

**RAISING CAPITAL FOR UKRAINE'S
WATER AND WASTEWATER INFRASTRUCTURE**

by

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B.S., Economics and B.S., Natural Resources
University of Michigan, 1990

Submitted to the Department of Urban Studies and Planning
in Partial Fulfillment of the Requirements for the Degree of

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ABSTRACT

Ukraine's central government is transferring the fiscal and operational responsibilities for its water and wastewater sectors to local governments. At the same time, to improve the standard of service, the country has to raise billions of dollars to build new infrastructure and to rehabilitate the existing network. Thus, Ukraine's local governments are faced with two new challenges. On the one hand, they have to finance these projects on their own. On the other hand, they have little or no relevant experience in financing such projects. This difficult task is made more daunting, given Ukraine's current political and economic uncertainties.

This thesis proposes the use of Special Assessment Districts (SAD) as a pragmatic and appropriate mechanism for funding certain water and wastewater improvements even when the government is under serious budget constraints. SADs, as outlined, represent a useful legal and administrative framework for economically capable communities who are interested in improving their water and wastewater service level. The proposed SAD financed improvements include: reducing the excessive water loss from pipe and fixture leakage; and improving the reliability, taste, and odor of the water. In addition, these improvements promote a water demand management approach that could considerably reduce the overall level of financing needed to improve water and wastewater capital infrastructure facilities.

The current political, social and economic conditions in Ukraine suggest a receptive environment for this type of finance strategy. In addition, the SAD strategy that this thesis proposes may be applicable elsewhere because many other countries are similarly decentralizing the fiscal and operational responsibilities of their water and wastewater sector. They also have large water and wastewater capital infrastructure deficits that need to be financed by local governments who lack the necessary resources and experience.

Thesis Supervisor: Paul F. Levy
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Although I carried out the research for this thesis over the last year and a half, incorporated as well, is nearly six years worth of thinking about ways of improving the environment that economically benefit those who finance the improvements. The University of Michigan's Department of Economics and School of Natural Resources first installed this idea in my head during my undergraduate days in Ann Arbor. Leaving the ivory tower in 1990, my two years at the Massachusetts Water Resources Authority (MWRA) made me realize that its easier said than done. At the MWRA, Eric Buehrens, John Giuggio, Kim Kendall, Paul Levy, Trudy Reilly and Cara Williams, provided great role models for me and strongly encouraged me to continue my studies in this field.

Next, I would like to thank Professor Robert Birgeneau, Catherine Farrell, Peter Woloschuck, and Professor Steven Yaffee. Without their kind words of recommendation, I might have not received the opportunity to continue my academic studies at MIT. I would also like to thank Professor Lawrence Susskind, my academic advisor, who has supported and encouraged my academic program and interests.

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ABBREVIATIONS

AOA	Apartment Owners Association
COM	Cabinet of Ministers of Ukraine
District	The Ukraine Water and Wastewater Special Assessment District
CHCSD	City Housing and Communal Service Department
GDP	Gross Domestic Product
GNP	Gross National Product
HCS	Housing and Communal Services
MEP	Ministry of Environmental Protection of Ukraine
MOF	Ministry of Finance of Ukraine
OMEP	Odesa Ministry of Environmental Protection
OVK	The Odesa Vodokanal
Rada	The Verkhovna Rada
RHCSD	Raion Housing and Communal Service Department
SAD	Special Assessment District
SCHCS	State Committee on Housing Communal Service
USAID	United States Agency for International Development
VK	"Vodokanal"
ZhEK	"Zhitlo Eksploitatsia Komitet"

GLOSSARY

Enterprise - this is a category of communal service users that corresponds to commercial entities, including: state and joint-stock enterprises; industries; restaurants; office buildings; etc.

General Population - this is a category of communal service users that corresponds to residential users or households.

Oblast - this is a large regional government that is directly subordinate to the central government. There are 25 oblasts in Ukraine. In many ways they are similar to counties in the US. However, unlike cities in Ukraine, they have no power to raise funds on their own. Given this lack of revenue raising ability, and constant conflicts with city governments, oblast governments may be completely eliminated in the near future (Glasser et al., 1993: 42).

Rada - this is the name given to most of Ukraine's elected governmental bodies; e.g. city rada, oblast rada, and Verkhovna rada. In Ukraine, rada is used for all three levels of government. In the U.S. these would be city council, state house and congress.

Raion - this is a government administrative body which hierarchically is beneath the city government. Their purpose is mostly housing and communal service related. In Odesa,

as well as other major cities, they serve similar functions as districts or boroughs do in major cities of the US.

State - this refers to the all-encompassing role that government plays historically in Ukraine.

Vodokanal - this is the water and wastewater utility company. Translated from Ukrainian, it literally means "watersewerage."

ZhEK - this is the smallest governmental organization responsible for managing and maintaining municipal housing. They are also the point where passports are issued and utility and rent bills are collected.

UKRAINIAN LANGUAGE NOTE

As the Ukrainian language is the official language of Ukraine, I have attempted to use phonetic transliterations of all Ukrainian names into English, rather than the Russian usage that often times are used in the West. In most cases this means that the letters "H", "M", and "I" are used instead of "G", "N", and "O" or "Y". For example, the cities Kyyiv, Lviv, Kharkiv, Odesa and Mykolayiv, in Russian are Kiev, Lvov, Kharkov, Odessa and Nikolaev.

AUTHOR'S NOTE

A word of caution is in order regarding the reliability of official Ukrainian or Soviet statistics. Where possible I have tried to avoid data that were published prior to the break-up of the former Soviet Union as much of it is planned data and not actual. Some have argued that the scarcity of actual data was an attempt by then Soviet and now Ukrainian bureaucrats to mask the "embarrassing truth of the scale and inefficiency of state subsidies, and with the onset of hyperinflation and government chaos in Ukraine, fact finding is ever more difficult" (Braden, 1994: 5).

This thesis presents material collected over two three-month stays in Ukraine in the past year. As part of the thesis research, national SCHCS, local government, and VK officials were interviewed in the cities of Kyyiv, Kharkiv, Zaporizhzhia and Odesa. Every attempt has been made to verify the data that appears in thesis through these personal interviews and follow-up meetings. All of the officials were extremely helpful and provided more material than this thesis can cover. Often times the information received through such personal contact varied greatly from published data.

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CHAPTER 1. Introduction

"...the classic public finance literature offers two primary criteria for appropriating charges for public services: Ability to pay and benefit received. A 'pure' special assessment is an application of the benefit principle. In this context, the benefit principle reduces to the rule that he who benefits from a public project should pay for it, a rule with considerable intuitive appeal."
(Misczynski, 1978: 319)

Countries around the world are decentralizing the fiscal and operational responsibilities of their public services (Bahl and Linn, 1992: 2). Water and wastewater sectors are two of the many sectors experiencing this transformation. In some countries, the local government is now responsible for providing and developing water and wastewater infrastructure. In other countries, the public utility itself is responsible. This decentralization is occurring largely because the respective central government is fiscally incapable of continuing its financing and subsidizing role (Bahl and Linn, 1992: 2). Faced with the task of independently generating sufficient operating revenues and capital for infrastructure investment, water and wastewater providers are increasingly turning to various taxes, cost recovery schemes and value capture methods as well as the privatization of the sector itself.

The country of Ukraine, independent since 1991, is beginning such a decentralization transformation. At the same time, Ukraine will have to raise billions of dollars to finance the construction of water and wastewater infrastructure which she either lacks or needs to rehabilitate. Thus, Ukrainian local governments, which have little to no relevant experience, are facing the task of financing these projects largely on their own as the central government continues to reduce its subsidies and grants.

Need for Infrastructure Investment in Ukraine

Currently, up to 40 percent of Ukraine's entire housing stock does not have either water or wastewater service (Ministry of Statistics, 1993). Some 20 percent of urban housing, and 70 percent of rural housing do not have such services. Even when it is available, water is of poor taste and odor, and frequently rationed. All of Ukraine's major cities installed their core water and wastewater networks before 1917 and have invested little in their maintenance. Urban water pipe leakage estimates are as high as 40 percent (Vaughan, 1994). In addition to pipe repair, most need to be relined as lead and iron pipes were used. Vodokanals (VKs), the Ukrainian word for water and wastewater companies, are the single largest water polluter in Ukraine (Demydenko, 1993). As such, experts suggest that Ukrainian VKs are the major polluters of the Dnipro¹ and Dniester² Rivers and the Azov and Black Seas (Whitford, 1993).

In general, Ukraine has three basic water and wastewater infrastructure capital needs. First, capital is required to finance infrastructure that has international and national significance. Examples of this first type include infrastructure needed to remediate the water contaminated by the Chornobyl nuclear power plant catastrophe and water pollution in the above mentioned body of waters. Such capital appears to be forthcoming from direct grants (e.g., Global Environmental Facility). Second, capital is required to build treatment facilities that benefit oblasts³ and cities. Such infrastructure projects include

¹ The Dnipro River roughly cuts Ukraine in half. It flows from northern central Ukraine, starting at the three country intersection (Belarus, Russia and Ukraine), to the Black Sea. According to the State Committee on Geology, the Dnipro River supplies 70 percent of Ukrainians with their drinking water.

² The Dniester River is the primary source of water for western Ukraine, including Odesa's main source of water. It is an international waterway which starts in Slovakia, travels through north western Ukraine, through Moldova and then back into Ukraine before it empties into the Black Sea.

³ Oblasts are large regional governments that are directly subordinate to the central government. There are 25 oblasts in Ukraine. In many ways they are similar to counties in the US. Unlike cities in Ukraine, they have no power to raise funds on their own. Given this lack of ability and conflicts with city governments, oblast governments may be completely eliminated in the near future (Glasser et al., 1993: 42).

treatment facility expansion or the rehabilitation of the existing facilities. In all likelihood, international lending agencies (i.e., World Bank, European Bank for Reconstruction and Development, United States Agency for International Development) will provide some of this capital. These are the two levels of need to which the above donor agencies and Ukrainian officials have been paying the most attention. They are, however, only two parts of the puzzle.

"The other end of the pipe"

Third, capital is required to rehabilitate infrastructure that is specific to residential buildings⁴, ZhEK⁵ administrative districts, and raions⁶. This infrastructure includes all of the pipes and fixtures that begin at the water and wastewater main connection and end at the faucet or toilet in a residential housing unit. While VK facilities and water and wastewater mains are important, the "other end of the pipe" ultimately determines the quality of water and wastewater services that the individual resident receives. In addition, while it is usually overlooked, the infrastructure improvements on this level reduce the costs of the other two (Stottman, 1993). Currently, local governments own all of this infrastructure while VKs operate and maintain it.

By using a "demand management" approach, i.e., promotion of conservation, the potential exists to reduce Ukraine's VK water consumption by up to 50 percent⁷. Such reductions would have the subsequent benefit of reducing both the first and second capital needs listed because smaller or no new facilities would be necessary. In general, there are two basic methods to reduce consumption: 1) increase water and wastewater user

⁴ Housing related water and wastewater infrastructure is in considerably worse shape than all other sectors (i.e., industry, agriculture). The other sectors, as this thesis will discuss, pay extremely high water charges. Thus, they themselves have already made or will make the repairs necessary to reduce their costly consumption.

⁵ZhEKs, explained in detail in chapter 2, are housing management companies whose governance is a sub-division section of the city.

⁶ Raions, explained in detail in chapter 2, are similar to districts or boroughs in the US.

⁷ This is based on 1) the 30 - 40 percent leakage rates often cited and 2) the excessive water consumption of the Ukrainian population (Abramovitch, 1993). This is further discussed in chapter 2, section III A.

charges and 2) reduce the excessive water losses from pipe and fixture leakage. Clearly, raising user charges could play an important role in reducing the amount of water consumed (Stottman, 1993). However, given the current dire economic situation in Ukraine (much more thoroughly discussed later), this thesis focuses on the second method.

Special Assessment Districts as a Strategy

Special Assessment Districts (SAD) constitute a significant strategic approach for financing "other end of the pipe" capital improvements. Apartment owners themselves, and not the government, would voluntarily agree to assess themselves an amount to finance needed infrastructure improvements. Apartment owners will accept this arrangement because it improves their service and increases the value of their apartment. Several recent developments in Ukraine provide a receptive environment for SADs. First, the recent housing and ZhEK privatization programs create a stable population of owner occupants. Second, reform-minded local government and VK officials are seeking non-governmental mechanisms to finance capital water and wastewater infrastructure improvements. Third, the emerging western-style housing market demands high quality water and wastewater services. Fourth, the creation of an active market provides a financial reward for high quality water and wastewater services. For example, an average two-room apartment in Kharkiv (Ukraine's second largest city with a population of 1.7 million) sells for \$11,700; of which, the quality of water and wastewater may account for a \pm \$1,000 to \$2,000 difference (Kharkiv Commodity Exchange, 1994).

Thesis Outline

This thesis proposes a SAD financing strategy to pay for water and wastewater infrastructure improvements in Ukraine. The second chapter provides a brief background overview of the current physical state of Ukraine's housing, water and wastewater sectors and describes the characteristics of Ukraine's water and wastewater deficit. Apartment Owners Associations (AOA) are also introduced. AOAs are a recent development that permit recently privatized apartment owners to self-manage their apartment buildings as a condominium. The third and final chapter presents the SAD strategy for Ukraine. This chapter first defines SADs, justifies their applicability to Ukraine, and discusses their advantages and disadvantages given Ukraine's unique social, economic, and political context. Next, the chapter outlines the Ukraine Water and Wastewater SAD (the "District") strategy. The District strategy incorporates several measures to accentuate the above given SAD advantages, and to mitigate its disadvantages. Its strategy is based on the progressive organizational and management structure of AOAs, the current reforms related to VK⁸ and local government finance, and the desire for a segment of the population to have better water and wastewater services. Chapter 3 concludes by providing recommended next steps for the successful implementation of the District strategy in Ukraine.

