	40	0.4	0.8
USA (average)	1990	2.7	n.d.	370	8.6	1.1

n.d. = data not available;

n.a. = not applicable.

Notes: a/ 1.3 water units and 1.7 sewerage units per connection.

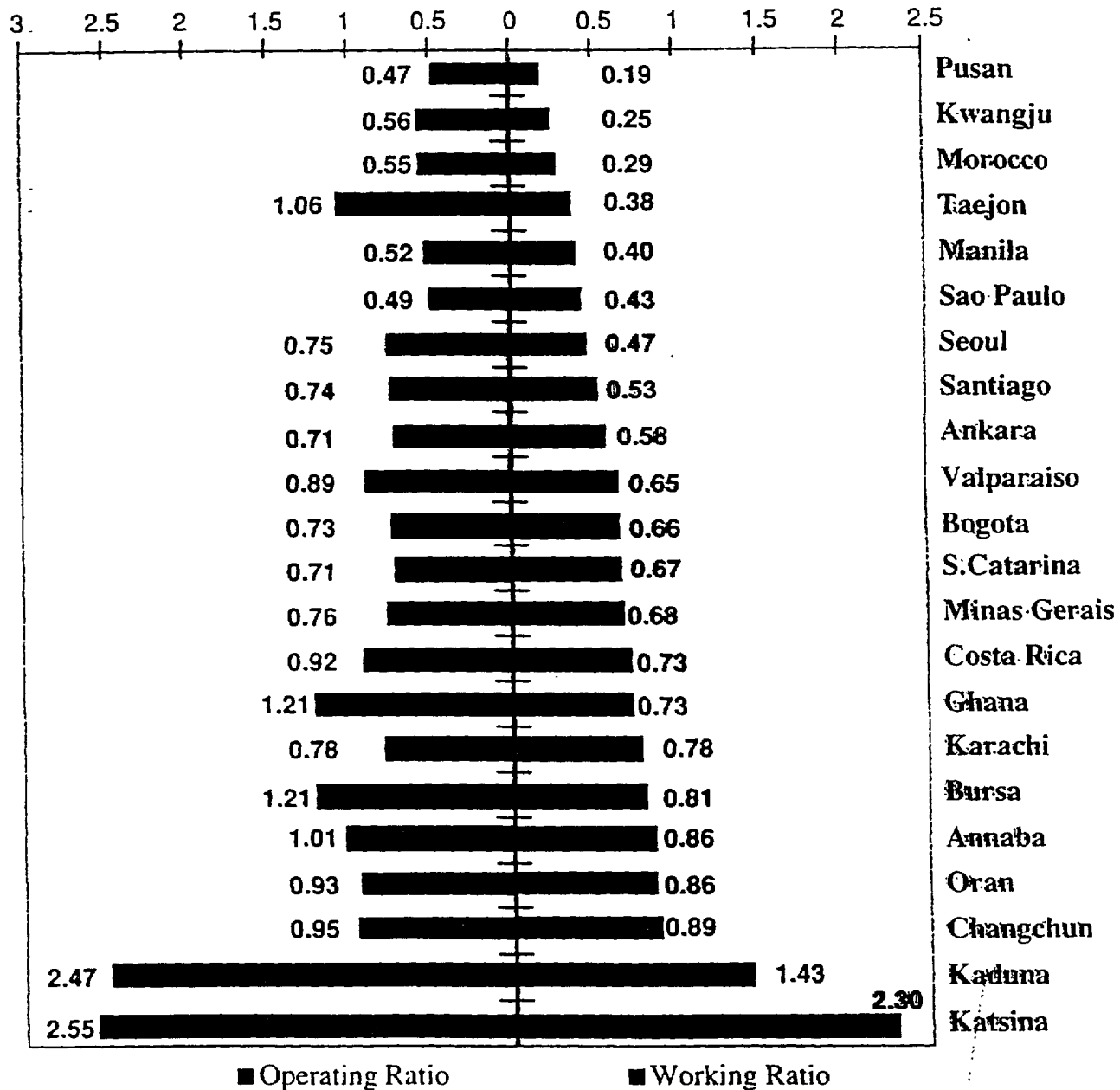
b/ 2.3 water units and 2.4 sewerage units per connection.

### A. EFFICIENCY INDICATORS

#### A.1. WORKING RATIO (WR)

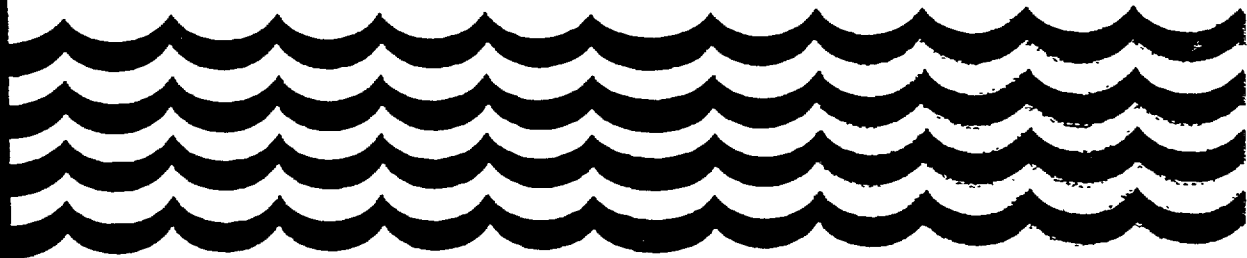
The WR is the ratio of operating costs to operating revenues. Operating costs in this ratio exclude depreciation and interest payments (but no debt service payments), a key difference with the Operating Ratio (OR) that includes these costs. Operating revenues remain the same for both ratios. They include revenues from water and sewerage tariffs, connection fees, well abstraction fees and re-connection fees.

Working Ratio and Operating Ratio



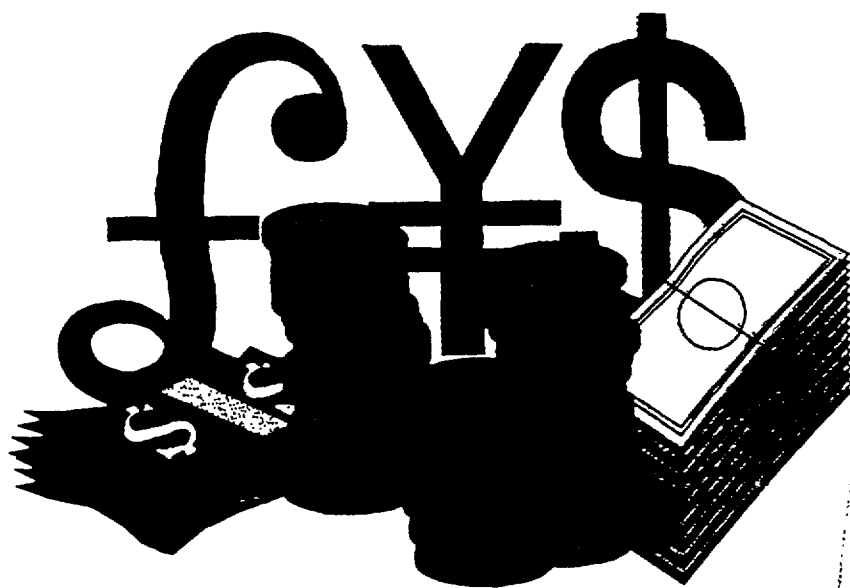
INDICATORS  
2nd EDITION

WATER & WASTEWATER  
UTILITIES

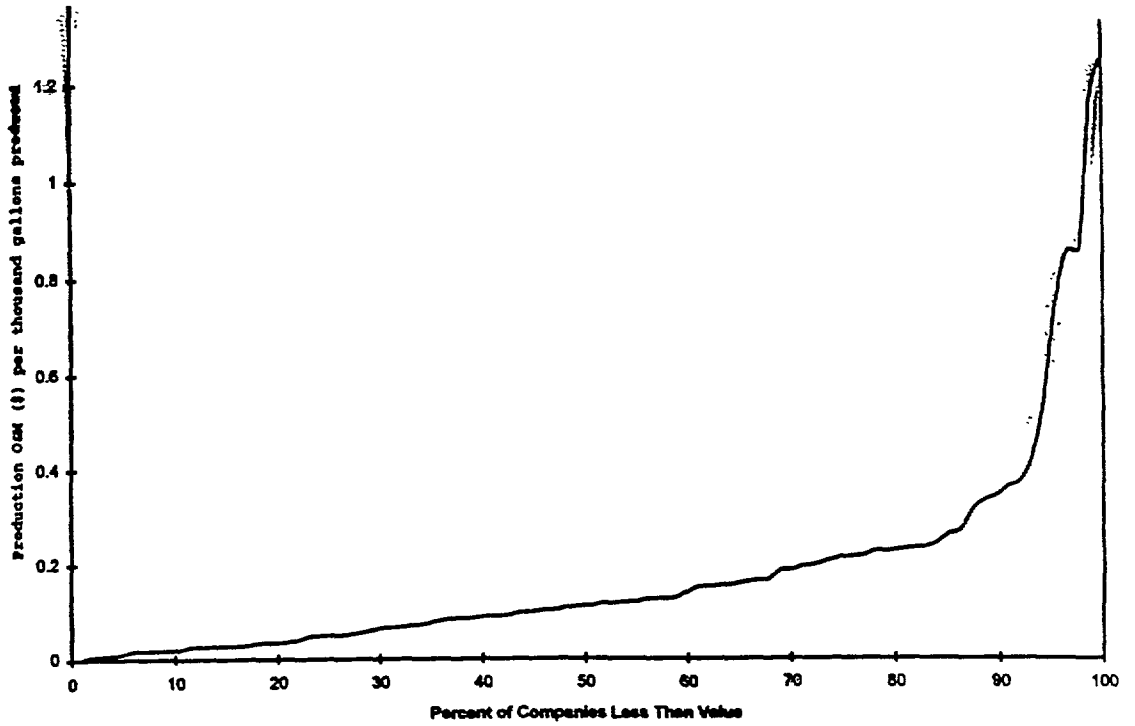


SET II

FINANCIAL INDICATORS

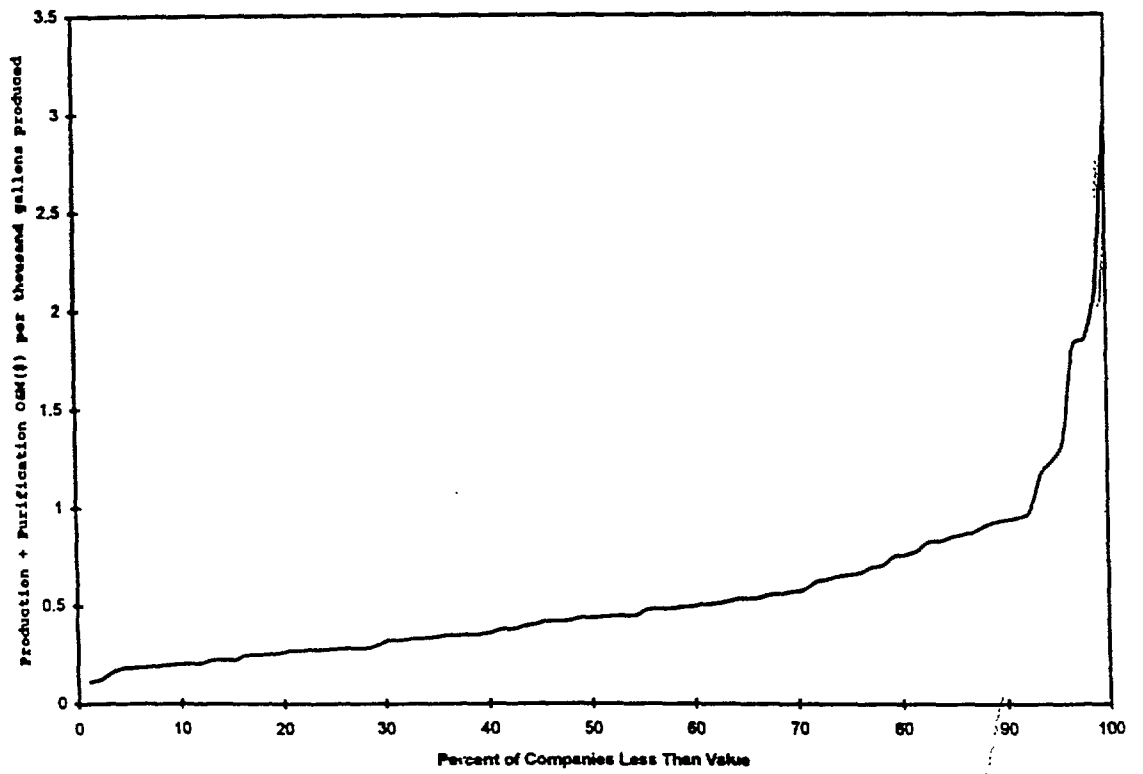






- Typical Explanatory Factors
- Source of Raw Water
  - Treatment Plant Size
  - Treatment Complexity
  - Plant Utilization

Figure 13.3 Purification O&M cost (\$) per thousand gallons produced



- Typical Explanatory Factors
- Source to Raw Water
  - Distance to Treatment Works
  - Topography Between Source and Treatment Works
  - Treatment Complexity
  - Treatment Plant Size
  - Plant Utilization

Figure 13.4 Production and purification O&M cost (\$) per thousand gallons produced