⁸ This refers to the lease arrangement that Odesa Vodokanal (OVK), an "enterprised" VK, has with the Odesa oblast administration, the legal owner of all VK facilities. Appendix C describes this arrangement in more detail.

CHAPTER 2. Housing, Water and Wastewater Sector Review

I. Chapter Introduction

This chapter reviews the housing, water and wastewater sectors, and their relationship in Ukraine. Included in this review is an introduction to the different sector physical characteristics, related terminology, recent sector-related reforms, and the emerging private real estate market. In addition, it provides private apartment sales data for Ukraine, as a whole, and for the city of Kharkiv and attempts to relate the quality of water and wastewater service to these sales prices. This information provides the background to understand the current water and wastewater infrastructure deficit and how it affects the housing sector. Most importantly, this chapter demonstrates that 1) water and wastewater services contribute significantly to the sales prices of recently privatized state housing, and 2) that various housing management and user charge reforms are underway. Both of these facts support the applicability of the thesis proposed District strategy.

II. The Housing Sector

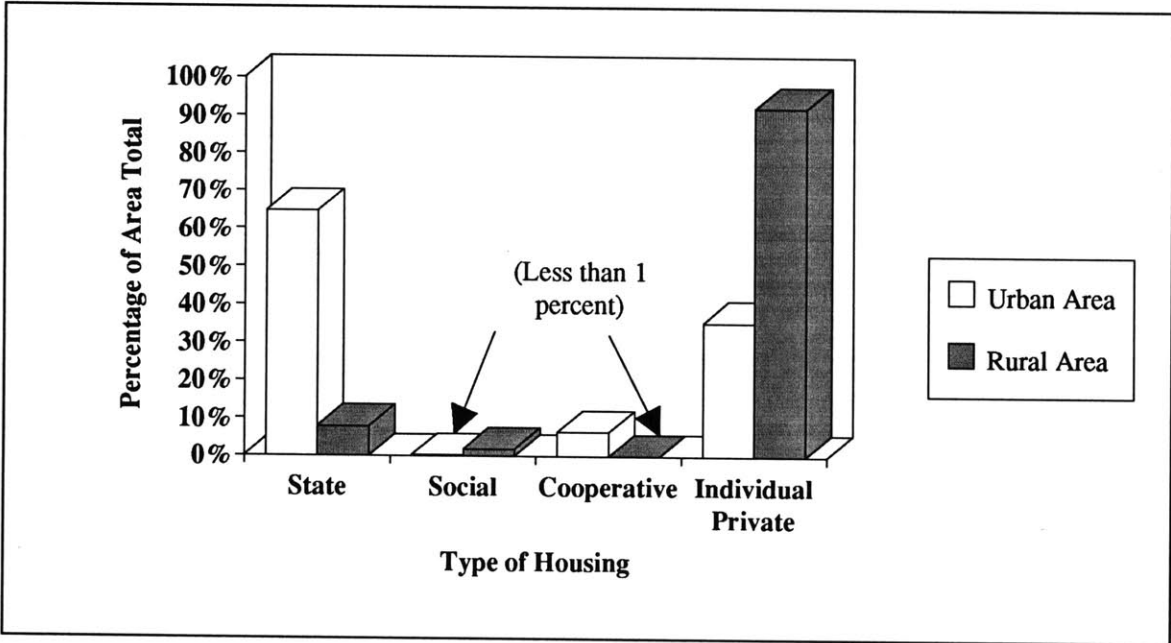
A. General Housing Information

During the Soviet period, public, cooperative and private individual housing existed in Ukraine¹. As of 1992, there were over 17.9 million housing units in Ukraine; roughly 11.4 million in urban areas (housing 68 percent of the total population) and 6.5 million in rural areas (housing 32 percent of the total population) (Ministry of Statistics, 1993).

¹ Land in Ukraine, prior to the 1992 law "On Forms of Land Ownership", was owned by the State. Currently, land can be owned by the State, collectives and private individuals. Chapter 3's Section III B discusses this law and these new forms of land ownership further.

Chart 2.1 shows that individual private housing makes up over 35 and 90 percent of the total housing stock in urban and rural areas, respectively. That so much of the housing stock was privately owned was one of the anomalies unique to Ukraine in the context of the Soviet Union (Braden, 1994: 6). While Soviet law did not recognize private real property, it did recognize personal property (Glasser et al., 1993: 13). Thus, Soviet officials viewed Ukraine's individual private housing as personal property, similar to a "sweater or a car" as it made up a very small percentage of the entire Soviet Union's housing stock. Note, that similar to sweaters and cars, a house could not be sold from person to person (Glasser et al., 1993: 13). "Ironically, what was once considered the backwardness of Ukrainian socialist development, is now the basis of the emerging private housing real estate market" (Braden, 1994: 6).

Chart 2.1: Housing Type as a Percentage of all Housing in Urban and Rural Areas of Ukraine in 1992



Source: Housing Stock of Ukraine. Ministry of Statistics of Ukraine. 1993

B. Housing Categories

Two categories make-up the basic public housing stock: State and social housing. *State housing*, which makes up the majority of urban housing and the main focus of this thesis, is further subcategorized based on the State entity that had the legal power to use and dispose it (Glasser et al., 1994: 13). These entities include local radas, "self-viable" organizations and enterprises, and budgetary organizations and enterprises (i.e., entities that are fully state-subsidized) (Glasser et al., 1994: 13). *Social housing*, which makes up the smallest amount of housing, includes units "owned" by cooperative organizations and enterprises such as CentroSoyuz (the all-Union Central of Consumer's Associations), kolhospis (the collective farms), and certain inter-organizational entities (Glasser et al., 1994: 13).

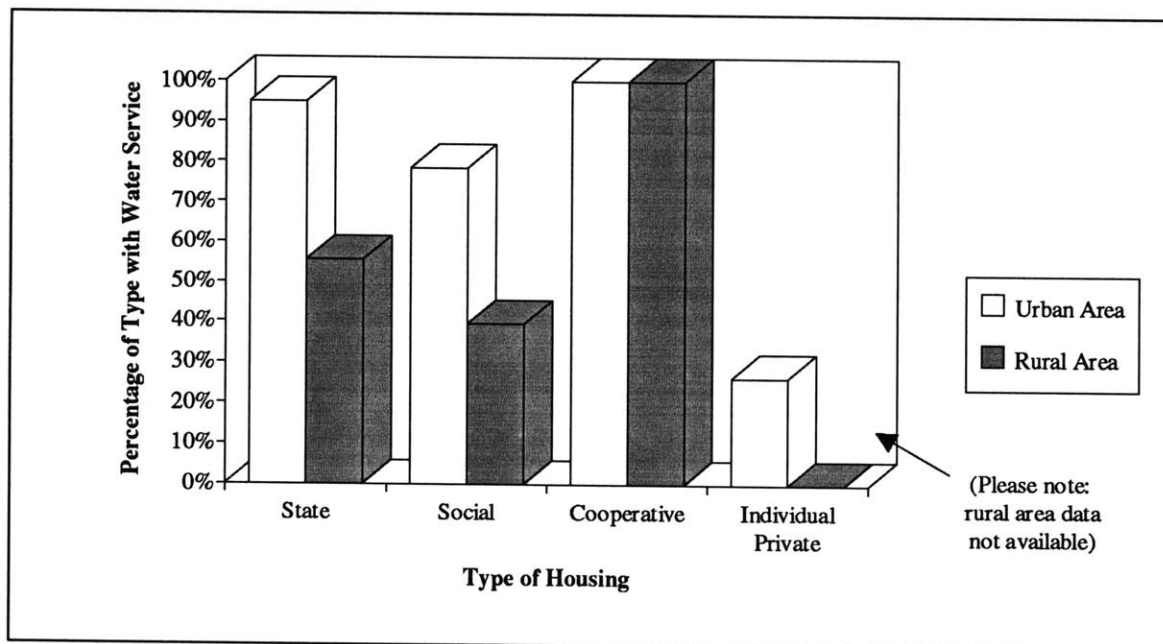
Legally lodged between public and completely private are cooperative housing buildings. *Cooperative housing* consists of buildings "owned" by housing construction cooperatives. Cooperatives consist of individuals who ban together for the specific purpose of funding, building, and subsequently living in that housing. This type of housing is initially funded up-front by the State. Each cooperative member pays his/her share of the construction cost via a down-payment and periodic payments to the State until he/she has paid back their "loan." Upon repayment of the "loan", the cooperative member receives ownership of the apartment. While cooperative housing represents less than 10 percent of the urban housing stock, in recent years their popularity has grown. For example in Kharkiv, cooperative housing starts now represent 25 percent of all new housing constructions (Kunze, 1994).

C. VK Service as they Relate to Housing Type

The patterns evident in both Charts 2.2 and 2.3, reflect two main considerations. First, it generally costs more per unit to provide water and wastewater services to detached buildings than to apartment buildings (i.e., all of the other housing types)

(Glasser et al., 1994: 36). This partially explains why private individual houses are so poorly served. Charts 2.2 and 2.3 show that individual private housing in urban areas and social housing in rural areas possessed the worst coverage of water and wastewater service. Roughly 25 percent and 40 percent have water and wastewater service respectively (Ministry of Statistics, 1993). Second, it was Soviet policy to encourage apartment-style living in the cities (Glasser et al., 1994: 36). Individual private houses were routinely razed as part of urban redevelopment programs and replaced by more efficient apartment blocks (Glasser et al., 1994: 36).

Chart 2.2: Urban and Rural Housing Units in Ukraine With VK Water Service in 1992

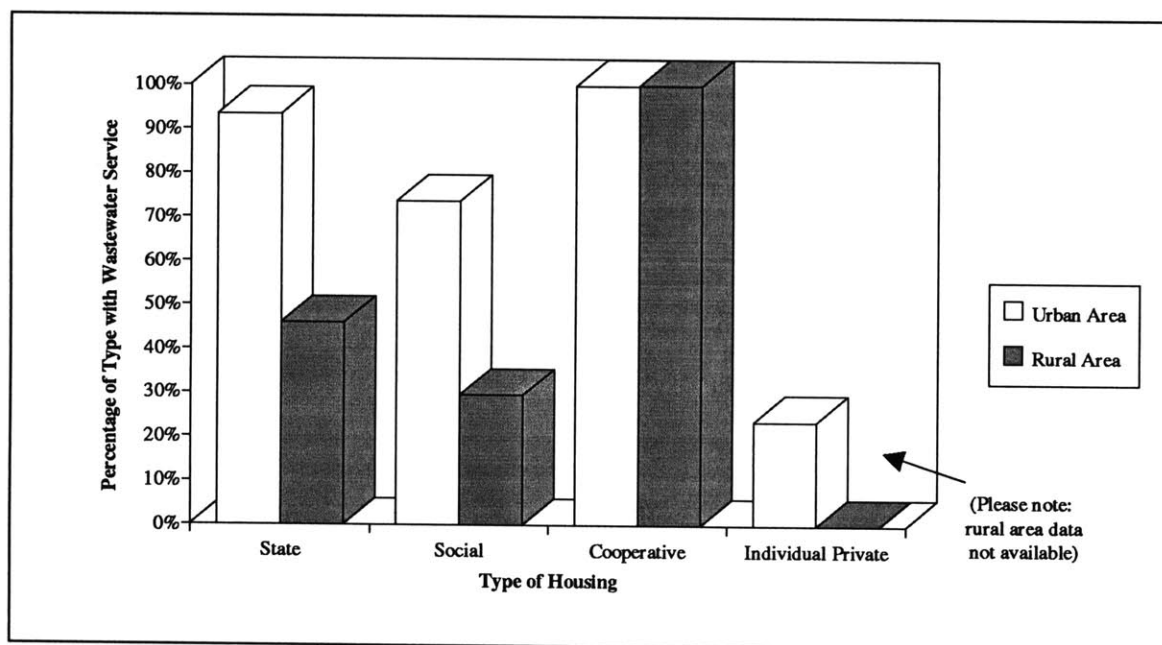


Source: Housing Stock of Ukraine. Ministry of Statistics of Ukraine. 1993.

That cooperative houses have the highest percentage of water and wastewater service coverage supports the applicability of this thesis' District strategy. As was described earlier in this chapter, cooperative houses are apartment buildings that are financed by those who actually live there. This suggests that people are not only willing to

pay more for a superior quality of housing, but they already have. However, while impressive, cooperative housing represents a very small percentage of the overall housing stock. As Chart 2.1 showed, roughly 5 percent of the urban housing stock, and less than 1 percent, of the rural housing stock is cooperative. Private home ownership on the other hand, whose water service as a category group is the most limited, represents a much larger share of the housing stock; 35 and 92 percent for urban and rural areas respectively.

Chart 2.3: Urban and Rural Housing Units in Ukraine With VK Wastewater Service in 1992



Source: Housing Stock of Ukraine. Ministry of Statistics of Ukraine. 1993

While State housing has less developed water and wastewater service networks than cooperative houses, just as important to the District strategy (which focuses on State housing), is that close to 95 percent of its units already receive water and wastewater service. The significance is that most of their major, and most expensive, infrastructure (i.e., water pipe network, water pumps, etc.) has mostly already been built and the

subsequent improvements needed are less costly (i.e., fixing leaky fixtures, re-lining iron or lead pipes, filters, meters)².