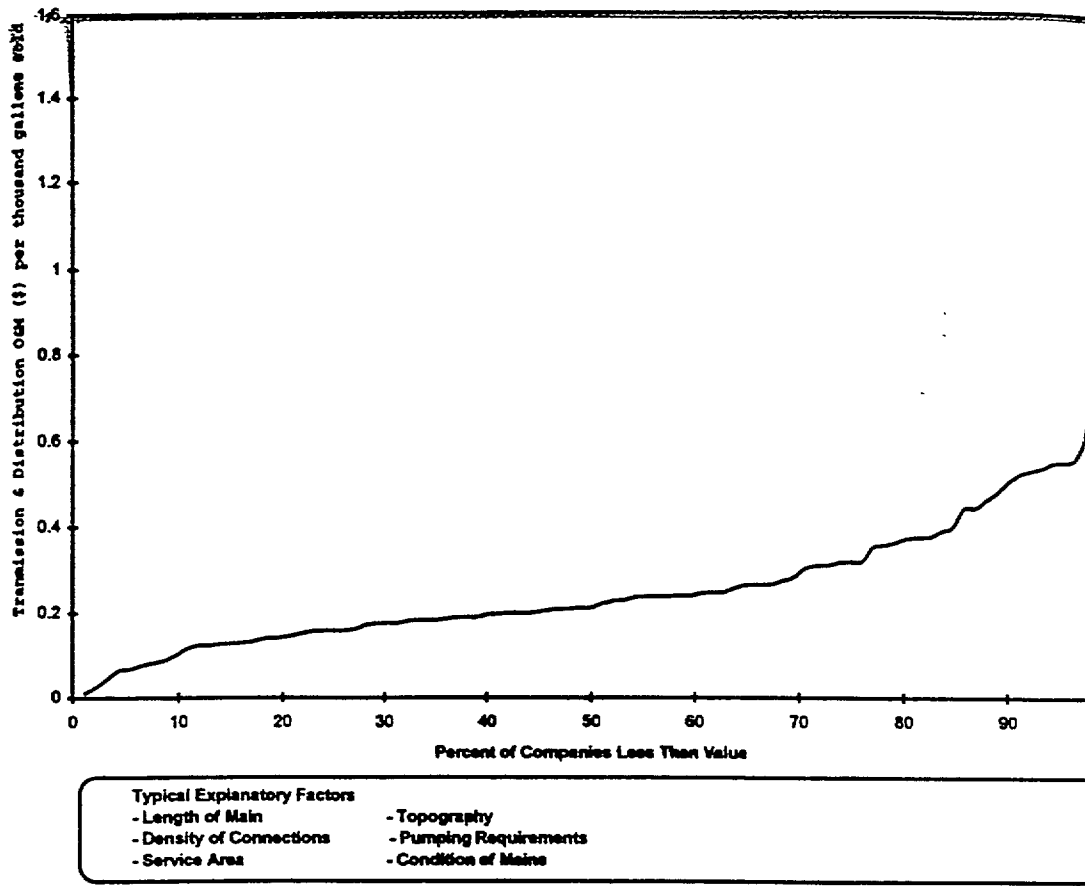


Figure 13.5 Transmission and distribution O&M cost (\$) per thousand gallons

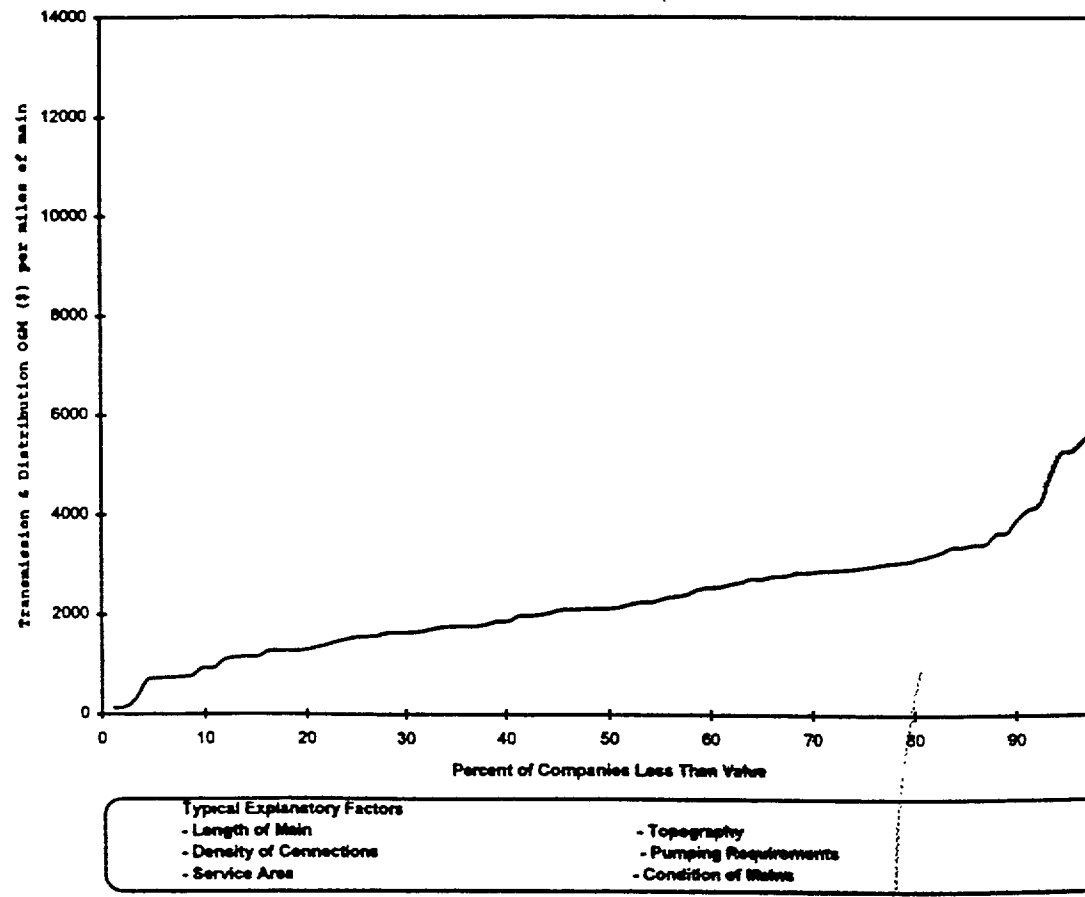


Figure 13.6 Transmission and distribution O&M cost (\$) per mile of main

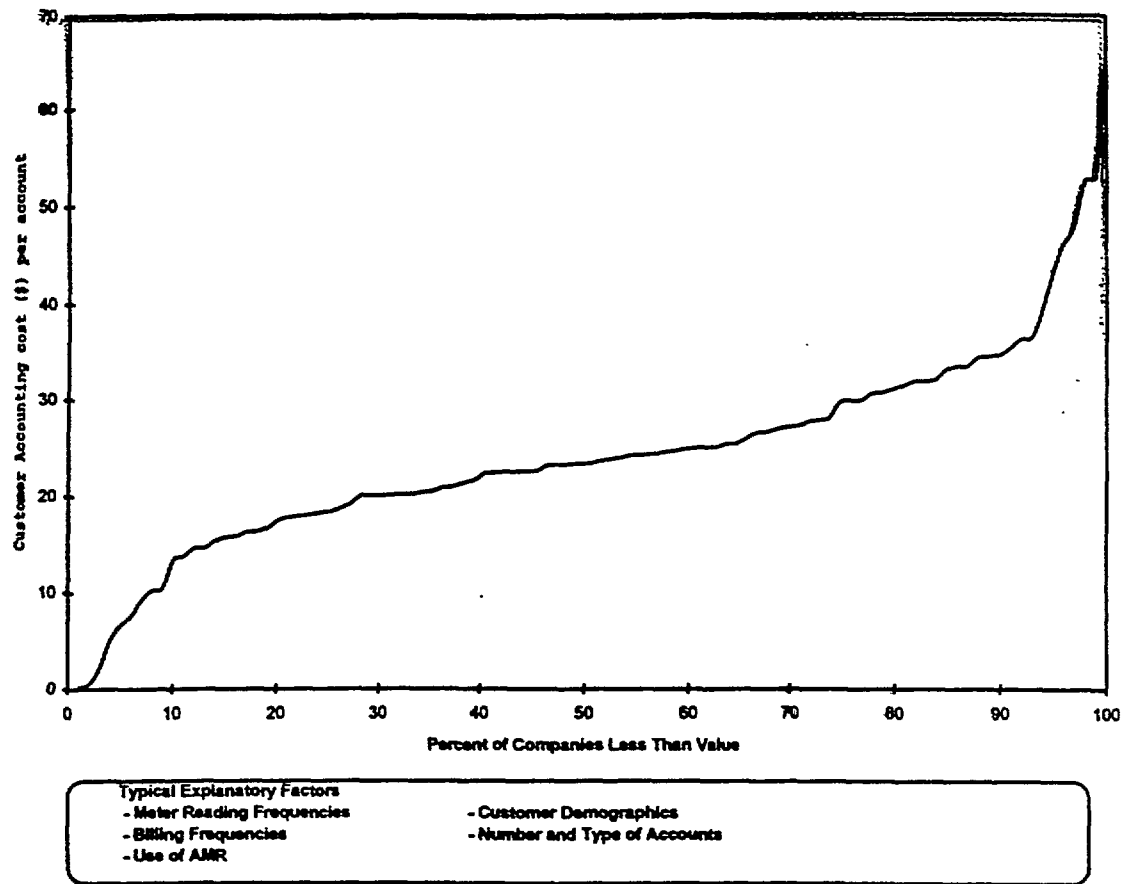


Figure 13.7 Customer accounting cost (\$) per account

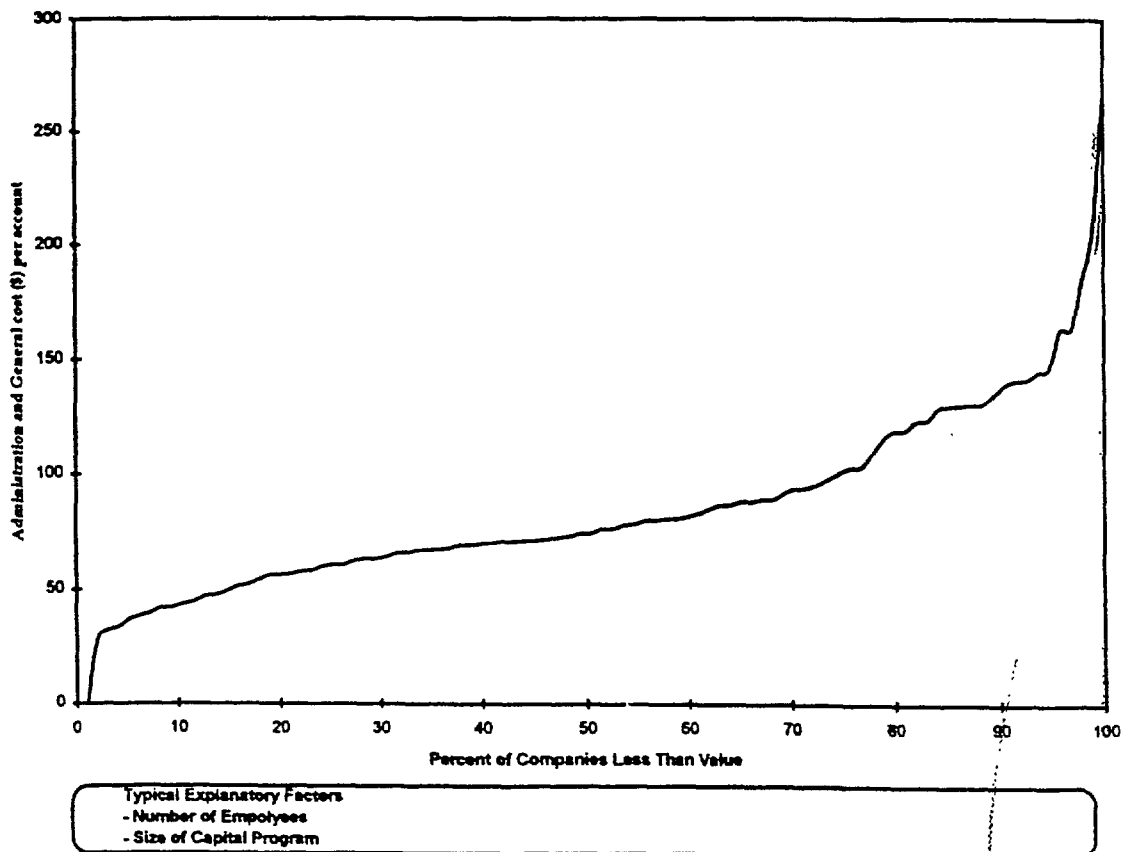


Figure 13.8 Administration and general cost (\$) per account

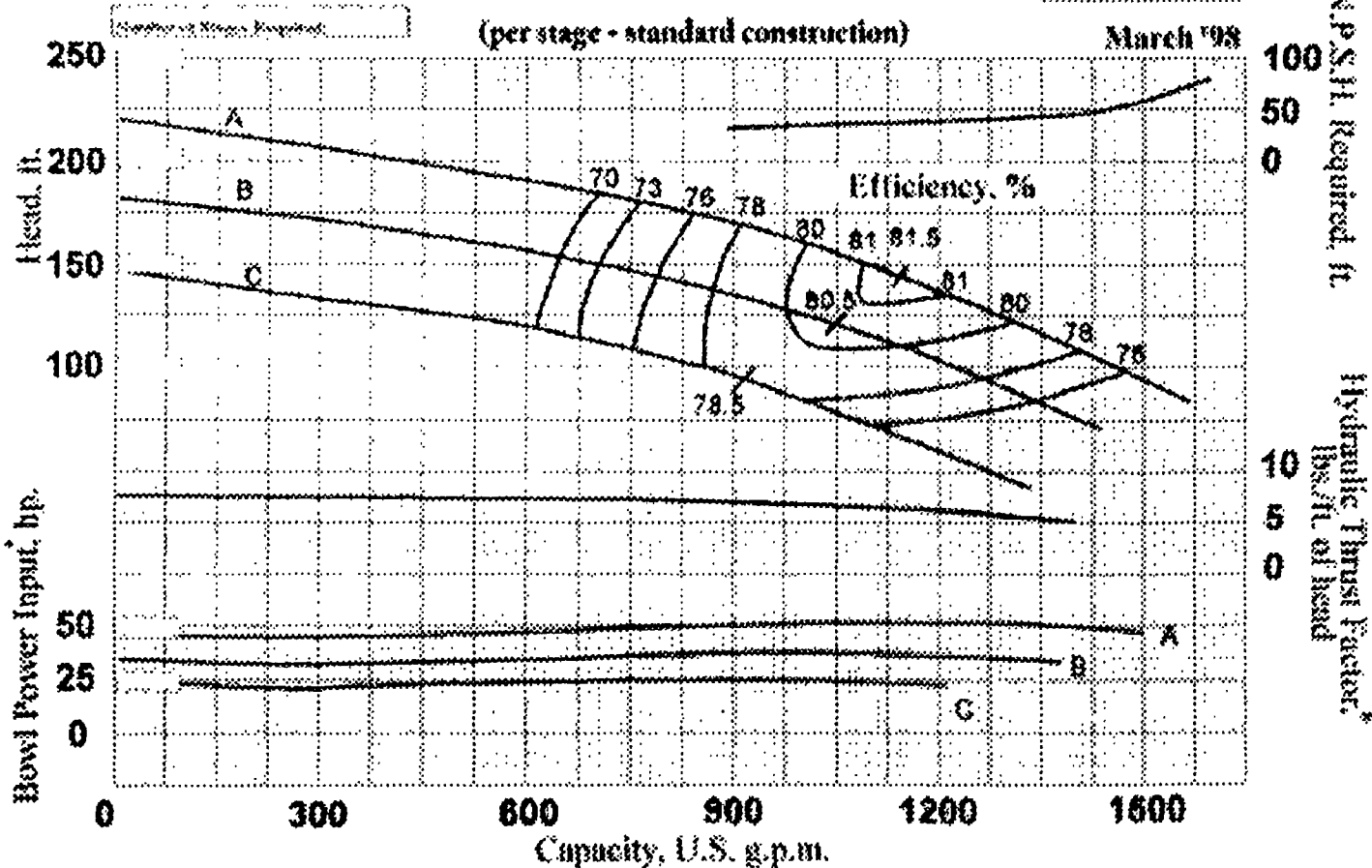
**AMERICAN  
TURBINE**

# Performance Curves

1051160  
3520 B.P.M.

(per stage - standard construction)

March '98



book, *Benchmarking: The Search for Industry Best Practices That Lead to Superior Performance*, presents the “classic” model of benchmarking utilized by Xerox manufacturing operations in 1979.

This model provides an excellent framework from which to begin the benchmarking process, but individual utilities, as in the PWD’s benchmarking investigation, will modify the framework depending on their specific needs.

The “classic” model of benchmarking includes five key stages, shown in Figure 15.1.

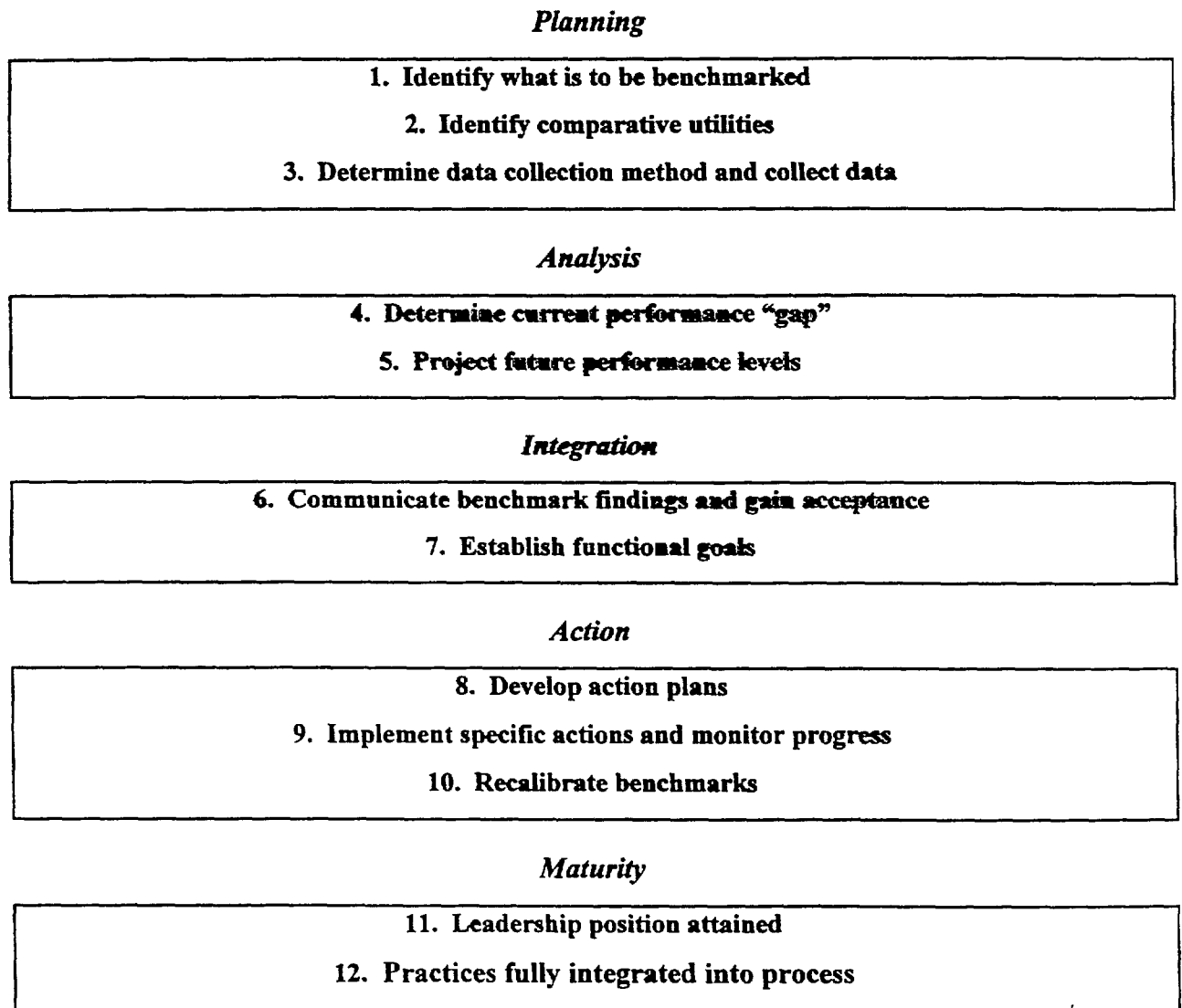


Figure 15.1 Classic benchmarking model

formed to investigate the existing SCADA systems and to provide the incoming Commission with information regarding the standardization, integration and expansion of these systems. The SCADA sub-committee report is attached as "Appendix 2" to this report. A similar investigation of alternative billing and payment processing systems was carried out by a MIS sub-committee. This included the development of a conversion schedule and costing for the recommended system. The MIS sub-committee report is attached as "Appendix 3" to this report.

The following were the benchmark results for General Administration measured on a per account basis.

WITHIN CHATHAM-KENT			BENCHMARK GROUP		
UTILITY	COST-\$	PERACT.	UTILITY	COSTS-\$	PERACT.
Blenheim PUC	141,500	45.90	Barrie PUC	570,969	\$26.76 ***
Bothwell Mun	0	0.00	Brantford PUC	936,000	\$34.04 ***
Chatham WC	799,000	52.53	Quelph Mun	n/a	n/a
Dresden PUC	39,000	31.99	Kingston Mun	1,137,178	\$72.84
Ridgetown PUC	118,000	85.38	Peterborough PUC	847,151	\$34.37
Thamesville PUC	25,000	55.07	Sault Ste. Marie Mun	699,000	\$28.58 ***
Tilbury PUC	95,800	42.41			
Wallaceburg WC	193,000	42.23	Benchmark Mean Avg	4,190,288	\$37.50
Wheatley PUC	147,000	142.72			
			Chatham Water	799,000	\$52.53
Chatham-Kent Totals	1,558,300	52.60	All Chatham Kent	1,558,300	\$52.60
ckwact. wk4 (Oct.20/97)			**** Lowest cost utilities		

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The high cost at Kingston increases the average for the benchmark group to \$37.50 per account. If Kingston is excluded, the average becomes \$31.76. Another measurement is the combined hydro and water costs for the Barrie PUC (\$68.89) and the Brantford PUC (\$65.81). With the added savings from the addition of wastewater services, a combined cost below \$65.00 per account is likely achievable for all services. The other low cost provider is Sault Ste. Marie at \$28.58 per account for water administration. This is a municipally operated water system that benefits from lower administrative costs through shared functions with other municipal departments.

As a minimum, the new utility should be able to achieve a target of \$31.00 per account, equal to the average of the benchmark group adjusted to remove the City of Kingston. This amount would then be distributed on an equal basis between the water and wastewater services. This would reduce the annual budget for water administration from \$1,558,000 to \$460,000.

TABLE 2.2

## CHATHAM-KENT WATER \*\*\*\* BILLING &amp; COLLECTION COST COMPARISON

WITHIN CHATHAM-KENT			BENCHMARK GROUP		
UTILITY	COSTS-\$	PER ACT.	UTILITY	COSTS-\$	PER ACT.
Blenheim PUC	72,500	23.52	Barrie PUC	463,473	\$21.72
Bothwell HEC	14,000	33.33	Brantford PUC	957,000	\$34.50
Chatham WC	479,315	31.52	Guelph Mun	331,000	\$12.61 ***
Dresden PUC	31,000	25.43	Kingston Mun	480,111	\$30.75
Ridgetown PUC	74,733	54.08	Peterborough PUC	451,903	\$18.33 ***
Thamesville PUC	0	0.00	Sault Ste. Marie	398,000	\$16.27 ***
Tilbury PUC	47,200	20.89			
Wallaceburg WC	180,000	39.39	Benchmark Mean Avg	3,081,487	\$22.33
Wheatley PUC	73,000	70.87			
			Chatham Water	479,315	\$31.52
Chatham-Kent Totals	971,748	32.80	All Chatham Kent	971,748	\$32.80
ckwbcr.wk4 (Oct.20/97)			*** Lowest cost utilities		

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Our review of the benchmark data uncovered a number of situations that require a more detailed explanation. Peterborough has a lower cost because water is delivered on a flat rate basis without metering, and one-third of the water service portion is charged to the municipal wastewater system. The Guelph municipal system is the beneficiary of Guelph HEC's willingness to provide the service as an add-on to their own billing. The combined cost of Guelph Hydro and the Municipal Water is \$63.16 and a more equitable split would place the water system at approximately \$30.00 per account. A similar situation exists at Sault Ste. Marie.

The benchmarking data and the opportunity to partnership a bill and payment processing operation with the Municipality suggests that a cost of \$30.00 per account is attainable. A review of the number of water and wastewater accounts suggests that a distribution of billing and collection cost of 60% Water and 40% Wastewater would meet the test of fairness. The water utility budget would reduce from \$972,000 to \$533,000.

222 The following were the benchmark results for Production and Distribution measured on the basis of each cubic metre (m3) of water sold. This includes debt servicing for plants and watermains.

TABLE 2.3			
CHATHAM-KENT WATER **** PRODUCTION AND DISTRIBUTION COST COMPARISON			
WITHIN CHATHAM-KENT		BENCHMARK GROUP	
UTILITY	COST/m3 SOLD	UTILITY	COST/m3 SOLD
Blenheim PUC	0.74	Barrie PUC	\$0.32 ***
Bothwell HEC	1.88	Bramford PUC	\$0.36
Chatham WC	0.42	Geisph Mun	\$0.29 ***
Dresden PUC	0.50	Kingston Mun	\$0.30 ***
Ridgetown PUC	0.42	Peterborough PUC	\$0.47
Thamesville PUC	0.69	Sault Ste. Marie	\$0.45
Tilbury PUC	0.69		
Wallaceburg WC	0.35	Benchmark Mean Average	\$0.36
Wheatley PUC	0.50		
		Chatham Water	\$0.42
Chatham-Kent Mean Avg.	0.47	All Chatham Kent	\$0.47
ckwpdx.wk4 (Oct. 9/97)		*** Lowest cost utilities	

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In the benchmarking study for the "new" City of Kingston, the consultant carried out a survey that included five Ontario water services. Chatham Water Commission costs are reported in the study. Water distribution and treatment costs were presented less the cost of debt servicing. Distribution was costed on a per kilometre of pipe basis and costs ranged from \$230 to \$1400. Chatham's cost compared favourably at \$233, per kilometre. Treatment was costed on a per cubic metre basis and costs ranged from \$0.08 to \$0.25. Chatham's cost was in the middle of the range at \$0.19 per cubic metre. Costs in Chatham-Kent will be higher because of the cost to transport the raw water from Lake Erie and Lake St. Clair, and because of the high level of debt on the portions of the system currently owned by OCWA.

The integration of the water and wastewater plant operations will produce some savings. The initiative of the Town of Wallaceburg to take over the OCWA operated Pollution Control Plant and integrate operations with the Water Commission's Treatment Plant will produce savings of \$150,000 to the water utility and \$50,000 to the wastewater operation. Savings on a lesser scale can be anticipated as other plant operations are integrated. The contracting of water and sewer main maintenance with the Public Works Department should produce further savings. When existing OCWA plants and debt are assumed from the Province, an opportunity to refinance the debt could produce further cost reductions. The Task Force estimates annual savings of \$350,000 at this time.

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Table 3

Comparison of annual water charges in industrialized countries  
for a family of four in a house and consuming 200 m<sup>3</sup>/year [137 liters/capita/day]  
(prices in 1991 US dollars)

Country/City	Charge US\$/m <sup>3</sup>	Country/City	Charge US\$/m <sup>3</sup>	Country/City	Charge US\$/m <sup>3</sup>
Austria		Germany		Luxembourg	
• Linz	0.64	• Berlin	1.00	• Luxembourg	1.3
• Salzburg	0.99	• Dusseldorf	1.56	Netherlands	
• Vienna	1.07	• Frankfurt	1.66	• Amsterdam	0.9
Belgium		• Gelsenwasser	1.95	• The Hague	1.1
• Antwerp	0.68	• Hamburg	1.59	• Utrecht	0.5
• Brussels	1.48	• Munich	1.05	Spain	
• Liege	0.93	• Stuttgart	1.79	• Madrid	0.8
Denmark		Hungary		• Barcelona	0.9
• Aarhus	0.72	• Budapest	0.21	• Seville	0.5
• Copenhagen	0.60	• Miskolc	0.72	• Alicante	0.4
• Odense	0.65	• Pecs	0.86	• Murcia	0.9
Finland		Italy		Switzerland	
• Helsinki	0.94	• Bologna	0.49	• Berne	0.6
• Tampere	1.01	• Milan	0.13	• Geneva	2.1
France		• Naples	0.62	• Zurich	1.6
• Banlieue/Paris	1.46	• Rome	0.27	United Kingdom <sup>b/</sup>	
• Lyon	1.52	• Turin	0.25	• Bristol	1.2
• Marseille	1.20	Japan		• Cardiff	1.7
• Nice	1.51	• Nagoya	0.41	• London	0.8
• Paris	0.72	• Osaka	0.25	• Manchester	1.2
		• Sapporo	0.57	• Newcastle	1.3
		• Tokyo	0.45	• Upon Tyne	
		• Yokohama	0.41		
		Low Value (Milan)	US\$ 0.13 /m <sup>3</sup>		
		Average	US\$ 0.96 /m <sup>3</sup>		
		High Value (Geneva)	US\$ 2.12 /m <sup>3</sup>		

Notes: a/ Average

b/ Metered Consumption

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### A.3 ACCOUNTS RECEIVABLE/COLLECTION PERIOD (CP)

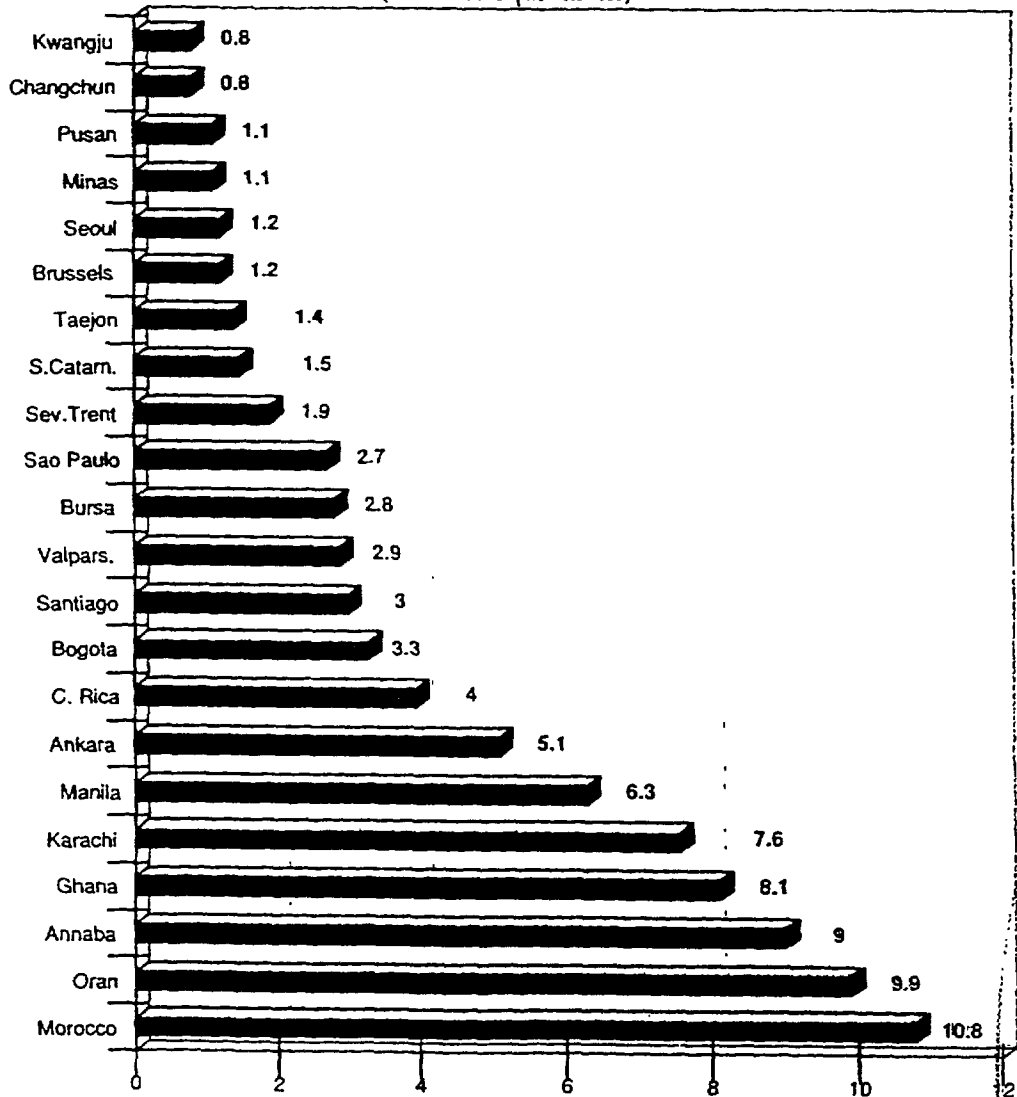
This indicator, expressed in month equivalent of sales, is the ratio between the year-end accounts receivable and operating revenues, multiplied by 12.

Of the 22 utilities with information on accounts receivable, 41% have collection periods of less than 2 months, 20% between 2 and 4 months, and 30% more than 4 months.

When the CP is increasing the company's cash flow can be in jeopardy. This is specially of concern in countries where inflation is high, where no charges are levied against late payment or when these charges do not reflect the financial cost of borrowing money.

Poor collection efficiency is mostly blamed on consumers, and in some cases in particular on public sector agencies. However, the water utility may also be at fault for delayed and faulty billings, inadequate responses to consumer's queries on billings, and a lukewarm effort to collect overdue accounts. A common factor found among the utilities with poor collection efficiency is the lack of a clear policy to promote and enforce prompt payment (like disconnecting the service to consumers with arrears of more than 2 to 3 months).