III. VK Water and Wastewater Service Overview

A. VK Water Service Overview

All 436 cities and 827 out of the 927 towns in Ukraine have a publicly managed VK (SCHCS, 1993). The 1,263 VKs in Ukraine, process an average of 14.8 million m³ of water per day or 5.2 billion m³ of water per year (SCHCS, 1993). Of this amount, roughly 70 percent comes from the Dnipro River, 15 percent comes from other surface water (including the western Ukraine Dniester River) and the remaining 15 percent comes from ground water supplies (State Committee on Geology, 1993). Ukraine's VK water infrastructure network uses over 67,000 km of pipes, not including internal building pipes (SCHCS, 1993). Experts estimate that in most urban water systems leakage rates exceed 30 percent and may reach 40 percent in some raions (Vaughan, 1994: 2; SCHCS, 1994).

While each VK administrative region is slightly different, four basic categories of users receive VK water: 1) general population (i.e., residential); 2) communal service providers (i.e., hospitals, schools); 3) enterprises (i.e., state and joint-stock businesses or industries); and 4) agricultural enterprises. As a rule, the general population is the largest VK water consumer, consuming roughly 50 to 80 percent of the water that a VK supplies; an estimated 326 liters per person per day (Abramovitch, 1993).³ This figure is roughly 2 to 4 times higher than most developed countries; for example, the average person in England consumes 80 liters per day (Abramovitch, 1993).

² This will be further described in chapter 3 and Appendix A.

³ Observation generally supports the high Ukrainian consumption figure. Roughly 70 percent of the apartments visited over an 8 month period in Ukraine had runny "toilets" and "drippy" sinks. Additionally, apartment occupants were often witnessed letting the water run for an hour or so during the day for fear of losing water pressure before they bathed or other water activity.

However, it is difficult to say with any accuracy whether or not the average Ukrainian really consumes this much. This figure is not based upon any actual individual metered use, as individual apartment unit water meters do not exist. Rather, this amount is based on two figures. One is the actual amount registered by those residential buildings that have water meters, and the second is a calculated estimate for those residential buildings that do not have a water meter. The estimate is based on a percentage of the maximum amount of water possible that the pipe leading up to the building could transport (Puchko, 1993). The estimate for those buildings without meters may in fact be too high. Unfortunately, without meters it is difficult to be completely accurate. Industrial and agricultural use on other hand, are all closely metered for VK revenue generation reasons.⁴

B. Quality of VK Water Service

Two hundred and thirty one VKs provide drinking water beneath the standards set by the Ministry of Environmental Protection (MEP); this represents nearly 17 percent of all the water consumed (SCHCS, 1993). VKs in Zaporizhzhia, Odesa, Khmelnytskyi, Donetsk and Luhansk oblasts have the lowest quality drinking water in Ukraine (SCHCS, 1993). Industrial and fecal matter pollution in the Dniester River contaminates Odesa's water supply (OMEP, 1993). Except for Odesa, the above oblasts drinking water are mostly contaminated by industrial pollution. Lastly, new fears are raised about the possible nuclear contamination of Kyiv's drinking water supply by the disabled Chornobyl nuclear power plant.⁵

⁴ This is further discussed in Appendix A.

⁵ The Dniro River, which supplies 70 percent of Ukraine with water and is a major tributary to the Black Sea, is located downstream from the Chornobyl plant. A concrete ellipse of several hundred square meters was placed underground encircling the damaged facility in an effort to hinder contaminated ground water from flowing into the Dniro. According to recent reports, the unusually high precipitation that Ukraine has received the past few summers combined with the overall poor design of the construction, has caused the water to build up. Experts fear that the water level may rise over the concrete wall and begin draining into the Dniro in the near future (Demydenko, 1993).

In general, over the last twenty years, experts observed a steady decline in drinking water quality (SCHCS, 1993). Documentation shows that pesticides, nitrates, phenols, heavy metals, petroleum products, radio-nuclides and pathogenic micro-organisms have largely contaminated many water tables and ground water sources (SCHCS, 1993). A variety of enterprises, agricultural enterprises and residents released such items into the environment. The fiscal constraints that VKs face have only added to the pollution problem. This impairs the completion or even construction of many of the country's water treatment facilities. Thus, many VKs are incapable of treating such polluted water completely to make it safe for drinking.

VKs add high amounts of chlorine to reduce high amounts of photo plankton present in the raw water supply (SCHCS, 1993). Unfortunately, this does not eliminate any of the toxic chemicals that may be present. In addition, VK water providers believe that the level of chlorine that they introduce into the drinking water supply creates a potentially dangerous high level of toxic chloro-organic compounds (SCHCS, 1993). They further believe that this produces a tremendous amount of carcinogenic side-effects in the general population. Other medical conditions that are linked to the overall poor water quality include ulcers, kidney stones and respiratory failure (SCHCS, 1993).

C. VK Wastewater Service Overview

Thirty-three of the 436 cities and 500 of the 927 towns in Ukraine currently do not have a wastewater treatment facility or even a wastewater-pipe network (SCHCS, 1993). According to the SCHCS, the daily average amount of wastewater that receives some form of treatment is 11.5 million m³ (4.2 billion m³ per year). Of this, a daily average amount of 10.8 million m³ (3.9 billion m³ per year) of wastewater receives secondary treatment, with the rest either receiving primary treatment or released untreated. The sewage piping network comprises 25,700 km worth of piping; of which, 1,500 km are in critical condition.

D. Quality of VK Wastewater Service

The wastewater treatment facilities of 130 cities and 45 towns currently operate beyond capacity and release poorly treated or untreated sewage into the waterways. VK officials point to the combination of the general population's excessive water consumption and local government's fiscal constraints as the two prime causes of this situation (Dron, 1993). According to the SCHCS, the Dnipro River receives around 2 million m³ of poorly treated wastewater per day; 230,000 m³ of that receives no treatment whatsoever. The city of Zaporizhzhia's VK, "ZVK", contributes 150,000 m³ of that amount alone.

Other problem regions include: Dnipropetrovsk oblast, where 16 wastewater treatment plants work ineffectively; Zhytomyr oblast, where 6 work ineffectively; and, Zaporizhzhia oblast, where 2 work ineffectively (SCHCS, 1993). In Dnipropetrovsk, the VK receives a total average of 514,000 m³ of wastewater a day but only has the capacity to treat 458,000 m³ per day (SCHCS, 1993). In Zhytomyr, the VK on average receives 93,700 m³ of wastewater per day but can only treat 86,000 m³ per day (SCHCS, 1993).

The City of Odesa's VK, "ODESVODOKANAL" (OVK) also has the reputation of being a notorious polluter. Currently, one of its two wastewater treatment facilities, "SBO South", only utilizes primary treatment. SBO South releases roughly 400,000 m³ of poorly treated wastewater per day into a very ecologically sensitive part of the Black Sea shelf causing constant beach closures during the peak tourist months of the summer (OMEP, 1993). OVK officials also link excessive water consumption and lack of city funds as the main causes of the current situation (Shikin, 1993).

The final critical major issue that all of Ukraine's VKs face is the environmental safety of the dehydrated sludge they produce and the sludge's final destination (SCHCS, 1993). Due to Ukraine's severed trading ties with the Russian Federation, most of the necessary reagents and equipment parts that are needed for this process can not be easily obtained. When they can be, they are generally only for sale in hard currency that again

makes it difficult for VKs to purchase. As a result, most of the dehydrated sludge produced is in violation of most environmental standards (SCHCS, 1993).

IV. Trends in Apartment Ownership, Management and Sales Prices

A. Update

Since Chart 2.1's data reflect data collected in 1992, it does not reflect the housing privatization that has occurred since the 1992 law "On Privatization of State-Owned Housing." This law grants citizens of Ukraine living in State-owned housing the right to own their own apartment and co-own the rest of the building.⁶ Local governments, who are fiscally responsible for State housing operation, management and communal service subsidization, largely view privatization as a way of reducing their financial burden on their budgets. Thus, including the some 800,000 privatized State housing units since 1992 (13 percent of the total eligible⁷), the 740,000 privatized cooperative units,⁸ and the 10 million individual private homes, close to 65 percent of all housing in Ukraine currently is in private ownership (Glasser et al., 1994: 14).

However, several factors suggest that further state housing privatization may continue at a much slower pace (Braden, 1994: 6). Presently, many disincentives exist to owning a privatized apartment; including low State rents, low payments for utilities and services and the concern over the security of ownership (Braden, 1994: 27-28). Relevant to this thesis are the higher payments for utilities and services that privatized apartments pay. The ZhEKs⁹, with whom private owners are forced to sign contracts for the

⁶ The law, however, did not provide a framework for the overall governance of the co-owned portion. The later discussed law "On Association of Owners in Multi-Apartment Buildings," addresses this deficiency.

⁷ Excluded from the housing privatization process are the following seven categories of housing: historical landmarks; buildings located on restricted military bases; rooms in dormitories (hostels); dwellings classified as unfit for habitation; offices; dwellings where one of the tenants does not consent to privatization; dwellings under or designated to be under, repair (except where the privatizing tenant undertakes to make that repair him/herself with compensation from the government) (Braden, 1994: 15).

⁸ According to the 1991 "Law on Property," cooperative members who have fully repaid their initial loan actually own their units, much like a Western condominium (Glasser et al, 1994: 14).

⁹ ZhEKs, similar to a housing management company, is described in more detail in the next paragraph.

continuation of services, charge higher unregulated fees¹⁰ for such services to private owners even though the quality of service does not change (Braden, 1994: 27).

"Zhitlo Eksploitatsia Komitet" (ZhEK), Ukrainian for "Housing Exploitation Committee," are the smallest governmental organization responsible for managing and municipal housing. ZhEKs report to the raion level Housing and Communal Service Department (RHCS D), who in turn report to the city level Housing and Communal Service Department (CHCS D)¹¹. ZhEKs provide management and maintenance for 2,000 to 3,000 units or an average of 35 buildings per ZhEK (O' Sullivan, 1993: 7). They additionally collect rent as well as record resident passport information.¹²

However, the recently passed Cabinet of Minister's (COM) Resolution No. 93, "On Payments for the Use of Housing and Communal Services," may reduce or eliminate some of the earlier mentioned disincentives to privatizing apartments. The resolution stipulates that rent on housing and the prices of communal services including heating, hot water, water, wastewater, building maintenance, and gas will be systematically increased over the next three years. In 1994 it will be increased to cover 20 percent of the production costs, in 1995 to cover 40 percent of costs, and in 1996 to cover 60 percent of costs. The resolution applies to residents of public housing, private housing and cooperatives. If carried out, it represents a major step in the process of restructuring Ukraine's economy and society.

Two other reforms, one already enacted and the other only drafted, affect housing. The recent law "On Enterprises" permits the creation of housing and management companies who can compete with ZhEKs, who themselves can now be privatized. It is believed that competitive private property management companies can significantly reduce the local government's burden of responsibility by reducing costs and improving the

¹⁰ Observational evidence suggests that the higher fees are treated as a take-home profit.

¹¹ Figure 3.1 illustrates the entire Housing and Communal Service Provider hierarchy. The CHCS D and RHCS D appear as numbers 3.2.1 and 3.1.1 respectively.

¹² Appendix A provides a further discussion of ZhEK, RHCS D, CHCS D and SCHCS responsibilities.

efficiency and quality of maintenance and service provision (O' Sullivan, 1993: iv).

Presently however, such housing and management companies do not exist, nor have any ZhEKs privatized themselves. However, several demonstration projects are underway in Odesa (Shea, 1994). Once competition for this service begins, housing privatization may increase as the unregulated fee falls due to market forces and the State planned increases in rent and communal service user charges (O' Sullivan, 1993: iv).

Lastly, the drafted "On Association of Owners in Multi-Apartment Buildings" provides:

"...the framework for private ownership and management of existing and newly constructed multi-apartment buildings, and to help implement the 'Law on Privatization of State-Owned Housing,' by describing how owners of apartments in multi-apartment buildings may own, manage, maintain, repair, renovate, and improve their housing" (Chapter I, Article 2a).

The draft law introduces two concepts to Ukrainian law that permit apartment buildings to self-govern themselves: condominiums and apartment owners associations (AOA). The draft law defines condominiums as:

"...real property consisting of two portions: individually owned apartments and common elements jointly owned by the apartment owners. "Common elements" are everything other than the apartments, including for example, lobbies, hallways, stairwells, roofs, lifts, boilers, other engineering systems, and basements. Real property is not a condominium unless ownership of the common elements is indivisibly and exclusively vested in the apartment owners (Chapter II, Article 3b).

The draft law states that the purpose of an AOA is: "...to oversee the management, operation, maintenance, repair, renovate, and improvement of the condominium and its common elements" (Chapter IV, Article 7). Note that AOAs possess the power to levy "assessments on all unit owners based on the proportionate size of an apartment to pay for the maintenance, repair, renovation, and other management aspects of the building" (Kayden, 1994). They are in effect mini-SADs.