Accounts Receivable/Collection Period  
(Months equivalent)



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## E. OPERATIONAL RATIOS

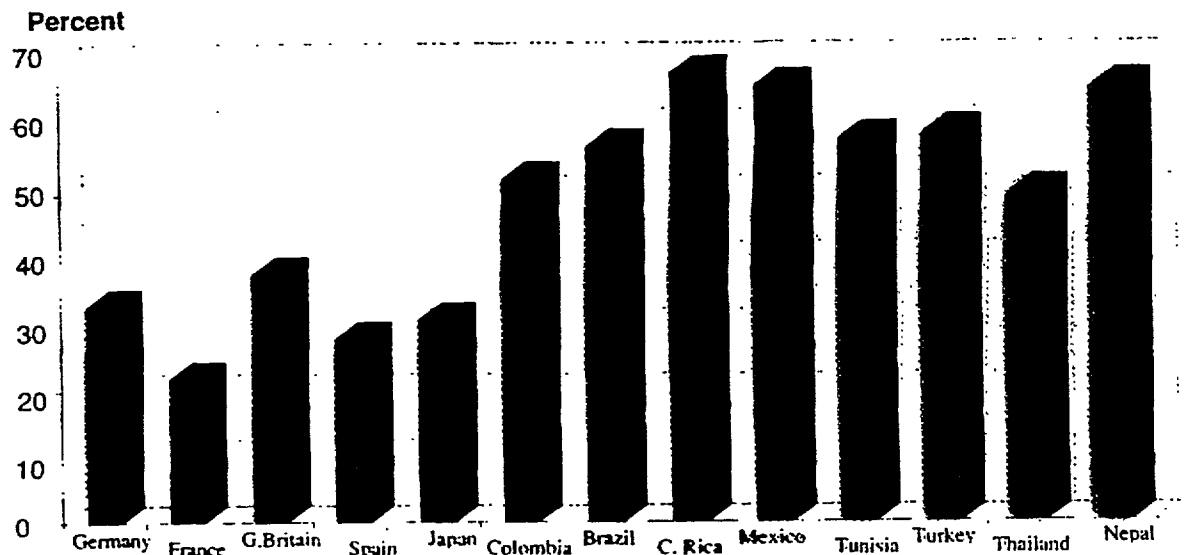
### E.1. PERSONNEL

#### E.1.1 PERSONNEL COSTS

Personnel costs are expressed as a ratio to total operating costs (depreciation and debt service excluded). Depreciation and debt service are excluded due to lack of uniformity in treating revaluation of fixed assets and to facilitate comparison of utilities with and without debt service obligations.

As indicated in Infrastructure note W5 - 12 (Annex 2), staff productivity index (See E.1.2 below) and personnel costs related to operational costs should be examined simultaneously.

Personnel Costs vs. Operating Costs



#### E.1.2 STAFF PRODUCTIVITY INDEX (SPI)

This ratio is an important measure of the efficiency of a water and/or sewerage utility. It relates the number of staff with the number of connections.

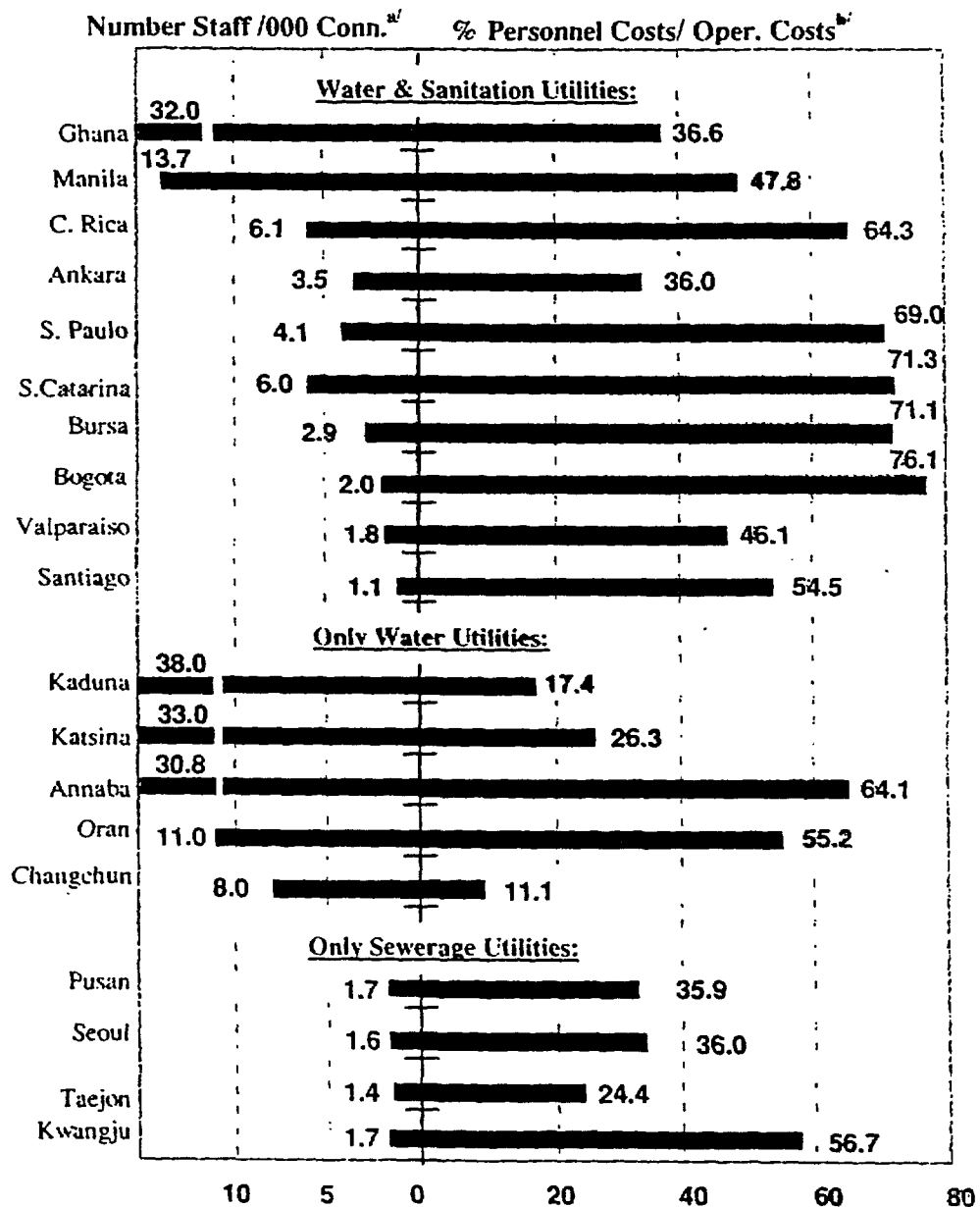
Sixty percent of the utilities with W&S services have a SPI of 4 or less ( $(w + s)$  connections), 20% between 4 and 7 and 20% more than 7. The SPI for utilities in some African utilities, that only provide water services is extremely high (over 30  $[w]$  connection). The four sewerage utilities of Korea, on the other hand, have very low SPI's of under 2 ( $[s]$  connection).

As a guideline, it would appear that a SPI of less than 4 could be considered adequate but still with room for improvement.

In some cities, particularly in Eastern Europe, residential consumers live in large apartment buildings where consumption in apartments is not individually metered. In similar circumstances, the practice in Brazil is to report simultaneously the number of apartments (*apartamentos*) and the number of connections. In these cases this SPI index may not be particularly meaningful. Alternative indicators, to handle this situation, can be found in Set I, Section F.1.

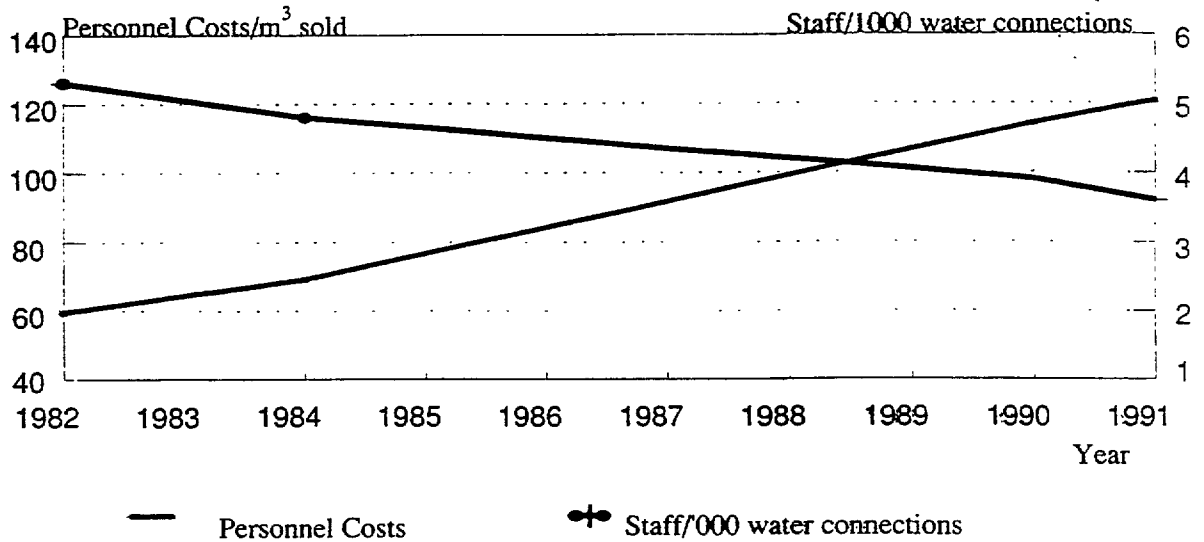
It is also important to remember that a reduction in the SPI ratio cannot necessarily be interpreted as an increase in efficiency. To complete the analysis of staff productivity, as mentioned previously, expenditures on personnel also need to be examined (personnel costs as a % of operational costs). There have been cases of utilities with staff/connection ratios decreasing while staff costs, in proportion to operating costs, are increasing as shown in Graph 1. In addition, it is also important to examine the staff composition which might show important imbalances or inadequate number of qualified middle-level managers and technical staff.

Not surprisingly, utilities with large personnel costs show a low contribution to investments and a low debt service coverage ratio (Set II A.4 and B.1), such as in Sao Paulo and Costa Rica.



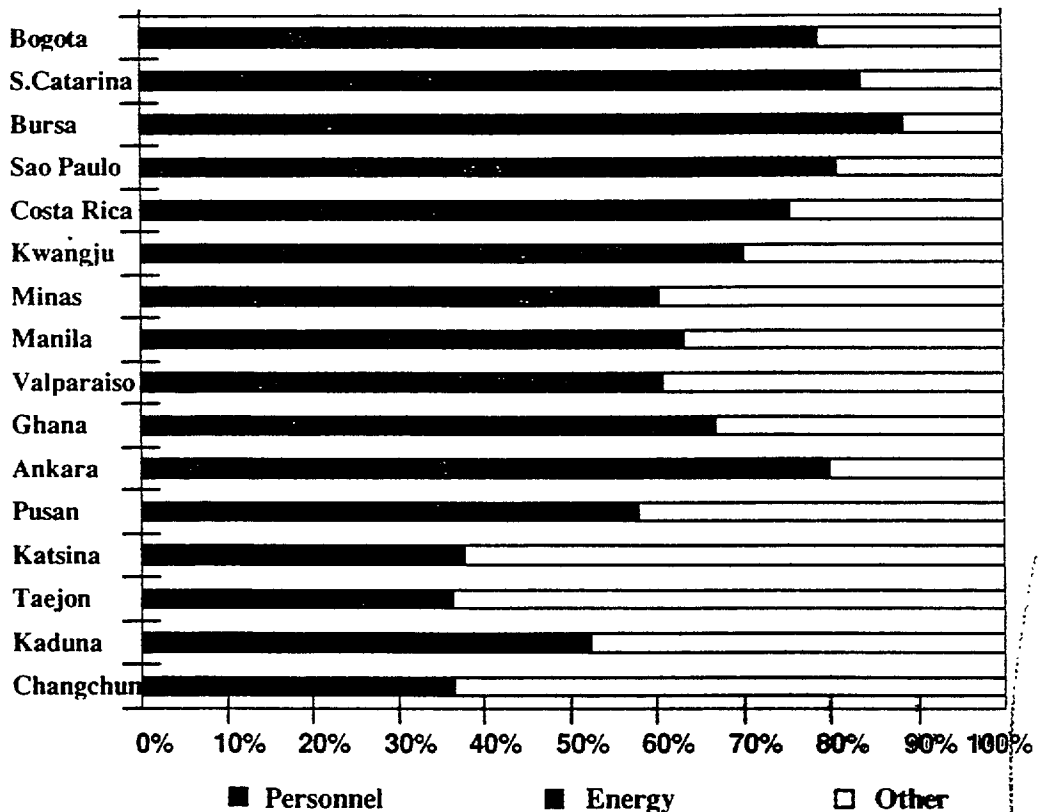
Notes: a/ Includes water and sewerage connections for W&S Utilities  
b/ Operational Costs exclude Depreciation and Debt Service.

**Graphic I**  
Number of Staff/'000 Connections vs.  
Personnel Costs/m<sup>3</sup> Sold  
Bogota (1982-1991)



**E.2 COMPOSITION OF OPERATIONAL COSTS**

The two main categories of operating costs are often personnel and fuel/energy consumption. Other operating cost components include chemicals, maintenance and miscellaneous. Depreciation charges are not included.



**WB Funding for Water and Wastewater Projects**

**Almaty, July 17, 1999**

**Walter Stottmann, Sector Leader, Water and Sanitation, ECA Region**

7/13/99

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## **Outline**

- The Sector Challenge**
- Project Objectives**
- Project Description and Components**
- Finances and Loan Amount**
- Implementation Arrangements**
- Project Cycle**
- Project Preparation and Loan Processing**
- Project Selection**

# **The Sector Challenge**

## **The Dilemma**

**poor services, systems in serious need of rehabilitation**

**poor management and operations, wasteful use of water**

**extremely limited financial resources**

**as a consequence, the situation is getting worse, unless .....**

## **The Challenge**

**increase resource mobilization to a maximum possible**

**spend scarce resources as carefully as possible**

## **The Way out**

**sector reform and capacity building**

**assistance from the international community**



## **Project Objectives**

**Project aims at improving the safety and reliability of water and sanitation services to consumers by facilitating implementation of principles for sustainable sector development by:**

**helping participating Vodokanals to become autonomous, commercially oriented, financially self sufficient, well managed and administered municipal utilities capable of providing safe services efficiently and affordable to its consumers**

**funding investments in improving the functioning of water and waste water systems through rehabilitation and efficiency enhancements and expansions**

# **Commitment to Project Objectives**

## **Enabling governance structure and institutional strengthening**

**VK autonomy, properly regulated by municipal government through performance contract/business plan**

**Vk modernization and strengthening**

**building human capacity**

**Private sector participation - management contract**

## **Financial Viability based on full cost recovery**

**revenues from tariffs sufficient to meet operation and maintenance costs and capital investments**

## **Cost effective investments**

**least cost, high priority to improve reliability and safety of service, improve efficiency and eliminate waste**

7/13/99

Almaty

## **Project Scope and Description**

*Project Description: The project is a multi-year program to improve the efficiency and reliability of the water supply system in the city of Almaty. The project will focus on the following areas:*

**Least cost, high priority and most urgent investments to meet three main criteria:**

**improve the safety and reliability of services to consumers**

**lower cost by improving the efficiency of management and operations**

**improve the financial viability of VKs**

**Priority among sub sectors: generally institutional strengthening and water first**

# Project Components and Description (1)

*Water Supply, Sewerage and Sanitation*

## **Water Supply**

**rehabilitation of plants and networks**

**reduction of water demand and wastage through programs of demand management**

**network optimization and leak reduction**

**making plants work better and more efficiently**

**improving operations and maintenance**

## **Sewerage**

**network rehabilitation and plant rehabilitation and efficiency**

**improvements**

# **Project Components and Description (2)**

## **Technical Assistance - Management Contract**

**management, human capacity**

**administrative systems**

**operations**

## **Engineering Services**

**engineering studies and designs**

**procurement**

**supervision of construction**

**project management and administration**

# **Project Financing and Loan Amount**

## **Financing Plan**

**Bank: up to 90% of investments net of taxes and duties**

**local contribution: VK: 10% of net investments and taxes and duties;**

**limited and targeted support by government**

**Loan made to VK through government repayable by VK**

**Sovereign guarantee**

**Loan amount determined by ability of VK to generate counterpart funding and loan payback and maintenance and operating costs**

# Project Implementation

... ..

**VK has primary responsibility for project implementation as defined in Project Agreement with Bank and in accordance with Bank guidelines :**

- designs and specifications in accordance with international norms**
- procurement in accordance Bank guidelines - competition**
- financial management - special account, audits**
- reporting**

**Bank will support and supervise intensively throughout period of implementation**

**Implementation period: 3 - 6 years**

# **Legal Instruments and Relationships**

## **Cascade of legal agreements defines obligations and relationships**

**guarantee agreement with National Government**

**project agreement with National Government (MIF??)**

**project on lending Agreement to VK**

## **Project Agreement defines obligations**

**project description, implementation responsibilities**

**institutional requirements**

**financial requirements, disbursement arrangements**

**procurement**

**financial management and auditing**



# Project Cycle (1)

## ● Identification - month 0

**agreement between prospective borrower(VK), local and national government and Bank on project objectives and basic conditions**

## **Preparation**

**development of a clear plan on all project aspects: description, cost, loan amount, funding, implementation, institutional and financial requirements:**

## **Pre appraisal - month 6**

**clear proposal on all important aspects of the project: preparation of draft of project and legal documents**

## **Appraisal- month 9**

**confirmation and agreement on all aspects of the project; update of documents**

## **Project Cycle (2)**

### **■ Negotiations- month 12**

**discussion and agreement on all aspects of the project and documents; participants in Washington: VKs, local and national government**

### **Board Approval - month 14**

**Bank's Executive Directors review and approve project**

### **Loan Signature - month 15**

**Effectiveness; meeting legal requirements and/or specific conditions; Loan funds become available - month 16**

# Timing of Project Preparation

**Speed with which project preparation proceeds depends on:**

**availability of funding for project preparation**

**availability of qualified consultants**

**readiness of VK and local government**

**support of national government**

**speed of decision making by VK, local and national government**

## **Responsibility for Project Preparation and Processing**

**Borrower is responsible for preparing and presenting the project to the Bank**

**Bank will help in guiding preparation process**

**International Consultants needed to help prepare project**

**Bank and international donor community willing to consider grant funding for project preparation**

**Project Preparation Facility may be needed**

# Studies for Project Preparation

1. Governance/Institutional  
2. Financial  
3. Social  
4. Technical  
5. Water Resources/Environmental  
6. Financial Management systems/capacity  
7. Procurement

1. **Governance/Institutional**

2. **Financial**

3. **Social**

4. **Technical**

5. **Water Resources/Environmental**

6. **Financial Management systems/capacity**

7. **Procurement**



## **Project Preparation: Governance Institutions**

### **Assessment of VK institutional performance/productivity**

**VK/local government relationship, autonomy, management, administration, organization, systems, human resources, project implementation, accounting**

### **Definition of Plan for improving VK productivity**

**five-year business plan for institutional/productivity improvements**

**VK - local government relationship to assure VK autonomy  
performance contract**

**plan of action for implementation: management contract/TA  
Program**

### **Project Implementation/Management arrangements**

## **Project Preparation: Institutional (2)**

### **Result: Agreement on**

**agreed plan of action for institutional improvements initiated during project preparation and fully implemented during project implementation**

**decision on type of assistance program and terms of reference**

**decision on project implementation/management responsibilities**

### **Phases**

**by Pre appraisal: agreement in principle**

**by Appraisal: interim targets met; definite agreement**

**by Negotiations: interim targets met; final agreement**

**after Negotiations: initiation of bidding for management or TA contracts**

# **Project Preparation: Financial (1)**

## **Assessment of present financial position**

**transformation of 1998/1999 financial statements into international standard statements**

**analysis of financial information, present financial position**

**analysis of tariffs and collections, cost structure**

## **Definition of Plan towards VK financial viability**

**requirement: VK to generate revenues sufficient to meet O&M costs, counterpart funding requirements and loan repayments**

**preparation of financial 1999 - 2005 projections/plan**

**demonstrating how VK can meet requirements**

**main parameters: tariffs, collections, O&M costs will be key**



## **Project Preparation: Finances (2)**

*Project Preparation: Finances (2)*

### **Result: Agreement on**

**plan of action for institutional improvements initiated during project preparation and fully implemented during project implementation**

**terms of reference and cost estimate for institutional strengthening program to be executed during project implementation**

**type of improvement program: management/service contract, technical assistance program**

### **Phases**

**by Pre appraisal: agreement in principle**

**by Appraisal: interim targets met; definite agreement**

**by Negotiations: interim targets met; final agreement**

# **Project Preparation: Social Analysis**

www.kci.kz

## **Investigations and assessments regarding consumers:**

**level of satisfaction with present services and VK**

**coping strategies and cost for poor service**

**aspiration for service**

**affordability, income analysis, willingness-to-pay**

**input into decision making**

## **Phasing**

**to be completed by Pre appraisal; results needed for financial analysis and tariff definition**

# **Project Preparation: Investments (1)**

## **Assessment:**

**service quality and reliability**

**plant and network performance, state of repair, operational efficiency**

**water consumption, losses and wastage, energy use**

## **Definition of priority investments for plants and networks**

**rehabilitation, repair and efficiency improvements for existing facilities**

**water demand management and leak reduction programs**

**network and plant optimization programs**

**Project cost limit defined by VK financial capacity**

## **Project Preparation: Investments (2)**

### **Two types of investments:**

**immediate defined during project preparation**

**others defined during project implementation in support of demand management, network and plant rehabilitation and efficiency improvement programs**

### **Phases**

**by Pre appraisal: completion of assessment, proposal for “immediate” investments and investment strategy**

**by Appraisal: agreement on “immediate” investments and investment strategy agreement**

**by Negotiations: final agreement**

**after Negotiations: preparation of final designs and bidding documents for “immediate” investments and initiation of bidding**

# **Project Preparation: Management/Engineering Services (1)**

**Management/Service Contract (MSC): intern. utility operator responsible for VK management and operations (all or parts) under contract with local government**

**or Technical Assistance (TA): intern. utility operator advises and assists in the implementation of institutional and operational strengthening programs**

**Investment decisions together with MSC or TAC**

**Independent foreign consultant to assist VK/local government in managing MSC or TA contractors and general project implementation**

**Engineering consultant for supervision of construction**

# **Project Preparation: Management/Engineering Services (2)**

## **Phases**

**by Pre appraisal: decision/agreement on MCT or TAC**

**by Appraisal: contract framework**

**by Negotiations: bidding documents ready and agreed**

**by Effectiveness: MCT or TCA on board**

# **Project Preparation: Water Resources, Environmental Studies**

*Water Resources and Environmental Studies*

## **Water Resources analysis**

**look at both quantity and quality**

**evaluate most economic solution balancing water resources supply  
with demand, clean up with water treatment**

## **Environmental analysis**

**river basin impact of pollution**

**balancing effluent requirements with most economic regional clean  
up and affordability**

## **Phases: coinciding with technical analysis**

# **Project Preparation: Financial Management Systems (FMS)**

**Careful review of accounting and auditing practices**

**Require introduction of international style accounting system to enable review of VK financial performance**

**Require new financial management systems to ensure effective control of project account**

**Annual audit of VK accounts by auditor acceptable to the Bank**

## **Phases**

**by Negotiations: agreement on specific plan**

**by Effectiveness: FMS for project account installed**



## **Project Selection**

- Country assistance strategy**
- request by VK, local and national government**
- acceptance of Bank's strategy for the sector and basic conditions**
- demonstrated commitment through up front action on development goals, particularly:**
  - governance/institutional strengthening**
  - financial viability**
  - investment selection - demand management, efficiency**
- open and enthusiastic cooperation**

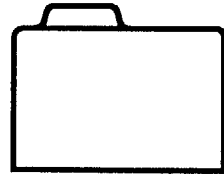
**EBRD'S APPROACH TO MUNICIPAL  
INVESTMENT IN THE CENTRAL  
AND EASTERN EUROPEAN  
REPUBLICS  
EBRD'S SUPPORT TO PRIVATE SECTOR  
INVOLVEMENT IN WATER SUPPLY**

Ulf Hindstrom

Municipal and Environmental Infrastructure  
EBRD

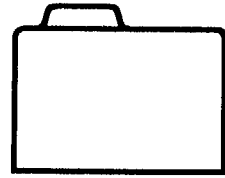
World Bank / USAID Water Center

Kazakhstan



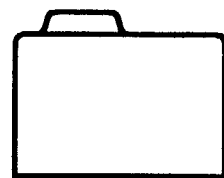
## **EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT**

- established in 1991, aims to assist the development of market economies in central & eastern Europe and the CIS
- owned by 58 countries (including the CAR), the EU and the EIB
- leading private sector investor in CEE and CIS countries
- financial institution investing in projects in both private and public sectors
- provides direct funding for financial institutions, infrastructure and other key sectors



## **MUNICIPAL AND ENVIRONMENTAL INFRASTRUCTURE AT THE EBRD**

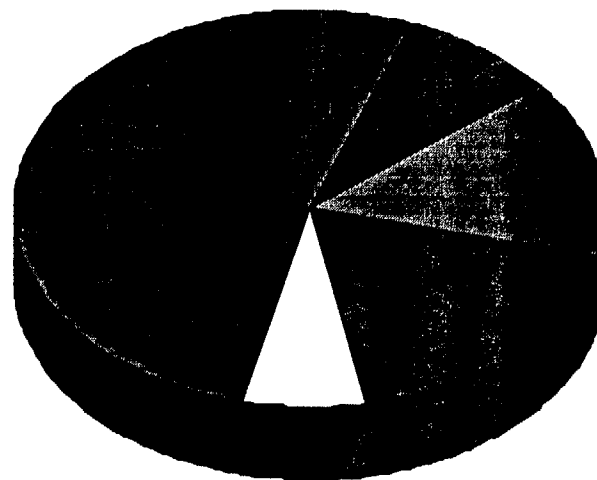
- dedicated team established in April 1995
- presence in 17 countries and over 110 municipalities
- Euro 750 million committed to Euro 2 billion in investments
- Euro 1 billion potential EBRD financing under preparation
- 50% of portfolio and 80% of pipeline non-sovereign

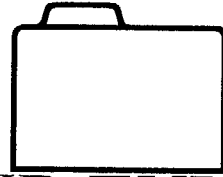


# MUNICIPAL AND ENVIRONMENTAL INFRASTRUCTURE AT THE EBRD

## Sub-Sector Coverage

- water and waste water
- solid waste collection and disposal
- district heating
- urban transport

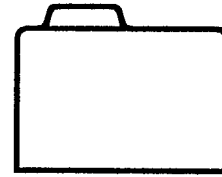




# **MUNICIPAL AND ENVIRONMENTAL INFRASTRUCTURE AT THE EBRD**

## Client focus

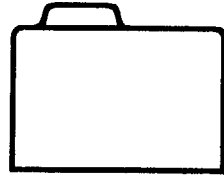
- municipalities
- public and private municipal and regional utilities
- international private operators
- specialised financial intermediaries



# **MUNICIPAL INFRASTRUCTURE AND SERVICES IN TRANSITION ECONOMIES**

## Context

- decentralisation of responsibilities
- urgent and large investment needs
- capital and operating inefficiencies
- evolving financing mechanisms

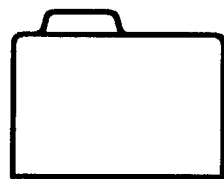


# **EBRD'S OPERATIONAL APPROACH**

## Guiding principles

- decentralisation of services funding and provision
- commercialisation of services and infrastructure
- financing of urgent investment needs
- optimisation of private sector involvement

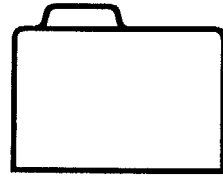




## **EBRD'S GUIDING PRINCIPLES**

### Support decentralisation

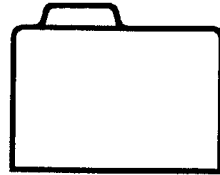
- work with local authorities/utilities
- utilities' financial self-sufficiency
- reduced reliance on government grants and guarantees
- transparency and accountability



## **EBRD'S GUIDING PRINCIPLES**

Address urgent investment needs that will:

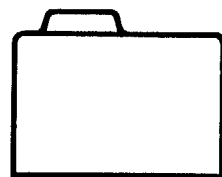
- rapidly improve service quality and price acceptability
- reduce costs
- prevent environment pollution
- increase cash flows and return on existing assets
- enhance financial and operational performance
- strengthen creditworthiness and solvency



## **EBRD'S GUIDING PRINCIPLES**

### Commercialisation of service provision

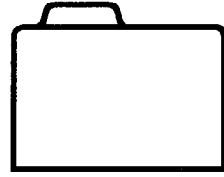
- utilities' corporatisation:
  - autonomous corporate entities
  - IAS and commercial law
- move towards full cost recovery and self-financing:
  - effective tariff methodology
  - improved operating and capital efficiency
  - improved revenue collection
- institutional strengthening



## **EBRD'S GUIDING PRINCIPLES**

### Optimise private sector involvement

- introduce competition to improve service quality and efficiency
- increase pool of investment funds
- encourage innovation
- promote transfer of certain activities to the private sector:
  - design, construction and completion risks
  - specific operational functions, where appropriate



## **EBRD'S FINANCING INSTRUMENTS**

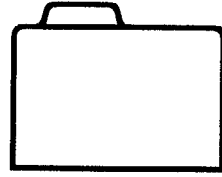
- sound banking principles while taking transition risk
- a range of financing approaches:
  - sovereign-based financing
  - non-sovereign municipal financing
  - private financing
- debt, equity and guarantees
- overall objective: graduation from one transition stage to the next
- mobilisation of co-financing



# EBRD FINANCING INSTRUMENTS

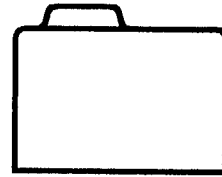
## Loans

- volume - normally minimum Euro 10 million
- long maturity - up to 15 years
- interest - LIBOR + 1% (when sovereign guaranteed)



## **EBRD's ROLE IN PROJECT DEVELOPMENT**

- Organisation and financing of advisory support
- Technical, legal and financial due diligence
  - credit analyses
  - financial and operational performance audit
  - legal and regulatory environment
- Financial structuring
- Mobilisation of capital grants and commercial loans



# **EBRD'S PROJECTS DEVELOPMENT**

## **Project selection criteria**

- Municipal enterprises in large cities with strong economic base
- critical investment needs
- reasonably good financial performance
- reform-minded management
- willingness to support EBRD principles
- national priority/sovereign guarantee

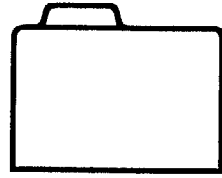




**EBRD'S APPROACH TO MUNICIPAL  
INVESTMENT IN THE CENTRAL ASIAN  
REPUBLICS**

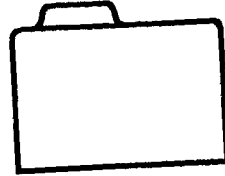
**Case Study**

**Typical Water Utility Project**



## **PROJECT OBJECTIVES**

- Reduce the pollution of receiving waters - strong environmental mandate
- Reduce wastage of water through a demand-side management and leakage reduction program
- Reduce energy use and operating costs
- Improve the efficiency and quality of water and waste water services
- Enhance the Utility Company's financial and operational performance
- Introduce private sector participation in the municipal utility sector



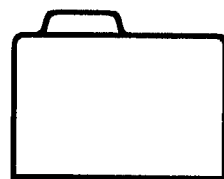
## INVESTMENT PROGRAM

- **Waste water treatment improvement:**  
Upgrading and modernisation of wastewater treatment plants
- **Energy efficiency:**  
Replacement of pumping equipment
- **Leakage reduction:**  
Replacement of water mains
- **Water quality improvement:**  
Upgrading and modernisation of water treatment plants
- **Water conservation and metering:**  
Installation of block/flat metering