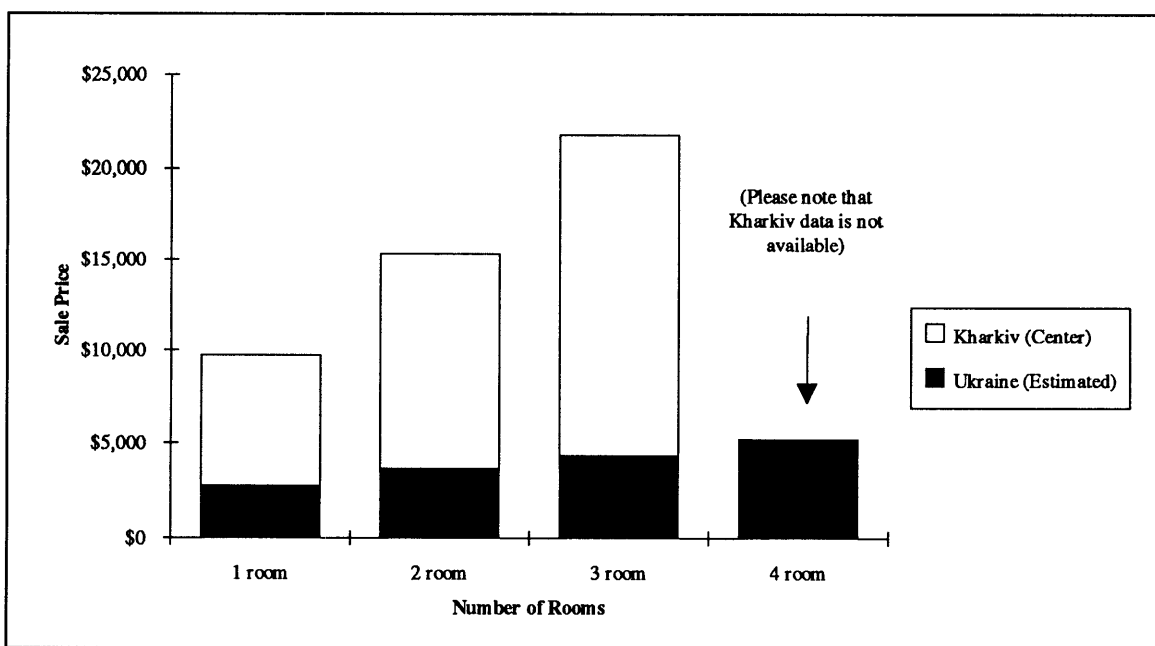
Each of the three reforms listed remove the State-housing operation and management burden from the local government. In turn, they lay the groundwork for the

provision of higher quality housing and services. Each reform, particularly AOAs, needs to be realized for SADs to work. Chapter 3 further discusses each of these reforms in the SAD strategy context.

B. Privatized Apartment Sale Prices

In general, profit is currently the main incentive to privatize State-owned housing (Braden, 1994: 25). Chart 2.4 shows that for both Ukraine and Kharkiv's Center raion, the sale of recently privatized apartments yields several to tens of thousands of dollars. Under the 1991 housing privatization law, each citizen receives into ownership free of charge an allocation of 21 m² of their current apartment's floor space. A nominal per m² fee is charged if their current apartment is larger, and conversely they receive a nominal credit if it is smaller. Thus, the selling of recently privatized apartments is typically pure profit (Glasser et al., 1993: 7). Likewise, rental rates for most of the recently privatized

Chart 2.4: Average Urban Privatized Apartment Sale Prices for 1992: Kharkiv (Center) and Ukraine (Estimated)



Sources: CHISIK, 1993 (Kharkiv); SCHCS, 1993 (Ukraine)

apartments are extremely high. Three groups dominate housing privatization: old citizens; young single residents; and family groups that are interested in emigrating (Braden, 1994: 25). For each, the single reason most popular reason to privatize is to try and capture its sale or rental market value.

For example, in Kyiv, a single real estate broker interviewed in 1993 listed 306 units for sale (Glasser et al., 1993: 21). They ranged in price from \$6,000 to \$240,000 with a median and mean of \$25,250 and \$39,368 respectively (Glasser et al., 1994: 21). Rental prices in Kyiv in 1993 ranged from \$120 to \$500 per month (Braden, 1994: 26). It is estimated that a 20,000% differential exists between the nominal State rent and the high priced private rent (Glasser et al., 1994: 23).

C. VK Services as they Relate to Apartment Value

Many factors contribute to the value of an apartment in Ukraine, including condition, services, location (distance to subway or bus), amenities, etc. As water is often rationed, feebly delivered (i.e., low water pressure) and of poor taste or odorous, it is one of the key amenities. For example, the availability and quality of water,¹³ as stated in the Introduction, accounts for an estimated difference of \pm \$1,000 to \$2,000 on the sale price of a \$11,700 apartment in Kharkiv's Center raion (Kharkiv Commodity Exchange, 1994). For individual private homes, water and wastewater services impacts the sales price by up to \$4,000 (Kharkiv Commodity Exchange, 1994).

Kharkiv's Center raion, whose apartment prices are shown on Chart 2.2, typifies many city centers in Ukraine. The most expensive apartments are usually located in this area due to its central location and better quality of apartments (most city centers were built before 1917). However, the quality and reliability of water service are often the

¹³ Wastewater service, except for those areas where odor is a problem (i.e., open sewer or sewer leakage - Lviv and Odesa), is not as significant a factor as water service.

worst in the city due to the decrepit condition of its infrastructure (the water and wastewater network was also built before 1917). Thus, water service can play a significant factor in the value of an apartment that is located centrally.

V. Chapter Conclusion

This chapter documented Ukraine's water and wastewater infrastructure deficits and this sector's relationship to both the type of housing and its value. First it was shown that cooperative housing, where members actually paid for construction and closely resemble condominiums, have the best overall service coverage. This demonstrates that there is a block of Ukrainian citizens who are willing to pay more to improve their standard of living. Next, this chapter provided an overview of the precarious condition of the VK water and wastewater service sectors in Ukraine. The chapter then reviewed the current disincentives to privatization, COM Resolution No. 93 and the potential benefits of emerging private housing management companies and apartment owners associations. All three of these reforms represent major steps in the process of restructuring Ukraine's economy and society. Last, and indicative of this change process, this chapter described the emerging private apartment real estate market and the value that water and wastewater service quality contributes to apartment and house prices.

The next chapter describes SADs, justifies their use in Ukraine, and discusses their advantages and disadvantages given Ukraine's unique social, economic, and political context. This thesis' proposed District strategy is then outlined and suggested next steps are provided.

CHAPTER 3. Financing "Other End of the Pipe" Capital Improvements: The Ukraine Water and Wastewater Special Assessment District Strategy

*Special assessment districts are not a new idea in financing at the local level, but they work in a special way within the context of financing today.*¹

(Blackburn and Dowall, 1991: 22)

I. Strategy Introduction

The movement to decentralize housing management and VK operational and infrastructure financing responsibilities is underway in Ukraine. Recent legislation and reform initiatives have been implemented to promote local governments, groups, and individuals to self-finance their capital infrastructure and more effectively manage their properties. Private apartment owners, Apartment Owners Associations (AOAs) and competitive housing management companies are just a few of the new institutions that are now emerging. High sales prices of privatized apartments with a high quality of water service, further show that a western-style market is in its early stages.

As was earlier stated, Ukraine has three levels of water and wastewater capital infrastructure issues and needs. These three levels of need are exemplified by: 1) the pollution of the Azov and Black Seas, and the Dniester and Dnipro Rivers; 2) current VK water and wastewater infrastructure deficits²; and 3) unreliable, poor tasting and unpleasant odor water service.

The decayed "other end of the pipe" infrastructure (i.e., apartment building and non-main water and wastewater pipe network specific) and the general population's

¹ Special Assessments have been used since the thirteenth century to raise funds for projects of public benefit (Misczynski, 1978: 312). The earliest recorded special assessment is the Romney Marsh case of 1250. At that time, a local ordinance allowed authorities to assess residents for repairs made to the sea walls and protect them from flooding (Seligman, 1925: 434). The first sewer project known to have been financed by special assessments occurred in England in 1427 (Seligman, 1925: 439).

² Please note that at the time of writing, the western Ukrainian city of Lviv is close to signing a \$20 million loan water and wastewater infrastructure improvement package agreement with the World Bank. Lviv is notorious for its limited water service (roughly 4 hours of service per day) and poor wastewater service. The World Bank has defined a project to provide Lviv with 24-hour water service at a cost of about \$1.50 per resident per year.

excessive water consumption undermine the VK's ability to adequately provide its services. Local governments which have only recently been given the power to raise revenues independently, are seeking mechanisms to finance billions of dollars worth of capital VK infrastructure improvements. Local governments have even begun turning to non-governmental solutions to both finance and carry-out these infrastructure investments.³

One solution is to use the "demand management" approach. By using an approach that promotes conservation, the potential exists to reduce Ukraine's VK water consumption by up to 50 percent. In turn, it reduces the total capital requirements needed to finance infrastructure expansion that was based on the excessive consumption patterns of the general population. Raising the general population's user charges also can have a major role in reducing the amount of water consumed. However, the current dire economic situation prevents rapid user charge increases. Thus, it is proposed to use an alternative finance mechanism (SADs) to duplicate on the ZhEK or raion geographic level what an AOA seeks to do on the building level. Briefly discussed in chapter 2, AOAs allow for apartment owners to collectively manage and finance improvements to their respective apartment buildings. SADs are proposed to be formed jointly by a group of AOAs, the VK and the relevant ZhEK or raion Housing and Communal Services Department (RHCS). In addition, upon SAD creation, it enters into an "OVK"-type lease arrangement with the oblast government over the water and wastewater pipe network within the former's governance.⁴

The proposed Ukraine Water and Wastewater Special Assessment District ("the District") strategy provides a framework to finance in a "pay-as-you-go"⁵ manner the

³ See Appendix A for a detailed overview of Ukraine's current VK operation and finance reforms.

⁴ This agreement would allow the SAD to assume the fullest rights and responsibilities over the network permitted today by law in Ukraine.

⁵ " 'Pay-as-You-Go' financing requires the payment of infrastructure costs directly from such current revenues as taxes, fees and user charges, interest earnings, and grants from other governments" (Robinson and Leithe, 1990: III-1).

needed capital water and wastewater infrastructure improvements specific to the "other end of the pipe." All of those who live within the District are assessed fees to pay for these improvements. These improvements potentially: 1) reduce the amount of water leakage and consumption; 2) increase the quality of service received; and 3) increase the value of the apartments within the District.

This first section of this chapter, "Special Assessment Districts," defines SADs and describes the typical scale of SAD financed projects. The next section, "SAD's Potential in Ukraine," justifies SADs applicability to Ukraine, and discusses the generic advantages and disadvantages that SADs may have given Ukraine's social, economic and political context. Each of these advantages and disadvantages are respectively accentuated and directly mitigated in the District strategy proposal that immediately follows. The chapter then concludes with a discussion of "Next Steps" that provides a framework of recommendations and tasks that need to occur before the District strategy can be implemented.

II. Special Assessment Districts

A. SADs Defined

SADs are formed by geographically isolating the financing of infrastructure that usually serves development in a particular area of a city. SADs can apply to any geographic region within an urban area, including: processing zones; enterprise zones; neighborhood associations; and housing cooperatives (Dalton and Dowall, 1991: 25). One special type of assessment district, the Mello-Roos district of California, can even be drawn around "pockets of resistance" and take on a "Swiss-cheese" design (Porter et al., 1992: 3). Conventional SADs are usually created to allocate specific infrastructure costs to the property owners of a district for which public funding is unavailable within the desired time period (Blackburn and Dowall, 1991: 24). Residents themselves by a majority vote, or government statute, establish SADs and determine their boundaries. The

ownership of many SAD facilities may even rest with the property owners themselves in the district. The best candidate for a successful SAD is "usually a developed area with a relatively homogenous character, although not necessarily the same land use pattern" (Dalton and Dowall, 1991: 25). However, a mixed-use SAD can have the advantage of cross-subsidization (Dalton and Dowall, 1991: 25).

The financing options for infrastructure within the SAD consist of special fees or levies assessed on the district's property owners to recover a portion or all of its cost (Dalton and Dowall, 1991: 25). "Unlike taxes, the sum of special assessments collected can not exceed the cost of providing the benefiting improvement or service" (Blackburn and Dowall, 1991: 45).

"The term 'special assessment' is used because it confers the meaning that those who pay this sum receive a 'special benefit.' The property must be 'particularly and directly benefited' by a local improvement. The benefit to land must be 'actual, physical and material and not merely speculative or conjectural.' While a special assessment cannot be used to finance facilities that benefit the general public, there can be general benefits so long as the benefits to those assessed is 'substantially more intense than that yielded to the rest of the city' " (Melnick, 1993: 543).

In theory, the fee is proportional to the benefit received by each beneficiary. In practice however, measuring this benefit is difficult, so charges are primarily based on the cost of the improvement divided by a rule-of-thumb apportionment; e.g., relative frontage; assessed value; floor space; number of rooms; number of inhabitants per apartment; or water consumption (Misczynski, 1978: 312).

B. Typical Scale of SAD Financed Projects

SADs work most effectively when two criteria are met: the beneficiaries have the ability to pay the assessment fee; and there exists a direct link between payment and benefits received (Musgrave and Musgrave, 1973: Chapter 8). As a result, SADs typically finance smaller less costly local projects, such as residential streets, sidewalks, curbs and gutters, water and wastewater facilities, sewers, storm drains, street lights,

parking spaces, and neighborhood parks (Misczynski, 1978: 312). Some U.S. examples of recent successful SADs include: the Pleasanton, California SAD⁶; the widely successful California Mello-Roos Benefit Assessment Districts⁷; and the New York City Grand Central Partnership⁸. Examples of more ambitious expensive projects for which special assessments are currently proposed include the razing of the Embarcadero Freeway in San Francisco, and environmental cleanups under the U.S. federal Superfund law (Melnick, 1993: 541).