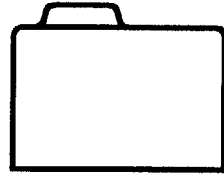
## INSTITUTIONAL STRENGTHENING

- **Autonomy of Utility Company:**  
Service Agreement between the Company and the Municipality which sets mutual rights and obligations
- **Utility Company self-financing:**  
Tariff formula which enables the Company to achieve full cost recovery
- **Utility Company operational and financial performance:**  
Corporate development partnership with a leading international private water operator/consultant
- **Private sector involvement:**  
Project implementation and operations



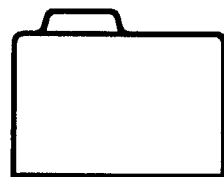
## **FINANCING PLAN**

- EBRD 50 - 70 %
- Utility Company 10 - 20 %
- Municipality 10 - 20 %
- Donor agencies 5 - 15 %



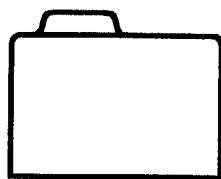
## **EBRD LOAN: Terms**

- Foreign exchange denominated
- Term - up to 15 years
- Grace period for principal - up to 4 years
- Interest - LIBOR + 1%
- Up-front fee - 1%
- Commitment fee - 0.5%
- Sovereign guarantee

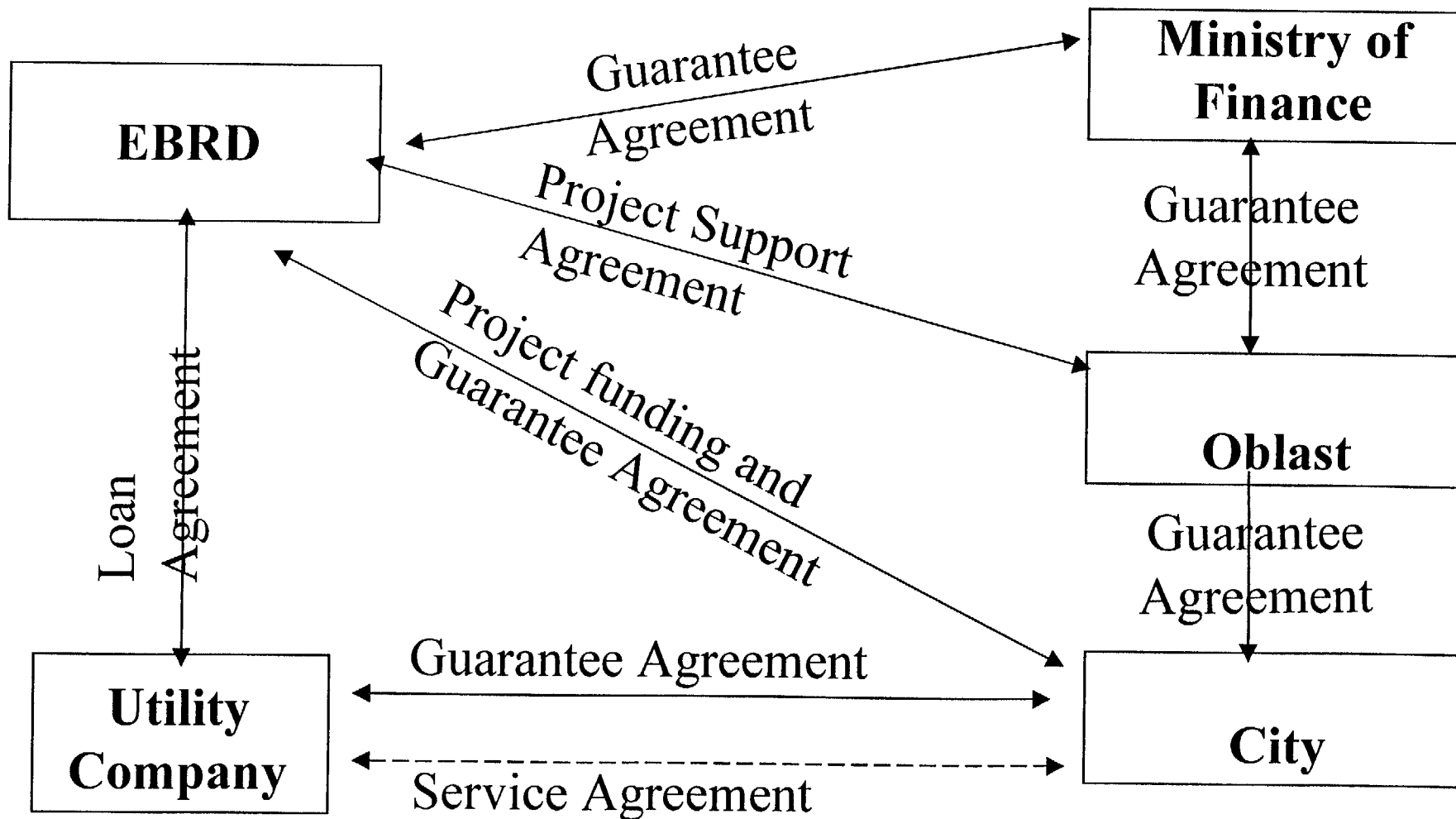


## **EBRD LOAN: Conditions**

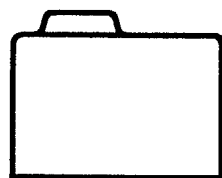
- Prior to Loan signing:
  - Tariff increase for residential customers to catch up with recent inflation
- During implementation:
  - New tariff setting policies and procedures
  - Revenue and cash collection covenants
  - Debt service coverage ratio
  - Performance improvement



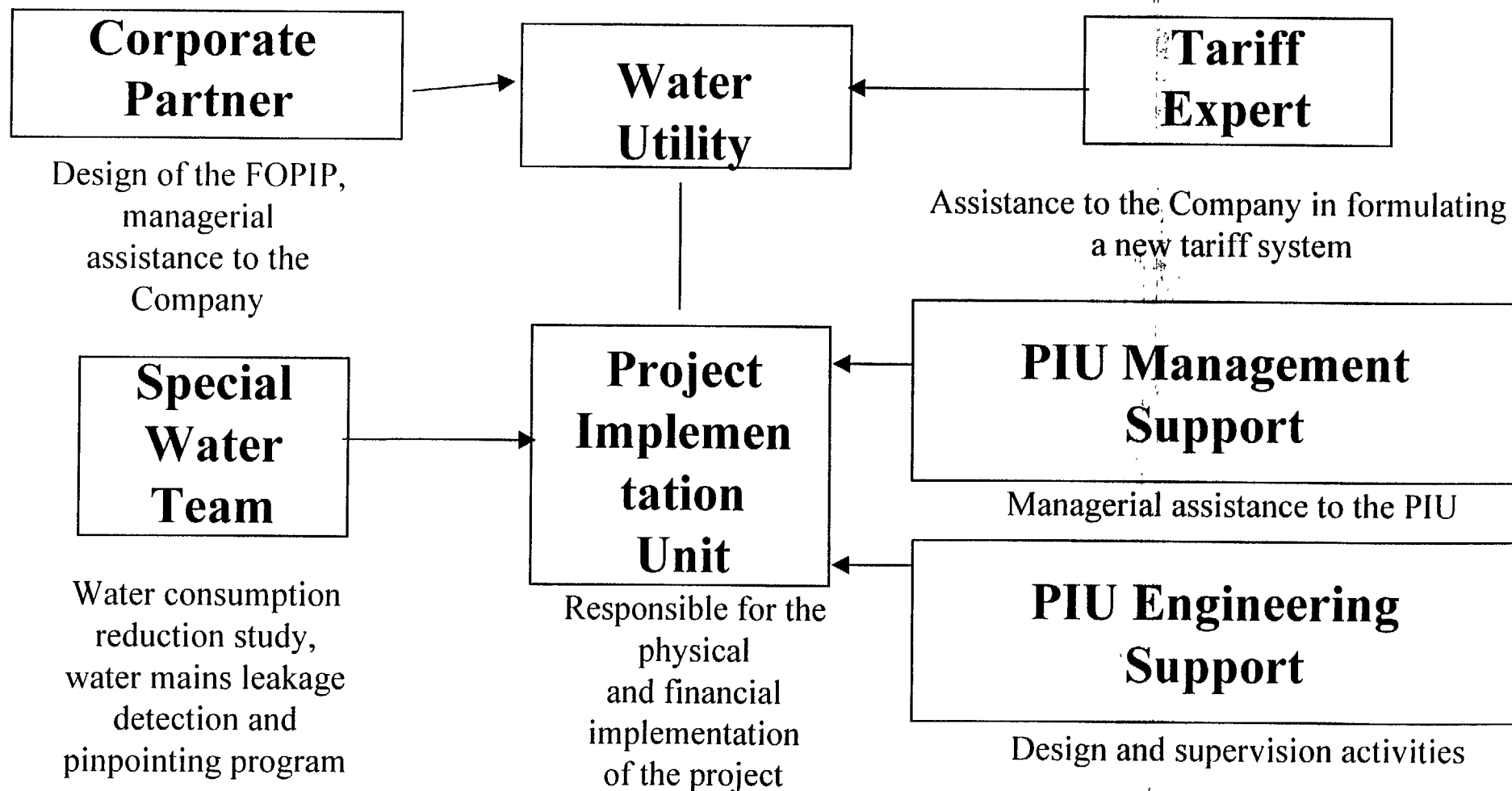
## PROJECT STRUCTURE: Legal

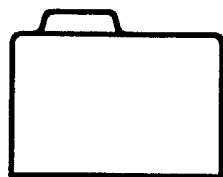






# PROJECT IMPLEMENTATION: ORGANISATION

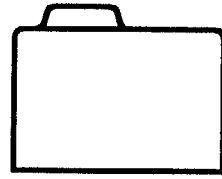




## TARIFF SETTING REFORM

### **Introduce tariff formula to allow the Utility Company to:**

- achieve full economic cost recovery:
  - operating and maintenance costs
  - tax liabilities
  - debt service costs
  - contributions to Project's capital investment
  - assets renewal
- adjust tariffs for inflation
- gradually eliminate cross-subsidies
- benefit from operating costs reduction



## ROLE OF CENTRAL AND LOCAL AUTHORITIES

### **Central Government:**

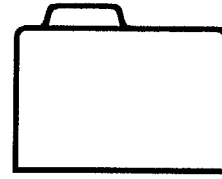
- Guarantee of debt repayment
- Guarantee on payments of State budget entities to Company
- Guarantee from political interference in tariff setting

### **Oblast Administration:**

- Guarantee on payments of Oblast budget entities to Company
- Approval of new tariff formula

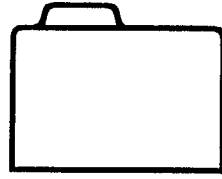
### **City Council:**

- Guarantee on payments of City budget entities to Company
- Investment contribution



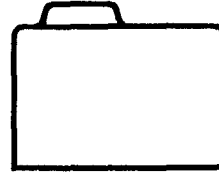
## LESSONS

- Excellent co-operation and mutual understanding required
- Tariff reform is crucial
- Support of central and local authorities determines success of a project

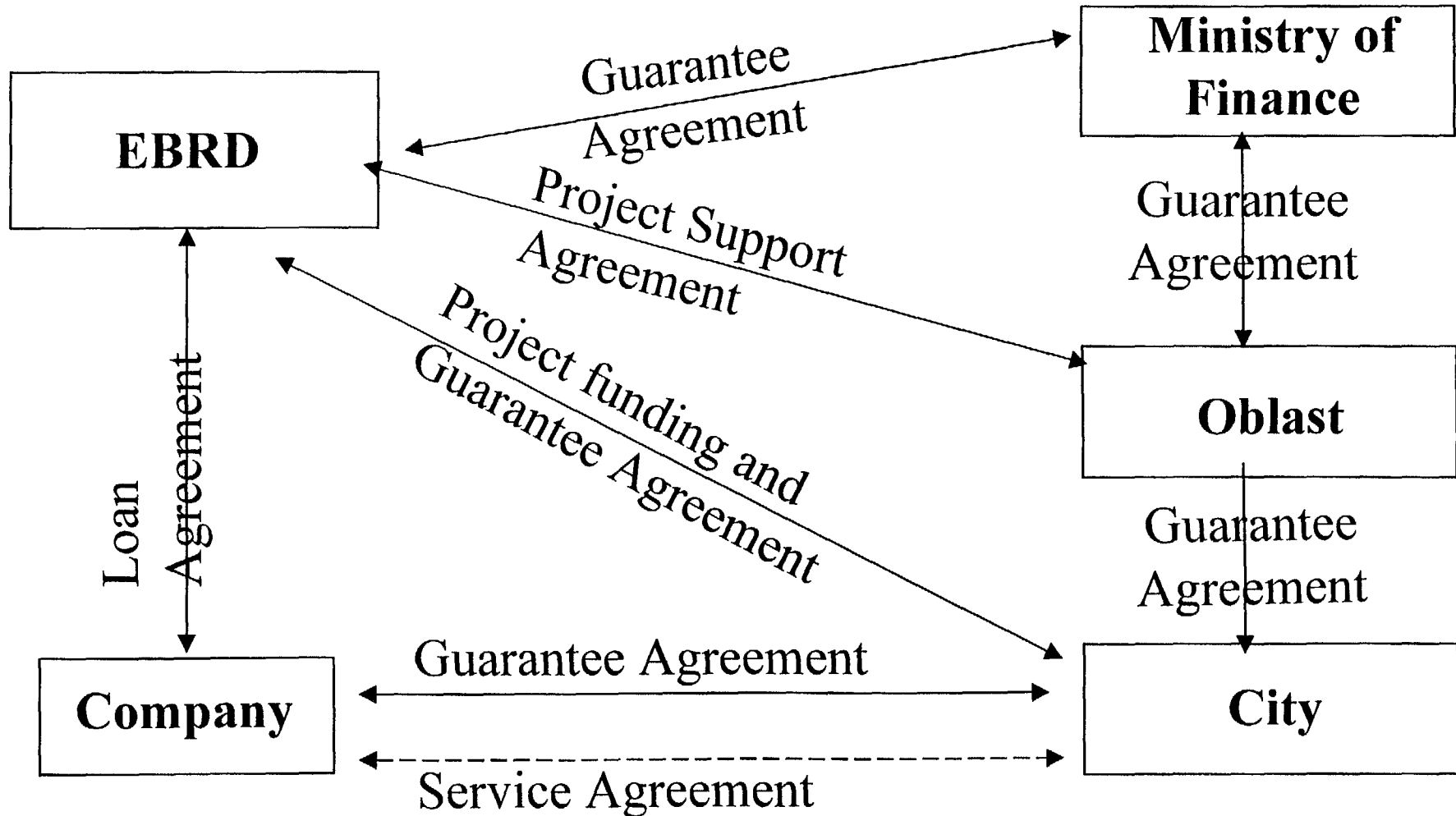


## LOOKING AT THE FUTURE

- Increased role of private sector
- Move towards non-sovereign guaranteed projects
- Increasing importance of the policy dialogue with central government



# TYPICAL PROJECT STRUCTURE



**CONFERENCE ON WATER SYSTEMS**

**sponsored by:  
U.S. Agency for International Development, and  
World Bank**

**organized by:  
International City/County Management Association**

**Dr. Kayed Abdul Haq  
Consultant – Acting Director  
IDB Regional Office, Almaty**

**Presentation on  
“Islamic Development Bank and its financing criteria”**

**July 15-16, 1999**

## **Purpose of the Bank**

The purpose of the IDB is to foster economic development and social progress of member countries and Muslim communities in non-member countries.

## **Capital**

The authorized capital of the is Islamic Dinars 6,000,000,000 (six billion) shares having a par value of Islamic Dinars 10,000 (ten thousand) each.

The Islamic Dinar (ID) is the Unit of Account of the Bank, and its equivalent to the value of one Special Drawing Right (SDR) of the International Monetary Fund.

## **Policies and Financing Procedures**

In formulating its policies, the Bank gives priority to the development of the socio-economic conditions in its member countries, and add to that the Bank endeavors to foster and promote foreign trade activities among the member countries.

## **Operational Activities**

IDB started with a membership of 22 countries in 1975. This number has grown to 53 OIC members countries.

Upto the end of 1998, the Bank approved a cumulative total of 2452 operations, including Trade and Special Assistance operations, valued at almost ID 14 billion.

The Staff strength has grown to 745 by the end of 1998.

In order to facilitate the co-ordination of assistance, the Bank has concluded Co-operation Agreements with several international and regional institutions, including Arab Development Funds, which undertake operations in the Bank's member countries.

## **Modes of Financing**

- 1 Provision of Loans for projects of an infrastructural nature: such as roads, communications, dams etc , and projects of socio-economic character, such as schools, hospitals etc., on interest-free basis. The Bank charges only a lump sum service fee of upto 2.5% of total amount, to be paid in instalments, to cover administrative costs. Loans approved since 1976 amount to ID 1.326 billion (US\$ 1.678 billion) for 304 projects. IDB sanctions loans for those projects of programmes, which are technically sound and economically viable and of high priority to the borrowing country.
- 2 Equity participation in the capital of agricultural and industrial projects: The Bank approved equity operations amounting to ID 207 million (US\$ 257 million) up to 1998.
- 3 Leasing. Upto the end of 1998, the Bank approved 97 operations amounting to ID 1.060 billion (US\$ 1.409 billion).



4. Instalment Sale: Unlike leasing, ownership of the asset provided is transferred to the purchaser immediately after delivery of the asset, while the purchase price is payable by instalments. To-date, the Bank has approved an amount of ID 838 million (US\$ 1.11 billion) under this mode for 97 operations.
5. Provision of the Technical Assistance to member countries for feasibility studies of potential projects, for preliminary and detailed designs and consultancy services, as well as procurement of research and training equipment during the execution phase of a project: The number of technical assistance operations reached 249 for an amount of ID 85 million (US\$ 106 million). When financing TA for project preparation, IDB gives priority to those projects which are programmed in the country's development plan and which have reasonable chances to obtain external financing, including from IDB.
6. Financing of trade among member countries: There are three schemes in operation, namely, import trade financing: Export Financing Scheme; and Islamic Banks' Portfolio.
  - A) Import Trade Financing Operation (IFO): Financing of short-term imports of member countries by purchasing commodities of a developmental nature by some member countries in various fields of development and reselling them to the beneficiary member countries with the facility of repaying in instalments. The number of import operations financed reached 899 amounting to ID 8.335 billion (US\$ 10 483 billion)
  - B) As part of the Bank's efforts to mobilize resources, the Longer Term Trade Financing Scheme (LTTFS) now known as Export Financing Scheme (EFS), and the Islamic Bank's Portfolio (IBP) were introduced in 1988.

The purpose of the Export Financing Scheme (EFS) is to promote export of non-traditional commodities originating from one participating country to other member countries of the OIC by providing funds for periods ranging from 6 to 60 months

The number of countries, which have joined the EFS so far is 23 with a total contribution of ID 315.5 million in addition to ID 150 million representing the contribution of IDB. Under the EFS, a total of 126 export-trade financing operations were approved upto the end of 1998 for a total value of ID 306 million (US\$ 429 million).

- C) The Islamic Banks' Portfolio was established in accordance with a Memorandum of Understanding signed in Istanbul on 27 March 1987 by a number of Islamic banks and financial institutions

The IBP, an investment pool (Fund) under the management of the IDB, is to mobilize some liquidity available with the Islamic Banks, then channel them to finance trade operations, leasing and other modes of investment, with special emphasis on the private sector.

The participants in the Portfolio are 20 Islamic banks with an initial capital of US\$ 100 million which was later increased by US\$ 300 million to become US\$ 380 million. The initial issuance has been fully covered. The Portfolio started functioning in 1988 and up-to end of 1998 it has approved financing for 125 operations worth US\$ 1.7 billion.

7. The Bank introduced the Investment Deposit Scheme mainly for financing foreign trade operations. Deposits of a minimum amount of a quarter million US dollars are accepted from governments, institutions and individuals.
8. The IDB Unit Investment Fund was launched in January 1990 with an initial capital of US\$ 100 million has now doubled its capital to US\$ 275 million. The Fund purchases leasing and instalment sale contracts from the IDB and thus refines the Bank's activities. The Fund also undertakes investments on its own account to enhance the investment of the Bank.
9. The IDB has given special attention to other two programmes:
  - 9.1 Special Assistance Programme to assist Muslim communities in non-member countries in the fields of education and health, projects of this nature has been assisted in about 50 non-member countries;
  - 9.2 Scholarship programme with two branches:
    - Undergraduate scholarship programme for excellent students from non-member countries most of the students are medical or engineering students, 4,000 students benefited from this programme;
    - Merit scholarship programme:  
This programme objective is to transfer modern technology from the West to member countries through training of exceptional scholars in applied technology in highly selected Western universities. The training programmes are from 1 to 3 years.

in mln. of USD

No	Title	Amount	Approved	Agreement	Project
<b>Approved Projects</b>					
1	Reconstruction of Almaty-Gulshad Road	9.570	07.06.98	19.05.99	Loan
2	Syzganov Centre for Surgery & Children Hospital	11.500	19.10.97	15.02.98	Installment Sale / Loan
3	FS for Almaty-Akmola railway	0.290	14.09.96	19.09.96	Technical Assistance
4	FS for Karaganda-Akmola road	0.298	18.03.96	13.06.96	Technical Assistance
5	Kzylorda drinking water supply	0.274	31.10.93	15.10.94	Technical Assistance
6	FS for Almaty - Bystrovka Road	0.257	12.12.93	27.07.94	Technical Assistance
7	Islamic Institute and 6 Quranic Schools	0.355	29.10.91	15.05.95	Special Assistance Project
8	Arabic Script Programme	0.045	29.10.91	01.02.94	Special Assistance Project
9	Meeting of the Ministers of Transport of ECO in Kazakhstan	0.137	26.07.93	10.10.93	Special Assistance Project
	<b>Total</b>	<b>22.726</b>			


IS - installment sale

L - loan

TA - technical assistance

SAP - special assistance project

N - under negotiation



# **WB Funding for water and Wastewater Projects**

**Almaty, July 17, 1999**

**Walter Stottmann, Sector Lader, Water and Sanitation, ECA Region**

# Objectives

1. To provide water supply to the population of the city of Almaty

**WB funding for water projects is part of overall country assistance strategy negotiated with government**

**poverty alleviation**

**governance, public enterprise/water sector reform**

**fiscal management**

**public health**

**environment**

**private sector entry**

*292*

## **Project Objectives**

**Improve water and waste water service to people in an efficient manner at an affordable cost; therefore insistence on reforms**

**governance/institutional VK autonomy in urban systems**

**community based, demand driven**

**financial viability. cost recovery**

**least cost investments, efficiency improvements first**

**private sector participation**

# Bank Products

*Bank Products*

**Discussions with government and sector community**

**Conferences and seminars**

**Sector Studies/Strategy papers:**

**completed: Poland, Ukraine, Russia, Kyrgystan (rural)**

**in preparation: Armenia, Georgia, Azerbaijan, Uzbekistan,  
Kazakhstan, Turkmenistan**

## **Bank Products: Projects in Execution**

**Baltic States: six projects in Estonia, Latvia and Lithuania**

**Uzbekistan - multi purpose; Nukus/Urgench**

**Turkmenistan - multi purpose, Tashaus**

**Azerbaijan: Baku - water supply rehabilitation**

**Georgia: water supply for small cities**

**Armenia: Yerevan - water supply, rehabilitation management contract**

**Kazakhstan: Atyrau, Kyzl Orda**



# Project Selection

**Country assistance strategy**

**request by VK, local and national government**

**acceptance of Bank's strategy for the sector and basic conditions**

**demonstrated commitment through up front action on development goals, particularly:**

**governance/institutional strengthening**

**financial viability**

**investment selection - demand management, efficiency**

**open and enthusiastic cooperation**

## REFORMING DRINKING WATER UTILITIES IN UZBEKISTAN

A. Mironenkov  
 Head, Department of Rural Infrastructure  
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### Legacy

By the beginning of the '90s, Uzbekistan was facing numerous problems including economic, social, and ecological ones, which was reflected in the situation with the use of water. Uzbekistan, as well as the Central Asian region, was a raw material addition to the former Soviet empire. In order to satisfy the interests of the center, a mono-cultural (cotton-based) rural structure of the economy was created. It was very water-intensive. Agriculture was providing about one third of the GDP and was consuming more than 85% of the water resources (Table 1).

*Use of Water by the Agricultural and Industrial Branches in the Republic of Uzbekistan in 1990-1995.*

Years	Lodging and Communal Service	Industry		Agriculture			Cubic Meters per Year
		Total	Electric Energy	Total	Irrigated Farming	Fishing, etc	
1990	1,700	6,255	4,904	44,040	42,845	417.9	52,412.9
1991	2,063	6,024	4,632	44,937	43,608	594	53,618
1992	2,133	5,638	4,363	45,596	43,977	459	53,826
1993	2,053	5,758	4,440	44,883	43,457	514	53,208
1994	2,081	5,586	4,485	43,074	41,890	480.9	51,221.9
	2,004	5,862	4,560	44,506	43,155.2	493.16	52,857.34
	3.8	11.09	8.6	84.21	81.6	0.9	100

Significant capital investments were provided for extensive development of irrigation based on a primitive technological system, and at the same time the social needs of the population have always been lower priority.

One of the results of that approach was that the development of the drinking water utilities fell far behind, especially in the rural territories, and another result was a disproportion in the levels of providing drinking water to the population in various regions and groups. By 1990, 81% of the urban population and 52% of the rural population had clean drinking water at their disposal. In the Republic of Karakalpakstan, Bukhara and Khorezm oblasts, only 21-23% of the rural population used drinking water from the centralized sources, while in Syrdaryinskaya oblast, the number was 87.8% (Table 2).

*Calculation of the Centralized Water Delivery in the Republic of Uzbekistan by Oblasts and in the City of Tashkent (in %).*

Name of the Oblast	Urban Settlements	Rural Areas
Republic of Uzbekistan	81	52
Republic of Karakalpakstan	66	21.4
<i>Oblasts</i>		
Andizhan	79	69

Bukhara	80	23
Dzhizak	76	47.7
Kashkadaryin	69	52.7
Navoiy		
Namangan	77	62.3
Samarkand	85	47.7
Surkhandaryin	76	54.1
Syrdaryin	90	87.8
Tashkent	86	68.7
Fergana	86	62.2
Khorezm	80	23.2
City of Tashkent		

As we can see, in the lower reaches of Amudarya, the notorious crisis of the Aral sea (scheme 1) became not only an ecological but also a social and economic crisis, where environmental problems were influenced by problems of low social conditions of people's life (scheme 2).

An objective obstacle to the development of drinking water utilities was also a limited stock of freshwater underground rivers which usually have a hydraulic connection with the upper flow of rivers and canals, and which usage depended on the season (scheme 3). Soiling of the river flow and underground rivers by collecting and draining flows of the irrigation, fertilizers and poisonous chemicals has further narrowed the possibilities of the development of the drinking water utilities. River flow in deltas and in the middle of the rivers also could not be used for drinking water (scheme 4). Geographic peculiarities of the location of the freshwater underground rivers and territorial settlements of the population caused construction of a number of large regional water pipes to deliver drinking water to the population (scheme 5).

Differences in the levels of accessibility to drinking water between rural and urban population are also brought about by the developed structure of drinking water management. Delivery of drinking water to the urban population was the responsibility of the Ministry of Communal Economy, and it was the Ministry's most important responsibility. At the same time, Ministry of Agriculture was responsible for delivery of drinking water to the rural population, and the main indicator of the Ministry's activity was the amount of agricultural production, and not the social development of rural territories. Local municipalities had almost no influence over these processes. At the same time, the need in investments for the development of the urban water network and constructions were provided by the centralized state budgets, and in the rural territories state budget paid for less than half of the expenses for development and operation of water pipes. The larger part of expenses was covered by revenues of rural enterprises - collective farms. The operation of the water systems was developed according to the same pattern as the structure of the investment sources. Thus, vodokanals became a single operating structure in the system of urban water delivery. In rural territories, only 26% of water utilities were serviced by the centralized service of agricultural vodokanals. The rest belonged to over 2,300 owners, and existed mostly as agricultural enterprises without professional staff and means for normal operation. Accordingly, the quality of services in rural territories was different from the analogous scores in the city.

### **Independence and Development of the Water Supply (Transitional Period)**

The Program of Improving Drinking Water Supply in Uzbekistan was one of the first large-scale actions undertaken after independence. As a result of its implementation, 17,400 km of rural water pipes were built in 1990-1998, and the total length increased by 2.4 times in comparison with 1990. Though rural population was increasing intensively, the water supply for them grew from 52% to

66%. Particular attention was paid to the problem of eliminating regional discrepancies in the development of the drinking water utilities, and to easing the results of ecological crisis on the Aral sea by creating acceptable conditions for the population in the Aral sea region – the Republic of Karakalpakstan and Khoresm oblast.

The differences in the amount of drinking water provided for the rural population in different territories declined from 66.4 % in 1990 down to 53% in 1998. During this period, 4,857 km of rural water pipes were built and implemented in the republic of Karakalpakstan and Khoresm oblast, which made 28% of the total amount in Uzbekistan, though rural population in these two areas only makes 11% of the total rural population in the country. Thus, the pace of social development in the area with ecological crisis was moving far ahead than other territories.

In general, additional population of the rural territories at the amount of ... million people received clean drinking water in 1990-1998, as a result of purposefully improving drinking water utilities for the rural population.

### **Reforms in the Water Utilities Sector**

Adoption of the *Program for Developing Rural Social Infrastructure* in 1997 and governmental *Program for Improving Drinking Water Utilities in Rural Territories* in 1998 became a logical continuation of the strong social policy. The latter Program provided necessary corrections to the previous plans considering new economic realities and changes in norms and legislation.

Based on the world experience of forming and managing water utilities systems during transition to the market economic mechanism and taking into account national conditions, it was concluded that reforming communal service in general and water utilities in particular was necessary.

The first important step was elimination of the vertical management of the city water utilities and creation of the territorial system, and also the liquidation of the Ministry of Communal Economy. A newly created Ministry of Communal Service became responsible for realizing technical policy in the system of communal service and managing only five large main water pipes with inter-regional significance.

The second important step on the way of reforming water utilities was a 1994 governmental decree on gradual decrease of state subsidies to water utilities and a complete abolition of subsidies in 2000.

Water utilities received full economic independence, while responsibility for creating tariffs was given to khokimmiats (governments) in the regions. Under this system, the level of tariffs for different consumer groups is approved by khokims of oblasts and is based on information from water utilities organizations' payments for production expenses. At the same time, cross-subsidies still exist, and as a result, tariffs for industrial enterprises are much higher than tariffs for population. In the oblasts, a successive rapprochement between tariffs is taking place, but at the beginning of 1999, tariffs for population are still covering only about a half of the water cost.

Simultaneously, with the adoption in 1999 of a new program for further improvements in the water utilities for rural population, a decision was adopted on transferring rural water utilities from the Ministry of Rural and Water Economy and other central republican organizations to the oblasts' khokimmiats. Thus, in the nearest future the last remaining structure of the centralized water management will be eliminated, and conditions for financial and economic independence of the water utilities and their institutional independence will be created.

## Water Utilities and Investment Policy

Supporting high status of the water sector in transitional economy is a rather difficult problem. Considering this, the Government of Uzbekistan, in its decree, has identified principles of financing capital investments in water utilities. According to these principles, state budget is responsible for financing large regional and extending water pipes with all accompanying constructions, while local budgets and consumers are responsible for building separating networks and connections. Thus, the state has undertaken a function of creating general conditions for developing separating based on local initiative, and drawing means of enterprises and citizens.