However, in the last century, not all SADs have been successful. Examples of SAD financed projects that failed include the construction a section of the New York City rapid transit system, highways, and canals (Misczynski, 1978: 312). SADs were unable to finance these projects because the benefiting district in each case was too difficult to isolate (Misczynski, 1978: 312). Another example is the California state statute that permits rapid transit districts to use special assessments to help finance subways as well as bus systems (California Public Utilities Code, Sections 99000 et seq.) California transit districts have never been able to use this mechanism effectively since they experience difficulties when they attempt to delineate the appropriate benefiting district (Misczynski, 1978: 319). If the proposed district is too small, they are not able to raise enough money for an entire bus or subway line. The collective ability to pay (the above stated first

⁶ Since 1982, a number of individual districts of varying size have been created in Pleasanton to finance infrastructure to support business parks. As of March 1987, they collectively raised \$145 million using SADs to support bond issues (Mudge and Jakubiak, 1987: 37).

⁷ Created through the California Community Facilities Act of 1982, they are a special category of SADs. As of 1992, over 300 of them have been created. They may support any of the following categories of improvements: water and wastewater facilities, highways, senior centers, community centers, schools, jails and police services, fire protection services, natural gas pipelines, electrical energy facilities, flood and storm protection services, parks and recreational services, including those that benefit property owners outside that benefit district (Porter et al., 1992: 30).

⁸ Formed in 1985 by a coalition of property owners, tenants, and city officials, it finances improvements associated with "dramatically upgrading the services and capital plant within a 50-block area bounded generally by Fifth Avenue, 48th Street, Second Avenue, and 39th Streets;" one the most prestigious financial districts in the world (Grand Central Partnership, 1988: 1). Based on an annually collected assessment stream of \$2.5 million the GCP plans to borrow "\$20-30 million" (Grand Central Partnership, 1988: 41).

criterion), largely prevents the small district from raising enough capital to pay for the large expense. On the other hand, if their proposed district is too large, it is difficult to obtain the approval of the district's voters to authorize it, as the line of paying and directly benefiting is not clear (Misczynski, 1978: 312). The lesson that these failures teach is: given its political and economic restraints, the beneficiaries need to be able to pay and there has to exist a clear link between assessment payment and benefits received for SADs to work effectively.

III. SADs Potential in Ukraine

A. Applicability to Ukraine and to the "Other End of the Pipe"

For SADs to finance "other end of the pipe" infrastructure in Ukraine, the same criteria need to hold true. Thus, the challenge to SAD's applicability in Ukraine, is whether it is possible to identify districts that has individuals who are willing to pay for "other end of the pipe" capital improvements, and has "other end of the pipe" capital improvements that primarily benefit only those in that district. This thesis has documented that such districts, albeit few, probably exist today in Ukraine. Such districts would be primarily located in the expensive city Center raions where a private real estate market has already begun to emerge. Thus, SADs potentially constitute a significant strategic finance approach for Ukraine today, as well as for the future, as Ukraine's economic situation further develops⁹. However, its short term success might be extremely limited, given the current state of Ukraine's economic and political flux. To be successful, the criteria that this thesis suggests to use to isolate target SADs are: 1) the potential SAD is one that is already being served by a VK; 2) the ability to pay is present; and 3) benefits can be easily delineated.

⁹ This thesis does not address SADs' ability to finance the additional water and wastewater infrastructure which new developments need, which theoretically SADs can also finance.

The expectation that this proposal will work in Ukraine, given the current economic transition, is primarily rooted in the entrepreneurial behavior of the current real estate market. From the local government or VK officials point of view, SADs have the ability to economically isolate those parts of the city that can afford to pay for their own improvements. From the entrepreneurs point of view, SADs provide a mechanism to take advantage of the \pm \$1,000 to \$2,000 difference in housing prices that the quality of water and wastewater service yields. Finally, from the point of view of those who can afford the earlier mentioned \$240,000 Kyiv apartment, SADs provide a mechanism to improve their VK service. SADs merely mimic AOAs. As chapter 2 discussed, the current draft law grants AOAs the ability to self-raise revenues for apartment building water and wastewater improvements. SADs however, are proposed to self-raise revenues for improvements for the water and wastewater infrastructure network solely within a ZhEK or raion area; this incorporates all of the pipes from the apartment buildings within its governance to the city mains.

The above criteria are largely satisfied by the fact that property owners themselves form SADs and approve of all improvement assessments. Arguably, SADs would not be formed to begin with unless these criteria were satisfactorily met. However, as with any majority-vote process, a minority within a SAD, for whatever reason, may not want either the SAD or a particular proposed improvement but forced to participate against their desires. There are three other groups who currently receive VK services and would not necessarily want to form a SAD for the reasons that this thesis proposes (i.e., improved service and/or increase in apartment value).

First, the large majority of Ukraine's population are currently below the "poverty" line. As chapter 2 described, they rent their apartment at a subsidized rate from its owner, the local government. The local government, using the AOA model as a guide, is treated like any of the other property owners and pays whatever assessments are approved. The local government will most likely not be able to make the type of economic commitments

required by a SAD, given its budget shortfalls. As chapter 2 described, an AOA can be formed once more than 50 percent of the building's total apartment floor area is privatized. Subsequently, the local government at a maximum could own 49 percent of the building and thus be potentially responsible for 49 percent of the assessments paid by that one building. Faced with this economic hardship, it is perhaps likely that an AOA with this type of owner profile, would not want to join a SAD. Second, there may even be some who are currently satisfied with their level of water and wastewater service. Lastly, there are those who still believe in the old Soviet ideals and are against the notion of either higher apartment sales prices or living better than their fellow "comrade" (Makarenko, 1993). None of these three types of owners would be necessarily interested in creating a SAD. This issue will be discussed further in this chapter's last section entitled "Next Steps."

B. SAD Advantages in Ukraine's Context

Porter et al. (1992: 41-42) describe five generic social, institutional, and economic advantages that SADs possess. These are advantages, that when placed in Ukraine's context, appeal to the property owner, and the VK and local government official. The thesis' proposed District strategy that is outlined in the next section accentuates each of these advantages in an effort to promote its successful implementation in Ukraine.

First, and the most significant of the five, SADs provide property owners the ability to improve their water and wastewater service at a time that local governments have limited financial ability to do so (Porter et al., 1992: 41-42). As documented throughout this thesis, Ukraine's central government has recently decentralized water and wastewater responsibilities. However, the recipient local governments are unable to perform these new responsibilities largely due to their lack of budget revenues.

The creation of AOAs, the privatization of state housing and ZhEKs, and "OVK-type" lease arrangements¹⁰ are initiatives by local governments to reduce the economic burden they respectively signify on their budgets. Thus, while AOAs can assess fees to improve their building's water and wastewater infrastructure, VKs currently have to largely rely on the oblast or city administration to finance any major improvements to the rest of the network. SADs would relieve local governments from financing those improvements related to the pipe network from the oblast mains to the AOA building.

Second, SADs provide a legal and administrative framework for special interest groups to expand or improve their public services on their own (Porter et al., 1992: 41-42). SADs are a mechanism that could finance the water and wastewater network between the oblast water and wastewater "mains" and apartment buildings. Without SADs, capital improvements to this part of the network will continue to rely on the local government. Unfortunately, due to the current economic and political situation, this means that few improvements will take place, in spite of the fact that there are groups who would pay for it themselves. Groups interested in improving their service, through SADs, can do so more easily and timely than persuading the local general-purpose government to increase its budget for this purpose (Walzer, 1977: 188). Currently, local governments in Ukraine are not able to increase their budgets for these types of capital improvements, since they are even having difficulties raising the funds to pay for the "social" needs of the city (Kushnarjov, 1993b).¹¹

Third, SADs shift the capital infrastructure costs away from all of the taxpayers within the jurisdiction of a general-purpose local government budget to the residents who will specifically benefit from such improvements (Porter et al., 1992: 41-42). Currently, water and wastewater infrastructure maintenance and improvement is the responsibility of

¹⁰ As discussed in Appendix A and C, the Odesa oblast administration owns the VK facilities while the OVK leases it from them.

¹¹ Please see Appendix A for further discussion on current finance mechanisms and reforms.

local governments who lack the revenues to perform this task. SADs could relieve this fiscal responsibility from local governments. Thus, all those who contribute to the city's budget are relieved from financing improvements that primarily benefit only those in the SAD. SADs adjust the financing process from the general-all-purpose budget to a mechanism that takes advantage of the willingness to pay to receive a desired benefit. The appeal in Ukraine for this has already been stated: only those who want to create a SAD will, and only those who want to assess themselves for capital improvements will.

Fourth, SADs can lead to improved service delivery efficiency and reduce the overall amount of service demand (Porter et al., 1992: 41-42). This is one of the proposed District strategy's main anticipated result; i.e., increased delivery efficiency and reduced consumption. Delivery efficiency is increased by both reducing the amount of water leakage and consumption. However, it should be noted that both of these improvements benefit VKs and local governments more than the proposed District by reducing the former's need for new capital infrastructure financing.

In this sense, increasing delivery efficiency and reducing the overall service demand, indirectly can benefit all water and wastewater users. Their benefit is that the ultimate increase in their water and wastewater user charges¹² will be less than if the SAD improvements are not undertaken. The new cost-recovery user charge may be less because less money is spent on facilities whose designed capacity reflected the excessively high consumption amounts that existed prior to installing SAD improvements.

Fifth, SADs reduce the influence politics plays in the capital budgeting process. Currently, capital infrastructure needs compete with social service needs. However, social service needs will almost always prevail over capital infrastructure needs (assuming that the basic infrastructure is in place). For example in Kharkiv, the city government spends close to 70 percent of its budget on various "social and cultural protecting" services and

¹² As chapter 2 described, Ukraine is currently moving toward a policy of full cost-recovery pricing as Resolution No. 93 stipulates.

only 8.1 percent of their budget on capital infrastructure¹³. Given Ukraine's economic condition, the local government would more likely raise the percentage that "social and cultural protecting" services receive than the percentage for capital infrastructure. In fact, in times of crisis, local government capital infrastructure spending may even be cut completely.

SADs are "a way of getting the activity out of politics" and focus solely on improving the water and wastewater infrastructure within its governance (Bowen, 1982: 50). As has been discussed already, SADs give those who are economically capable and interested, the ability to improve their level of water and wastewater service without draining the local government's budget. Likewise, citizens who form SADs and pay special assessments generally do not perceive their money as going to a wasteful and possibly corrupt "black hole" of bureaucracy (Melnick, 1993: 540).

C. SAD Disadvantages in Ukraine's Context

Porter et al. (1992: 43-45) also provide four generic SAD disadvantages. Again, by putting them into Ukraine's current political and economic context, they identify issues that are subsequently addressed in the proposed District strategy. The problem that these disadvantages make apparent is that the different Ukrainian governmental levels are still largely determining their scope of their responsibilities and their fiscal ability to carry them out. SADs in Ukraine may disrupt, or be in conflict with this determination process. SADs will undoubtedly be viewed by some as ideologically counter to the social equality principles that the Soviet government held to for the past 70 years.

First, SADs can perpetuate the fragmentation of government entities and functions that increase administrative inefficiencies and fiscal inequalities (Porter et al., 1992: 43).

So far this chapter has painted SADs as being a highly efficient mechanism that gives those

¹³ Please see Appendix A for further discussion on Kharkiv's planned expenditures and revenues for 1993.

interested the ability to improve their water and wastewater service. However, there are those who would undoubtedly view SADs in a more negative light.

In Ukraine, based on all of the COM resistance that decentralization programs have been met with so far, SADs could be viewed negatively by a significant portion of the population, and perhaps even strongly resisted by some. Currently, not all of the politicians and citizens in Ukraine are pro-decentralization, and many view small units of government with suspicion¹⁴. They view a strong central government, which makes and dictates the methods of its decisions' implementation, as the only way that government can be accountable, competent and efficient. Further, in their mind, the central government is more capable of ensuring the standardization of the quality of life of its people; the result often being equal, but not necessarily the highest standard of living. These are some of the reasons why Ukraine's economic reform programs have taken so long. The central government in Ukraine, and others, fear that the "market" will not be able to supply its people with the goods and services they need and can afford, and the "market" perpetuates economic unevenness. The reality is that SADs would probably further promote this inequality with respect to the services received by Ukraine's general population.

The second aspect of the above disadvantage is that SADs potentially weaken local government's capacity to manage public services, as SADs do not necessarily need the approval of local governments to make an improvement, nor are SAD funds available for the local government to use. Given the current fiscal inability of Ukrainian local government to provide services, one would think that local governments would encourage initiatives like SADs that provide fiscal relief to their growing budget deficit. However, everything that SADs stand for may be disturbing to many public officials and residents for whom Soviet ideals are still held dearly. These individuals may even resent or be jealous of others are better-off economically.

¹⁴ Please see Appendix A for further discussion of the current political resistance to reforms.

Local governments and citizens may view with contempt the large sums of revenues that SADs raise to only rehabilitate their region's water and wastewater infrastructure. A serious issue then arises whether the local government, with an element of the public supporting them, will want to capture all or part of SAD revenues and use them to fix the city's most critical pipe infrastructure deficit and/or repair needs. They may justify this as a legitimate way of providing equal service to all its residents; i.e. the "rich," who can afford it, end up subsidizing the whole city.