Combination of these two approaches allowed in 1998 to build over 1,965 km of water pipes, including 1,642 in rural territories. ... million sum of capital investments have been used for that purpose, including ... million sum from the state budget. 5,140 million sum from all financial sources were used in 1998 for the development of rural water utilities, including more than 1,500 million sum from the state budget.

At the same time, the republic created conditions and developed a program of attracting foreign investments in the water utilities sector. At the present time, water utilities projects are being implemented with financing by credits from the World Bank, Kuwait Foundation for Arabic Economic Development, governments of France and Germany at the total amount of about US\$120 million. Besides, an additional eight water utilities projects with foreign investments are being developed at present time.

As noted above, over the last years, the main investment efforts in the water utilities sector have been aimed at improving the quality of drinking water for the rural population. However, the problem is so expansive, that it will take a long time and a lot of money to provide all population with high-quality drinking water. A recent inventory indicated that there are over 4,500 rural settlements in the country (about ... % of their total amount) that don't have access to clean drinking water. ... of these settlements lack technical and economic abilities to provide water by a traditional way of building water-pipes.

Considering the social importance of this problem, the government of Uzbekistan adopted a decree in June 1999, on "Measures for Further Improvement of Water Utilities and Natural Gas Delivery to the Rural Areas." That decision set up dates for construction and provision of drinking water to every rural settlement. It is envisioned that by 2005 water will be delivered to additional ... rural settlements, thus providing 85% of the rural population of Uzbekistan with drinking water. A Republican Commission on Realization of the Program was created in order to coordinate these activities.

Generalization of personal experience in reforming water utilities sector, and considering the experience of other countries, allowed for different conceptions in approaching and correcting the earlier Schedule for Developing Drinking Water Utilities. For the first time in the practice of preparing such schedules, it has provided for reducing specific norms of water use instead of an increase, which was practiced before. According to this decision, during the planning of water utilities projects, the norm of water use per one urban citizen will be 1.8 times less, and for a rural citizen - 1.2 times less than before. Thus, the level of water use will be the same as in the developed countries. It is clear, that these indicators will be impossible to achieve without a sharp decline in loses and water leaks, introducing means of accounting and changes in the tariff policy, and institutional strengthening of the water utilities organizations.

## Perspectives of Intensifying Reforms

In general, policy of reforming water utilities is implemented under the Concept of Intensifying Reforms in the Communal Service, which was adopted by the Government of Uzbekistan in 1998.

The main goals of the reform in the communal service are:

- Gradual transfer of that sector to being financially independent and without losses; overcoming expense mechanism in pricing; creating competition and alternative structures;
- Implementation of institutional changes directed towards providing for many forms of property and market principles of functioning of the sector;
- Further improvement of state regulations of relationship in communal service; development of an effective mechanism of state control over condition and preservation of the lodging fund and communal systems;
- Implementation of an expedient scientific, technical, and economic policy for providing rational usage of resources, economy, and energy.

Realization of these goals is to be achieved by the following **main steps**:

- **Gradual reorganization** of the current system of communal service, improving management system and control, increasing economic independence and responsibility of the communal service organizations in working on their functional goals;
- **Further intensification** of the processes of decentralization and privatization, overall transfer to the contract relations based on competitive choice of constructors and developing alternative enterprises, and forming market system of pricing;
- **Strengthening** material and technical basis of the sector, attracting alternative investments for its development, introducing economic system of services;
- **Improving** forms and methods of state regulation, norms and legal basis for transition to economic forms of cooperation between the population and service organizations, together with the development of a strong motivating mechanism for stimulating work of the communal service employees;
- **Regulating** current system of privileges, increasing role of local self-government in regulating lodging and communal services.

A practical implementation of this Concept is, in particular, a decision on organizing enterprise and implementing means of calculating water usage. According to different estimates, water losses both in the water-pipe and by consumers make up to 25-50% of the total amount of water. In order to decrease losses and leaks, all new facilities, including apartment building and houses, will have to introduce meters starting with 1998. Now 90% of industrial buildings and 68% of social facilities and apartment buildings and houses have meters. It should be noted that it will be necessary to set up about 2,6 million meters to measure the amount of water used by overall population.

At the present time, only 2.4 thousand meters have been set up. Considering the technical and economic difficulties of realizing this project, especially in apartment buildings, and also considering the size of the problem, it is planned to accomplish setting up meters by ... year. At the same time, to speed up the solution of this problem, a number of experiments is carried out in order to stimulate implementation of meters, including the tariff policy.

One of the most urgent problems of increasing effectiveness of drinking water usage is a problem of creating tariff policy. A continuing policy of social support of the population through maintaining a low level of tariffs and cross-subsidies is preconditioned by the level of revenue of the population and the risk of consumption and usage plummeting due to inability to pay.

In search of a balanced solution for this problem, a number of projects in the republic is being implemented with the help of international financial institutions. The main goals of these projects is to organize an effective battle with leaks and losses of water, form real tariffs based on

social evaluation of the a solvent demand and consequences of tariff increases. For economic independence of the water utilities in these projects, the components are realized with an aim at the institutional development and strengthening of the water utilities.

In order to adopt experience of managing water utilities to the situation in Uzbekistan, it has been agreed to prepare an international competition on management bidding under the World Bank project on improving water utilities in Bukhara and Samarkand.

Reforming of such an important and socially vulnerable sector of economy as water utilities calls for preparation and development of an appropriate staff potential, studying and implementing experience of other countries. In connection to this, a training session was organized for managers and top and medium level specialists in such countries as England, France, Spain, Germany, Poland, Japan, in South-East Asia. A particular interest, naturally, is drawn by transition of economy in the former socialist countries in Eastern Europe from the centralized management to market mechanisms. To train local specialists in the water utilities sector, in 1999, a Memorandum of Intentions was signed between the Ministry of Regional Development and Environmental Protection of Bavaria and the Ministry of Macroeconomics and Statistics of Uzbekistan.

The indicated above approaches to reforming the water utilities sector in Uzbekistan do not exhaust the seriousness of the problem, and it is clear that during the implementation of the reform it is possible to make corrections. However, it is also clear that the government has a consistent reform-oriented policy.

**ATTACHMENT 4**

**RESULTS OF CONFERENCE EVALUATION QUESTIONNAIRE**



## EVALUATION OF THE CONFERENCE

1. Did you gain information from the speakers? Yes \_\_\_ No \_\_\_
2. If yes, what specific information did you find to most valuable? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. What speaker did you find most useful or informative? \_\_\_\_\_  
\_\_\_\_\_
4. Did you find the written materials to be useful? Yes \_\_\_ No \_\_\_
5. If yes, which written materials did you find most useful? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. What specific information do you plan to use in your Vodokanal? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. What changes do you plan to make in your operations as a result of this conference?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
8. Would you find more workshop or conferences to be useful? Yes \_\_\_ No \_\_\_
9. If yes, what topics would be useful? \_\_\_\_\_
10. Would additional written materials be useful? Yes \_\_\_ No \_\_\_
11. If yes, what topics would you suggest for written materials? \_\_\_\_\_  
\_\_\_\_\_
12. Would technical assistance by a consultant be useful to your Vodokanal? Yes \_\_\_ No \_\_\_
13. If yes, what areas would you like assistance in? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## QUESTIONNAIRE – July 15, 1999

### 1, 2. Which information from the speakers did you find most useful?

- 10 - Development of Sustainable Water Supply and Sanitation Services
- 4 - Privatization Options
- 3 - All
- 3 - Financial Viability
- 2 - The Experience of Saur-Neptun-Gdansk
- 2 - Effective Investment Strategies for Water Infrastructure improvements
- 2 - Specific development, and traditions of water utilities in the Central Asian countries.
- 1 - Municipal resources and local self-government
- 1 - Asian Development Bank
- 1 - Stabilization of funding for vodokanals
- 1 - Responsibility for water services
- 1 - Economical usage of water and preservation of water resources

### 3. Which speaker did you find most useful or informative?

- 13 - Walter Stottmann
- 8 - Frederic Renaut
- 6 - Motoo Konishi
- 4 - Fred Zobrist
- 3 - Keith Soffe
- 2 - All
- 1 - Ulf Hindstrom
- 1 - Kayed Abdul Haq
- 1 - Kathryn Stratos
- 1 - Oscar Krisen Buros

### 4. Did you find the written materials to be useful?

Yes from all participants

### 5. If yes, which materials did you find most useful?

- 7 - Financial Viability
- 5 - All or almost all
- 5 - Privatization options
- 4 - The Experience of Saur-Neptun-Gdansk
- 4 - Development of Sustainable Water and Sanitation Services
- 2 - Investments
- 1 - Reconstruction of water and wastewater systems
- 1 - Requirements and approach to using water supplies in the cities
- 1 - Development of water utilities in Kazakhstan
- 1 - Development of water utilities in Kyrgyzstan

6. What specific information do you plan to use in your work?

- 5 - Privatization Options
- 4 - The Experience of Saur-Neptun-Gdansk
- 3 - Investment Strategies
- 3 - Tariff policy
- 2 - All
- 2 - Financial Viability
- 2 - Institutional development
- 2 - Development of Sustainable Water and Sanitation Services
- 1 - Managing water and wastewater projects
- 1 - Reconstruction of sewage utilities
- 1 - Development of water resources and wastewater systems in Kyrgyzstan
- 1 - Payment for using water
- 1 - Conference on water utilities. Introducing problem of water economy, water utilities, and payment to citizens and authorities.
- 1 - Independent operations of vodokanal
- 1 - Providing necessary amount of good-quality water to the population and preservation of water resources

7. What changes do you plan to make in your operations as a result of this conference?

- 4 - Privatization and partial privatization
- 4 - Tariff system and water standards
- 2 - The Experience of Saur-Neptun-Gdansk
- 2 - Financial viability
- 2 - Have not decided yet
- 2 - Payment collection for water usage
- 2 - Management and organization
- 1 - To develop methodological basis of the Umbrella project based on the conference materials (Tyrtyshtny)
- 1 - Improvements in water cleaning systems
- 1 - Use all applicable information
- 1 - None
- 1 - Investment strategies
- 1 - Requirements and approach to usage of water in the cities
- 1 - Collecting payments for water
- 1 - Providing clean drinking water and sanitation systems for rural population

8. Would you find more workshops or conferences to be useful?

Yes from all participants

9. If yes, what topics would be useful?

- 8 - Privatization (including privatization in transitional countries (two answers))
- 2 - Development of Vodokanal in Kyrgyzstan
- 2 - Investments
- 3 - Quality of water cleaning
- 2 - Tariffs
- 1 - Regional Meetings in the North-East part of Kazakhstan (Pavlodar, Astana, Karaganda, Ust-Kamenogorsk)
- 1 - Reforming water and wastewater systems and legislative basis for it
- 1 - Operating water and wastewater systems
- 1 - Reconstruction of water systems and recommendations of leading institutes and organizations
- 1 - Improvements in vodokanal operations and lease
- 1 - Underground water sources
- 1 - Financial viability
- 1 - Measuring water, and payments for water. Technical specialists. Automated systems of preparing and delivering water
- 1 - Grants and credits for capital investments
- 1 - Systems for reducing water loses and leaks, new technologies for using underground water sources
- 1 - Institutional development
- Identifying social norms of water being used

10. Would additional written materials be useful?

2 - No

Yes from the rest of participants

11. If yes, what topics would you suggest for written materials?

- 4 - Privatization
- 3 - Tariff system (including one request for tariff system in Gdansk)
- 2 - Development of water and wastewater systems in Kyrgyzstan
- 2 - Funding
- 2 - New technologies
- 2 - Water utilities, and The Experience of Saur-Neptun-Gdansk in Russian
- 1 - Development of all issues vital for water utilities, and detailed management
- 1 - Measurement of water, reconstruction
- 1 - Financial Viability
- 1 - Experience of water utilities' operations in European countries and the U.S.
- 1 - Improvements in vodokanal operations and lease
- 1 - Municipal resources and local self-government
- 1 - Local Government and Utilities by Kathryn Stratos in Russian
- 1 - U.S. legislation on drinking water and standards for drinking water
- 1 - Methods of identifying social norms of water usage

12. Would technical assistance by a consultant be useful to your Vodokanal?

Yes from all participants

13. If yes, what areas would you like assistance in?

- 3 - Privatization
- 2 - Development of water and wastewater in Kyrgyzstan
- 2 - Financial viability
- 2 - Development of agricultural water utilities in transitional countries
- 2 - Sustainable development
- 2 - Bank credits, funding and financing. Management partners
- 1 - On major aspects touched upon during the conference
- 1 - Sewage disposal, utilizing silt, utilizing water from sewage disposal, measuring water
- 1 - Reconstruction of current water and sewage systems
- 1 - Lease
- 1 - Maintaining water utilities in a good operational mode
- 1 - Preservation of water resources and environment
- 1 - Sewage systems, and making sanitation systems and privatized sewage systems profitable.
- 1 - Development of rural water utilities

## QUESTIONNAIRE – July 16, 1999

### 1, 2. Which information from the speakers did you find most useful?

- 5 - World Bank Funding for Water and Wastewater Projects
- 5 - Financial analysis and accounting systems by Frank Schutz
- 2 - Funding for water and wastewater projects, and requirements for it
- 2 - Self-Assessment of Vodokanals
- 1 - Management Contract in Yerevan
- 1 - IDB presentation
- 1 - EBRD presentation
- 1 - Information on reform in Uzbekistan

### 3. Which speaker did you find most useful or informative?

- 8 - Walter Stottmann
- 5 - Frank Schutz
- 2 - Alexander Mironenkov
- 1 - Judy Wilson
- 1 - Ulf Hindstrom

### 4. Did you find the written materials to be useful?

Yes from all participants

### 5. If yes, which materials did you find most useful?

- 3 - Frank Schutz – «Self-Assessment of Vodokanals»
- 3 - Tables by Frank Schutz
- 3 - World Bank materials
- 1 - Information from the banks
- 1 - All

### 6. What specific information do you plan to use in your work?

- 4 - Self-assessment of vodokanals
- 3 - Accounting systems
- 2 - All
- 2 - Financial and economic analysis
- 2 - Funding for water and wastewater projects

7. What changes do you plan to make in your operations as a result of this conference?

- 2 - Accounting systems
  - 2 - Difficult to say
  - 2 - Financial analysis
  - 1 - Advanced training and courses for engineers and accountants
  - 1 - More attention to and participation in selecting water utilities projects for Official Development Assistance
  - 1 - Tariff policy
  - 1 - Reorganizing and restructuring water and wastewater projects
- Implement experiences of other vodokanals

8. Would you find more workshops or conferences to be useful?

Yes from all participants

9. If yes, what topics would be useful?

- 3 - Energy-saving and water saving technologies in water utilities
- 2 - Institutional development and financial and tariff analysis
- 2 - Conference and study tour to a European country or the U.S. to see the work of a vodokanal
- 1 - Improved measurement of water
- 1 - Forms and methods of privatization
- 1 - Assessment of vodokanals in Western countries and NIS
- 1 - Principles of selecting investment projects
- 1 - Tariff development and legislative basis
- 1 - Accounting systems and new standards
- 1 - Investments
- 1 - Association of water users

10. Would additional written materials be useful?

Yes from all participants

11. If yes, what topics would you suggest for written materials?

- 4 - Should be discussed by the vodokanal staff
- 4 - Criteria of assessment of vodokanals (including Assessment of vodokanals in Western countries and NIS)
- 3 - Privatization
- 2 - Funding
- 2 - Accounting systems

- 1 - On Association of water users
- 1 - Tariff policy in European and other countries
- 1 - Comparative tables on water utilities in other countries

**12. Would technical assistance by a consultant be useful to your Vodokanal?**

Yes from all the participants

**13. If yes, what areas would you like assistance in?**

- 1 - Funding
- 1 - Ecological evaluation of projects
- 1 - Financial analysis and accounting systems
- 1 - Implementation of projects
- 1 - Measurement of water, sewage systems
- 1 - Consultant on USAID technical assistance, its schemes and mechanisms
- 1 - Development and system of standards in communal utilities
- 1 - Management of water utilities