Second. SADs create opportunities for political abuse (Porter et al, 1992: 44). As the number of SADs increase in Ukraine, and the reasons for their creation expand beyond water and wastewater service issues, accountability and citizen confusion may arise (Porter et al., 1992: 44). For example, individual SADs may exist for each of potential public service improvements, and each SAD may consist of a different geographic region of the city. While when first created, citizens might pay a lot of attention to SAD issues, before too long this interest could wane, and the SAD board may find itself without much in the way of public or governmental oversight. SADs may even splinter "governmental functions into so many partially overlapping compartments that the individual districts, unobserved and unnoticed by the public, may become non responsive and irresponsible" (Bollens, 1957: 114).

Given the current political climate in Ukraine where corruption and bribery is commonplace, this disadvantage needs to be squarely addressed in any Ukrainian SAD; and is in the proposed District strategy. Public oversight and accountability are extremely important for the SAD strategy to work in Ukraine. However, this insistence on openness may be met with resistance from many would-be SAD officials. Currently, both government and businesses in Ukraine are still uncomfortable revealing their detailed assets, revenues and their decision making criteria. The State in the former Soviet Union, for nearly 70 years was above the questioning of its citizens. This conveniently hid much of the corruption and graft that occurred behind the decision-makers' doors. The notions

of glasnost, "the freedom of speech and ideas," and perestroika, "the right to see government economic information," were introduced less than 10 years ago. The entrepreneurs, on the other hand, fear revealing their fiscal "secrets" for tax, Mafia and other socio-economic reasons. Thus, while it may be difficult to incorporate oversight mechanisms, SADs, unchecked and without public oversight, potentially could continue the practice of political abuse.

Third, SADs can promote the irresponsible provisions of services (Porter et al., 1992: 45). This can occur if a SAD mandate is not clearly defined or if they act beyond the local government's development policy for that service. In particular, SADs do not tend to coordinate their activities with the local government (Burby et al., 1988). However, it is not surprising that SADs are deficient in coordinating operations with local governments, given the general lack of cooperation among all local governments, all around the world (Porter et al., 1992: 45). While other governments may be used to such "anarchy," for Ukraine's different levels of government, this could be a major concern.

As illustrated throughout this thesis, Ukraine's government is more accustomed to the centrally planned Soviet Master Plan approach than the new decentralized forms of government. For example, it has taken over three years for many of the provisions of the "On Local Radas and Local Self Government" to be adopted by the local governments themselves¹⁵. It can be imagined that uncoordinated SAD activities would seem like a "worse nightmare" scenario for those schooled in the Soviet system.

Fourth, and socio-economically most important, SADs may also put the local governments in Ukraine at fiscal risk (Porter et al., 1992: 45). There are two scenarios for this. The first occurs when a particular District is unable to completely finance its improvements. Since the oblast is the legal owner of the water and wastewater network, they legally will have to pay whatever outstanding amounts of money due to contractors.

¹⁵ Please see Appendix A for more detailed information.

The second occurs even if the District is able to completely self-finance itself. As chapter 2 discussed, an AOA can be formed once more than 50 percent of the building's square footage is in private ownership. As was earlier discussed, this implies that the other 49 percent could be owned by the local government. The local government, as the legal owner of the apartment, is responsible like any other owner to pay whatever assessments are due. Thus, the city may end up being burdened financing a considerable amount of the improvements in spite of the fact that a District exists for "supposedly" this same purpose.

SADs likewise use the same enforcement measures to collect assessments, that AOAs use to collect common expense charges from private owners: i.e., the apartment is repossessed and subsequently sold at auction. The possibility that the local government will throw out its tenant is a political and tenant's nightmare. This concern will grow if the occupants of local government apartments increasingly become less economically capable to pay. SAD's cross-subsidization potential, i.e., richer subsidizing power through SAD assessment charges, is one of the further research issues that the thesis recommends in the "Next Steps" section.

IV. The Ukraine Water and Wastewater Special Assessment District Strategy

This chapter has so far defined SADs, justified their applicability to Ukraine for urban water and wastewater capital infrastructure improvements, and discussed their advantages and disadvantages. A proposed SAD strategy for Ukraine is discussed below. The Ukraine Water and Wastewater Special Assessment District (the "District") strategy characteristics are first described and the chapter ends with recommended next steps that need to be taken before the strategy is implemented.

A. Proposed District Guidelines for Formation and Management

1. *Purpose of the District.* Districts are proposed to be temporarily created to raise revenues to pay for water and wastewater capital infrastructure improvements within the District. The improvement costs should be paid through assessments that each District member pays. Its formation and administrative structure is proposed to closely resemble that of AOAs. It is proposed that the existing Housing and Communal Service (HCS) structure will play a large role with District formation, promotion, and operation oversight. This is intended to take advantage of the experienced bureaucratic structure already in place and to minimize potential political resistance. At the city level, the CHCSD and VK approve of District formation petitions and capital infrastructure improvement programs. Depending on the District's geographic size, either a VK's wastewater division, a RHCS, or a ZhEK¹⁶, would assume the additional responsibilities related to District administrative activities.

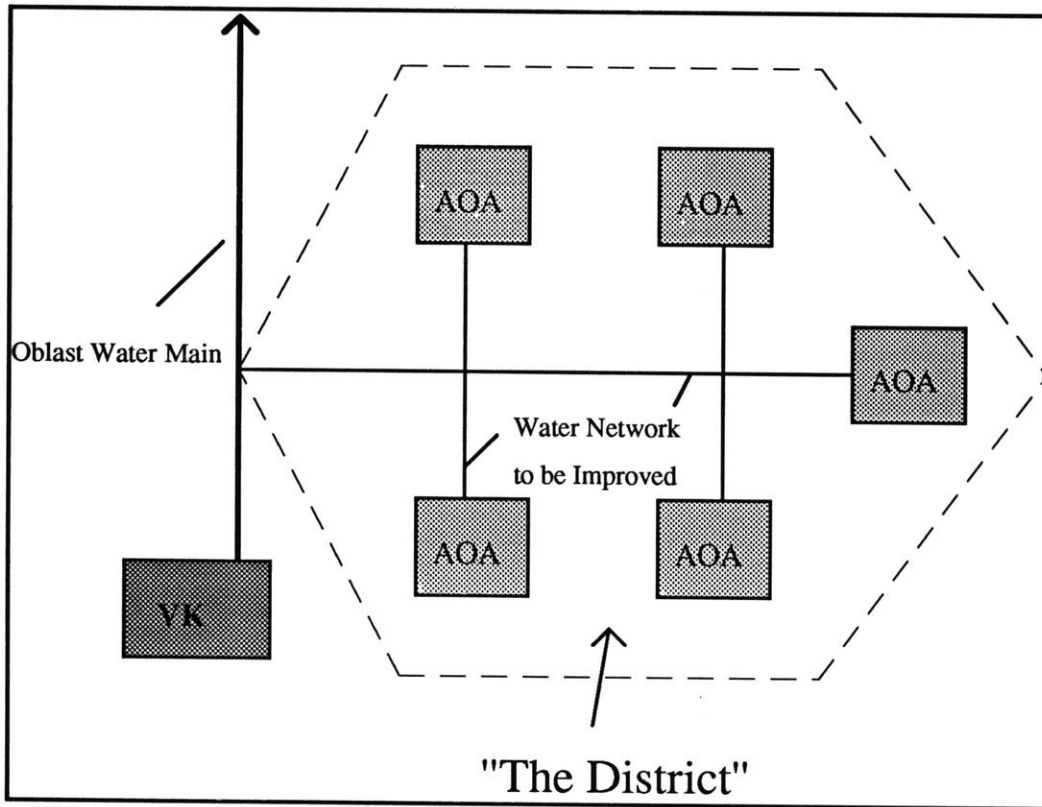
2. *District Geographic Size.* Districts are proposed to correspond to either the space of the non-main water and wastewater network of a ZhEK or a raion. The decision of which, should be based on both the actual network and the interest of the AOAs. The trade-off between one district over the other is purely size, as raions tend to be larger than ZhEK administrative districts. Given the economic unevenness that may exist in the larger raion, ZhEK administrative districts may prove to be the better choice at this time.

Figure 3.2 illustrates what a sample District could look like. In this sample, all of the AOA buildings and the water network within the dotted lines are included within the District's jurisdiction. The direct beneficiaries of any improvements to the water network would be those who live in the five AOA buildings.¹⁷

¹⁶ Both state and privatized ZhEKs are referred to.

¹⁷ The sketch, while on a small scale, is typical for most of the newer Ukrainian housing developments that are part of highly planned "micro-raions." These "micro-raions" consist of 9 to 16 story "cookie-cutter" block housing that repeats itself throughout the development. While the sketch shows only 5 residential buildings, as Chapter 2 stated, up to 35 buildings, totaling 3,000 apartments, can be located in a ZhEK district.

Figure 3.1: Sample District¹⁸: Showing AOAs, Oblast VK and Water Main, and Water Network



3. *Creation of a District*¹⁹. Districts are proposed to be created in two ways. First, any state entity, legal entity, group of individuals acting together, or individual able to convey the ownership of apartments constituting more than 70 percent²⁰ of the total number of all apartment units in the proposed District, should be able to petition to create a District. Second, the city rada should be able to declare a District, and the District becomes a reality unless property owners representing more than 50 percent of the

¹⁸ Note that the wastewater network does not appear in this sketch. In reality, the wastewater network either runs parallel to or is similar to that of the water network pattern.

¹⁹ This reflects the formation guidelines presented in the draft "Law of Ukraine on Association of Owners in Multi Apartment Buildings" and the California General Special Assessment Law (Mudge and Jakubiak, 1987: 35). The lease arrangement language is based on that for the OVK.

²⁰ This figure is 20 percent higher than the percentage required for AOA formation and 10 percent higher than the percentage required for most SAD formations (Mudge and Jakubiak, 1987: 35). The high percentage is a measure to mitigate potential economic ability unevenness present in the proposed District.

apartment units in the proposed District object. The target ZhEK or RHCS D must be included in either form of petition.

It is proposed that both the CHCS D and VK be responsible for granting District approval. Their decision would be based on to be determined engineering and socio-economic criterion²¹. It is proposed that upon approval, all property owners within the District, and all who receive service from the water and wastewater infrastructure present in the District, automatically become full members of the District. The ZhEK or RHCS D representative would not have full member status. The ZhEK or RHCS D immediately is entered into a lease arrangement with the oblast regarding the water and wastewater pipe network within their jurisdiction. This lease arrangement makes them legally responsible and capable to maintain, reconstruct, expand and technically upgrade the system.

Each District, similar to AOAs, should be organized as a "partnership" pursuant to the provisions of the relevant law of Ukraine.

4. *District Meetings*²². After the creation of the District, a meeting should be held composed of all of its members, including the ZhEK or RHCS D, and a VK representative. At this meeting, a proposed Governing Board (GB) would be approved and an initial program of projects is presented for discussion. The District should hold at least two meetings each year of its existence, to be known as the semi-annual meeting, and may hold other meetings at its discretion. The chairperson, the ZhEK or RHCS D representative, should be the one to convene meetings. Notice should be sent to every apartment unit specifying the time, place, and purpose of the meeting, at least two weeks in advance of the semi-annual meeting, and at least one week in advance of other meetings. Notice should also be posted in a prominent public place in each AOA member building. All assessment and capital improvement decisions should require a to-be-determined minimum

²¹ The chapter's "Next Steps" section addresses these criterion.

²² This reflects the meeting guidelines presented in the draft "Law of Ukraine on Association of Owners in Multi Apartment Buildings."

participation quorum of all District members with a majority vote deciding. Each District member should have one vote regardless of apartment size.

5. *Governing Board.* The proposed GB should consist of one representative from each of the AOAs in the District and a single representative from both the VK and either the ZhEK or the raion administration. The latter is proposed to act as the District chairperson. The chairperson, should be able to receive compensation for his or her services, as determined by the District at its semi-annual meeting²³. The chairperson it is recommended should handle most of the administrative tasks. Both the chairperson and the VK representative should not be able vote, however, the chairperson should be able to vote in the case of breaking a tie. The GB itself is not expected to meet that frequently, other than for project hearings, elections, and evaluations.

Figure 3.2: Proposed Main Activities for Districts

Activities
1) Improve the water and wastewater network in the District.
2) Coordinate and facilitate water and wastewater infrastructure improvement and water conservation programs for AOAs within the District.
3) Interact on behalf of all of the AOAs in the District with any of the HCS branches and the city VK.

6. *Main Activities.* Figures 3.2 shows three proposed District activities. A District's primary activity would be to improve the water and wastewater capital infrastructure within its geographic space. It pays for improvements through the collection of assessed fees from each property owner within the District. The collected

²³ It is expected that only under special circumstances would the chairperson receive a salary. His or her District responsibilities should be considered part of their normal duties with either the ZhEK or RHCS. To guarantee a salary might be an incentive the District to continue its operation unnecessarily.

fees are only for improvements related to the water and wastewater network between the city main and the residential building.

Figure 3.3: Sample District Facilitated Water and Wastewater Capital Infrastructure Improvements and Benefits

Governance	Improvement	Benefit to Improvement #:
AOA (18 to 120 units)	<ol style="list-style-type: none"> 1. Fix leaky fixtures 2. Re-line pipes 3. Install filter on incoming water pipe 4. Install meter on incoming water pipe 	<ol style="list-style-type: none"> 1. Increase reliability (i.e., building water pressure) and reduced water user charge 2. Improve odor and taste: older pipes are lead and iron 3. Improve odor and taste 4. Reduce water and wastewater charges
District option 1 Zhek service region (3 to 35 AOAs)	<ol style="list-style-type: none"> 1. Install meter on connection to main and apartment building 2. Re-line pipes 3. Complete unfinished water pumps 4. Install filter on incoming water pipe 	<ol style="list-style-type: none"> 1. Reduce water charges, encourage conservation. 2. Reduce leaks, reduce water tariffs and improve odor and taste (see above) 3. Increase reliability 4. Improve odor and taste
District option 2 Raion service region (3 to 10 Zhek regions)	- the same as for Zheks -	- the same as for Zheks

Sources: Gryzlov, 1994, Tesla, 1993 and Vaughan, 1994.

The District's second proposed activity could be to facilitate and coordinate the AOAs, within the District, in their water and wastewater infrastructure improvement and water conservation programs²⁴. The facilitation would take the form of providing

²⁴ Districts are proposed to play a role in facilitating AOA activity because the entire District benefits from each AOA water and wastewater capital infrastructure improvement. As individual AOAs reduce

conservation and engineering information and lists of available qualified plumbing contractors. Districts should also be able to act as the umbrella through which AOAs can purchase bulk equipment relevant to their water and wastewater infrastructure improvements. Note however, AOA improvements would still be financed with their own funds and AOAs would still have to negotiate their own contractual agreements.

District's third proposed activity could be its function as a direct link to the various city HCS branches on behalf of itself and as a representative/liaison for AOAs. The District chairperson should be authorized to negotiate with the CHCSD and VK regarding the creation of compensatory incentive programs; including reduced block user charges, equipment purchase credits, and property tax credits. These programs would be intended to reward Districts for their reduced water and wastewater consumption.²⁵

7. *Improvements.* Figure 3.3 shows a sample list of capital infrastructure improvements that Districts could facilitate or carry out themselves. At the AOA level, these improvements include fixing leaky pipes, re-lining pipes, and installing filters and meters on the incoming water pipe²⁶. Each of these improvements primarily benefits only those in the AOA. The two District sample improvements that Figure 3.3 shows are the same as those that AOAs undertake but at the next spatial level. The difference between the ZhEK and raion administration regions is also spatial, the former being smaller and the latter larger.

their water demand, the water pressure for the whole District area improves. Increasing water pressure means that the whole area receives better water service. This in turn, increases the property value for all those living within the District. AOAs themselves however, receive the largest share of benefit from their own improvement than other District members.

²⁵ Such incentives should be forthcoming from the local government as District activities reduces the overall amount of capital that local government requires for water and wastewater capital infrastructure improvements.

²⁶ Currently, most apartment buildings and all apartment units do not have water meters. The water charge they pay is based on a "normative" amount determined based on a percentage of the maximum amount of water that a pipe of that particular diameter could deliver. If AOAs can show that they actually receive less water than the "normative" states, they can reduce the water charge each AOA member pays.

8. *Assessments*²⁷. All District members must pay an assessment to the District to cover any improvements that are undertaken. Such expenses are the lawful expenses incurred by or on behalf of the District for the improvements it undertakes. One month prior to the semi-annual meeting of the District, the GB should prepare and make available to interested members the District budget setting forth anticipated monthly assessments for the next six months. The proposed budget should then be approved by the District at the semi-annual meeting.

Equation 3.1: Monthly Assessment Charge

$A = N \times (I/R) \times 1/6$	
where:	
A	= the monthly assessment charge;
N	= the number of rooms in the District member's apartment;
I	= the estimated improvement costs or the debt service cost ²⁸ for the next 6 months; and,
R	= the total number of rooms of all the apartments in the District

Each District's base assessment charge is expected to be unique. The assessment charge that each District member pays monthly is proposed to be based on the three variable equation shown in Equation 3.1. Within a single District, monthly assessments are proposed to vary uniformly based on the number of rooms in the District member's apartment.²⁹ Not reflected in the proposed "I" are District administrative costs. These

²⁷ This reflects the common expense charge guidelines presented in the draft "Law of Ukraine on Association of Owners in Multi Apartment Buildings."

²⁸ Currently Ukraine does not have a capital market. However, if and when Ukraine develops a capital market, Districts should be granted the ability to issue bonds to raise their necessary finance capital. In this circumstance, "I" equals the debt service for capital improvements

²⁹ This is an attempt to approximate individual apartment water consumption as individual water meters do not exist. The rationale being the more rooms, the more individuals living in the apartment; thus, the more water consumed. Note that regardless of apartment size, each District member has only one vote. This imbalance between voting power and assessments paid reflects an attempt to introduce a cross subsidy. Typically, richer individuals have apartments with more rooms than poorer individuals.

costs, unless otherwise decided by a majority in a District vote, are assumed by the ZhEK or RHCS D constituting the District. If a majority vote decides to be directly responsible for District administrative costs, "I" would include these costs as well.

All monthly assessments should constitute, from the time the assessments become due and payable, a lien against the apartment in favor of the District. The lien would then take priority over any other lien except 1) a lien recorded prior to the creation of the District; 2) a first mortgage on the apartment given to an institutional lender to secure a loan and recorded before the date on which the charge sought to be enforced became delinquent; or 3) a lien for taxes. The District should then have the power to take over and sell at public auction the apartment to enforce a lien if payment of the charge is more than a to-be-determined time period overdue.

9. *Oversight.* Both the CHCS D and VK, in addition to its District petition and project approval powers, need to be able to monitor all District activities. For, example, the CHCS D will meet a minimum of once a month with the District chairperson and is briefed on District activities. Next, the CHCS D and VK should receive all meeting and budget notices, and should be able to attend all such meetings. Lastly, all District information should be available for viewing by the CHCS D, VK and all of District members.

10. *Dissolution of the District.* District's should be able to be dissolved, incorporated, or selectively taken over by a general-purpose local government or consolidation with another District under conditions that fully satisfy the concerns of both district members and the CHCS D (Porter et al., 1992: 48). A majority vote of all District full members should be required for such activity to occur.

B. Next Steps³⁰

The District strategy constitutes a significant strategic approach for financing "other end of the pipe" capital improvements. Its "beneficiary pays" based approach is parallel to many of the housing and VK management reforms that have already occurred in Ukraine. However, to ensure that all of the respective players understand how it works and, more importantly, if it can work, five "next steps" are suggested to be taken before the District strategy is implemented. These steps provide a framework that any of the interested western technical assistance agencies can use for implementation. Such entities include, but are not limited to: the World Bank; the European Bank of Reconstruction and Development; USAID; and the British "Know-How" Fund. Ukrainian entities that should be looked to as District implementation co-participants include: the Ministry of Finance; Council of Mayors; the State Committee on Housing and Communal Services; National Association of Democratic Councils; and the Ukrainian Institute for Public Management in Kyiv (Vaughan and Glasser, 1993: 25).

The recommended "next steps" include: 1) further research on issues that have not been adequately addressed in this thesis; 2) the design and enactment of generic SAD and District specific legislation; 3) the holding of District demonstration projects (Vaughan and Glasser, 1993: 25); 4) a traveling education and training seminar (Vaughan and Glasser, 1993: 25); and 5) the writing of and wide distribution of a "how-to" District manuals. These "steps," which appear in the order they should be taken, are intended to ensure that the implemented District strategy incorporates as many Ukrainian-based political, institutional and social elements as possible. Also, through wide education and

³⁰ This sub-section is based on the international consulting experiences that I have had in the past two years. The two include a joint World Bank - John F. Kennedy School of Government Project on Economic Reform in Ukraine internships during the summer of 1993 and a USAID funded PADCO internship in the winter of 1993. In the former, I researched a World Bank report on Ukraine's VK fiscal status and in the latter, I was part of a six person technical assistance team providing advice for the city of Kharkiv's land auction demonstration project. Much of what I recommend is quite generic, however, when possible I try to provide the appropriate reference.

media campaign, Districts could be understood for what they are and by all who come into contact with them; i.e., their financing promise and limitations.

For the potential assistance agency, these next steps can be broken into the following team structures: 1) pre-project research team; 2) a team of real estate and finance lawyers to work on the national and local levels; 3) a demonstration project technical assistance team; 4) a traveling seminar and education team; and 5) the "how-to" manual team.

1. *Further Research.* Three District issues have not been adequately researched or analyzed in this thesis. All of these issues should be further addressed in a thorough manner before a District can be implemented. The three subjects are: 1) projected costs of "other end of the pipe" improvements; 2) a quantitative and spatial determination of apartment owners' "ability to pay"; and 3) the full cross-subsidy potential of Districts.

The first two are closely related. It is imperative that improvement cost projections be calculated for potential District target areas, such as the more expensive city Center raions in several key cities, before the District strategy is pursued. Good potential cities include: the regional centers of Kyiv, Odesa, Kharkiv, Lviv, Donetsk, and Symferopil³¹. In addition, the target area's "ability to pay" should be measured and matched to the water and wastewater pipe network before any further District strategy implementation steps are taken. To do otherwise would be a waste of resources, time and energy. Given the precarious condition of Ukraine's economy and infrastructure, Ukraine can ill afford to waste any of these items.

An unsuccessful District would also be politically very damaging, given the political flux that the country is going through. An utter failure could prompt both government officials and the general population to rethink its decentralization reforms.

³¹ Kyiv is the capital of Ukraine and considered the center of central Ukraine. Odesa is considered the center of southern Ukraine. Kharkiv is considered the center of eastern Ukraine. Lviv is considered to be the center of western Ukraine. Donetsk is considered to be the center of the eastern industrial Donbass region of Ukraine. Symferopil is the capital of the Crimea, an autonomous region of Ukraine.

Imagine a situation where a demonstration project or an actual District is created, and either no improvements occur due to costs or that large groups of people have their apartments repossessed because of failure to pay their required assessments. To the reform naysayers, SADs could be viewed as producing a result that is worse than what existed before.

The third issue, how to fully utilize the District's cross-subsidizing potential, would be best researched at the proposed education/training seminars. It would serve as a useful theme given the economic unevenness that may exist in a potential District or even in an AOA. The SCHCS is currently exploring methods to identify "at risk" households (Rul, 1994). Potentially, the results of this research could be incorporated in some fashion with the District assessment monthly charge schedule. As shown earlier, a slight cross-subsidy already exists in the District strategy. In the District, each apartment owner has a single vote regardless of apartment size while they are assessed a prorated monthly charge based on the number of rooms in their apartment. This should be viewed as only a start. Further assessment arrangements should be identified that are successfully used with SAD's in other countries. However, in the meantime, as long as the "at risk" households continue to rent from the local government, they will not have to pay the assessment charges.

2. *Legislation.* SADs are usually authorized by formal laws enacted at local, regional and the national levels of government (Kayden, 1993: 7, Melnick, 1993: 542). The laws themselves have to clearly describe the who, what, where, when and how of forming and administering Districts (Kayden, 1993: 7, Porter et al., 1992: 11).

Parallel to the last three steps of this implementation framework, a real estate and capital finance legal expert should work at the national level to ensure that the above necessary laws supporting SADs have been enacted. As this thesis has documented, the laws regarding housing privatization, AOA formation, ZhEK privatization and lease agreements all have been or are waiting to be enacted. A legal expert should determine what additional national laws are needed for SADs, and compose them for the Verkhovna

Rada's and Ministry of Finance's review. At the city rada level, District specific regulations and contracts need to be developed. The two most important issues at this level are: 1) the regulatory relationship has to be clearly defined between the CHCSD, VK and the District; and 2) the assessment enforcement process has to be determined.

3. *Demonstration Projects* (Kayden, 1994). If warranted, the next step is to identify a target city and district in one of the earlier mentioned regional centers. Odesa would make a good candidate city for such a project. As discussed in chapter 2, Odesa is familiar with progressive management and finance initiatives, and the city is currently host to several USAID and World Bank projects. These existing demonstration projects relate to ZhEK privatization and housing ownership and management (Shea, 1994).

However, there are certain conditions that the ideal demonstration city should demonstrate before it is selected. First, the oblast and city administration heads should have jointly sent the respective technical assistance agency a formal invitation requesting technical assistance for a District-based demonstration project (describing the areas of cooperation, the terms of cooperation, a set of demonstration objectives, and substantive project evaluation mechanism). Second, guarantees of cooperation should be provided by all the major players involved. Third, an active real estate market must be demonstrated to exist. Fourth, potential demonstration Districts should already be delineated by the oblast and city, and agreed to by the AOAs in the proposed District. Such potential Districts should satisfy the earlier cited ability to pay principle, and the direct link between payment and benefits received.

The city itself (e.g., the CHCSD) should conduct the demonstration project.³² The city should use the District strategy as the basic framework for the demonstration project but should be encouraged to experiment with its different administrative variations. The western technical assistance agency should only act as supporting actor. This support

³² By making it their project rather than a western agency's project, the local officials who participate tend to get more closely involved and, subsequently, more vested in its success.

could include providing a legal framework, finance strategy, organizational management, and evaluation issues.

4. *Education/Training Seminars* (Kayden, 1994). If the success of the demonstration project warrants it, the next step is to put together a District seminar team to disseminate information related to its success. There are three purposes to the District education and training seminars (Vaughan and Glasser, 1993: 25). First, local government officials need a firm understanding of the potentially "dramatic and painful changes" that are required in their local government finance systems, and how SADs can play a role in alleviating some of the "pain." This includes walking the participants through the SAD life cycle; from formation to dissolution. Second, national and local government officials, AOA members, and private home owners need to learn some of the basic concepts of finance. Lastly, through education and training seminars, Ukrainian-based variations can be introduced to the SAD concept. Ukraine specific regulations that, for example, involve cross-subsidies and the delineation of governmental roles, are potential variations that add to implementability of the final District strategy.

The education and training should be delivered in the form of day-long seminars in each the 6 major regional center cities. The tentative schedule would have the team spend one week in each city, with a seminar held at the beginning of the week and near the end of their stay. The team should encourage and make themselves available for outside consultation and discussion. The seminar traveling team should consist of a core western component and nationally placed Ukrainians, with the local experts being specific to each city visited. Among the invited western presenting guests should be included SAD experts who are knowledgeable in their respective legal, financial and management aspects. National and local Ukrainian presenting experts should include government (including some who were involved with the earlier demonstration project), university and private housing management individuals. The seminars should be open to the public with a good amount the time devoted to public question and answer periods.

There is a chronic shortage of any material on local government finance in Ukraine (Vaughan and Glasser, 1993: 26). As such, District, SAD and general finance material, in Ukrainian, Russian and English, should be made available to the public for free during the seminar. Shortly after the seminar, a book consisting of all the presented seminar talks should be published (Ukrainian, Russian and English) and made available for free through the CHCSD. If printed locally, the books can be produced for less than a dollar each (Vaughan and Glasser, 1993: 25). Combined with the seminar, this type of material will assist in the long-term education process of local government, VKs and AOA's.

5. *"How-to" Manuals* (Kayden, 1994). Based on the feedback and suggestions obtained from the demonstration project and during the traveling seminars, "how-to" manuals on the documentation, organization and implementation of Districts should be published and widely disseminate for free, through the CHCSD. Also included should be supporting documents, including a "cookbook" of relevant land and real estate laws, and a glossary of terms. Such manuals will assist interested Ukrainian cities to promote the District strategy without the help of a western technical assistance team.

V. Conclusion

Ukrainian local governments, who have limited revenue sources and finance experience, are looking for alternative financing mechanisms to pay for its much needed water and wastewater capital infrastructure improvements. The proposed District strategy provides a pragmatic mechanism that allows VK improvements to begin to take place at a time when the government's budget can not afford to pay for such projects themselves. For those economically capable communities who are interested in improving their level of water and wastewater services, the District strategy represents a useful legal and administrative framework to facilitate this goal. For local governments and VKs, the District strategy represents a finance mechanism that works even in Ukraine's current transitional economy.

APPENDIX A. Vodokanal Capital Infrastructure Financing Review

I. Background and Introduction

Prior to the break up of the Soviet Union, Ukraine's water and wastewater sectors were largely subsidized and financed by the central government in Moscow through intergovernmental transfers to its local governmental organs (Puchko, 1993). VKs received subsidies to compensate them for their operational losses. The central government's established nominal water and wastewater user charges led most VK to operate at a loss. Central government grants financed both facility and network capital infrastructure construction. Moscow released all funds through either the budgeted Soviet GOSPLAN ("State Plan") or one of the powerful Soviet Ministries. While the GOSPLAN provided the bulk of subsidization and infrastructure financing, the latter source were also often extremely significant sources of financing for many cities. For example, Soviet Ministries financed nearly 55 percent of Kharkiv's yearly infrastructure construction (Kushnarjov, 1993: 3).

While Moscow generally underinvested in Ukraine's infrastructure development and maintenance using this system, as chapter 2 discussed, an independent Ukraine has invested even less. In the three years since her independence, Ukrainian officials have yet to find a reliable alternative financing structure. At first, Ukraine's central government in Kyyiv, both the executive branch Cabinet of Ministers (COM) and the legislative branch Verkhovna Rada (Rada), unsuccessfully attempted to replicate the centralized model that the Soviet Union used. However, the Kyyiv central government recognized quickly that it was fiscally incapable of fulfilling this role. Further, it was and is trying to substantially shrink the role it plays in financing local government activities. In particular, the central government has tried to reduce subsidizing housing and communal service activities, including water and wastewater services (Gamota, 1993). Subsidies currently account for an estimated 20 percent of the Ukrainian GDP (Ilyin, 1993). Thus, local governments

have recently been given the legal ability to target enterprises as their main source of revenue to pay for such expenditures, including capital water and wastewater infrastructure projects (Gamota, 1993: 16). Local governments have also been given the ability to target enterprises to cross-subsidize the nominal central government set user charges that have remained for the general population (Gamota, 1993: 16).

This chapter briefly reviews the current mechanisms used by Ukrainian cities and VKs to finance their capital infrastructure works. Included in this review is a description of the two main governmental institutions that influence water and wastewater infrastructure fiscal issues. This information provides the necessary background to understand the current need for infrastructure finance reform. In addition, it provides brief description of reforms that have already been taken or are being considered to be taken. Of particular note is the last section, which provides a brief overview of the aggressively reform-oriented Odesa VK (OVK). Despite the centrally-set low user charges, this VK states that it is able to be profitable. Particular attention is given to discussing the OVK's lease arrangement with the Odesa Oblast Administration. This proposed District in chapter 3 utilizes this lease arrangement.

СХЕМА

Figure A.1

УПРАВЛЕНИЯ ЖИЛИЩНО-КОММУНАЛЬНЫМ ХОЗЯЙСТВОМ УКРАИНЫ

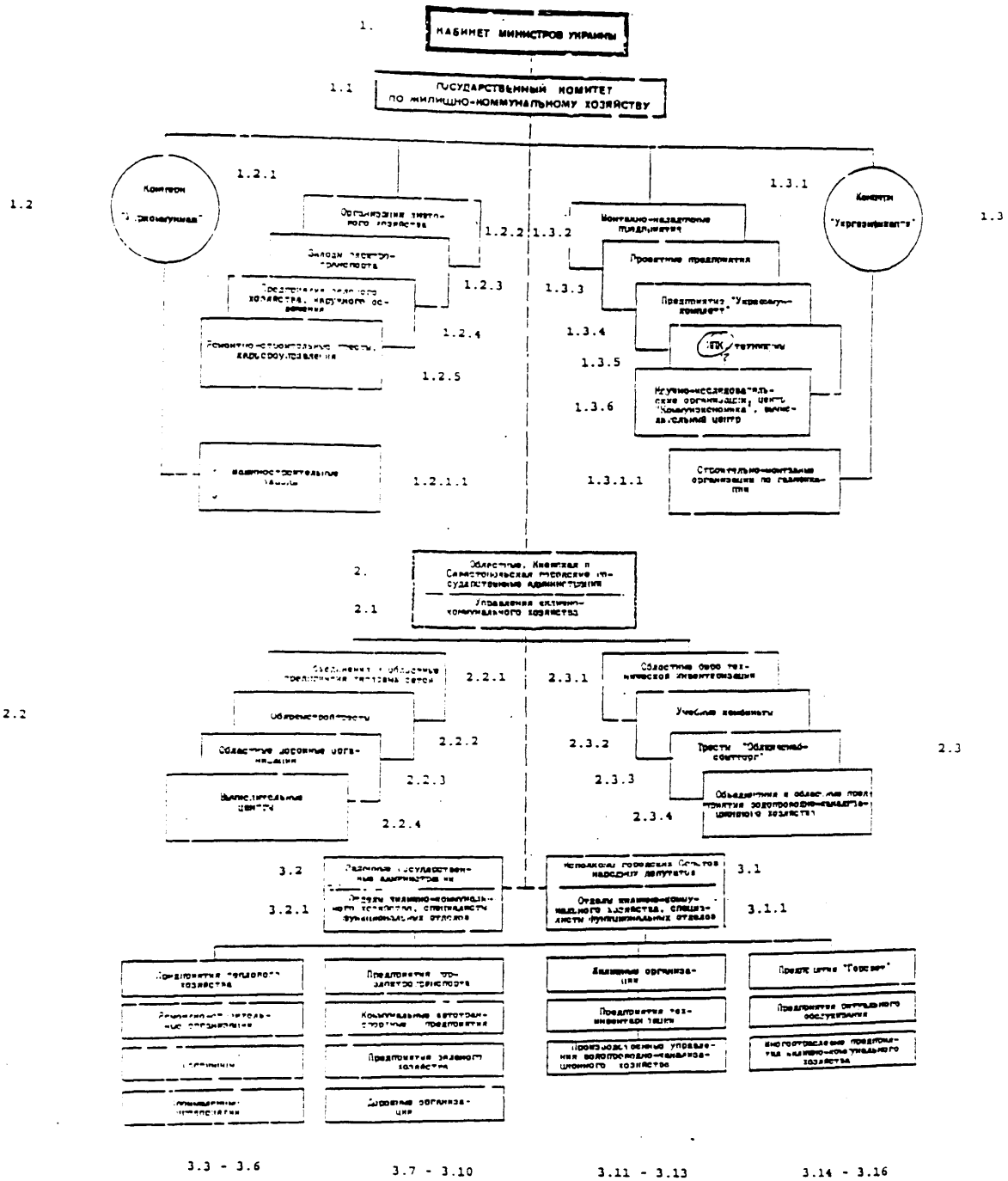
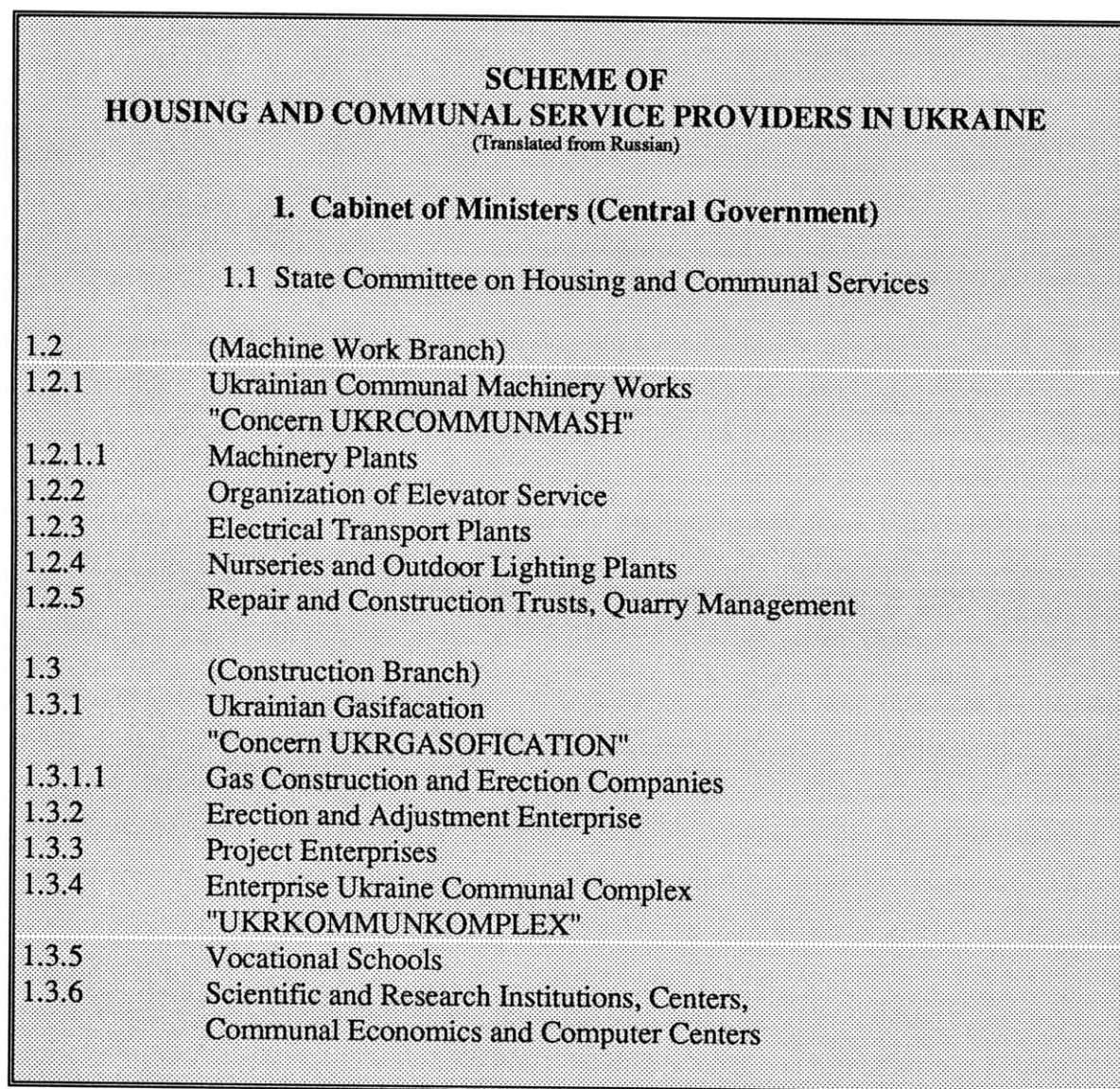


Figure A.1: Scheme of Housing and Communal Service Providers in Ukraine



(Continued next page)

Figure A.1 (continued from previous page)

2. Oblast or Kyiv and Sevastopil City Administration	
2.1 Housing and Communal Service Branch	
2.2	(Construction Branch)
2.2.1	Oblast ¹ Heating Systems Enterprises and Unions
2.2.2	Oblast Building Reconstruction Trust
2.2.3	Oblast Road Organization
2.2.4	Computer Center
2.3	(Supply and Education Branch)
2.3.1	Oblast Bureau of Technologies Inventory
2.3.2	Teaching Unit
2.3.3	Oblast Housing Supplies Trade Trust "OBLSZHILSNABTORG"
2.3.4	Oblast Water and Sewer Unions and Enterprises
3.1 City Rada of People's Deputies Administration	
3.1.1 Housing and Communal Service Department (Functioning Specialists)	
3.2 Raion Government Administration	
3.2.1 Housing and Communal Service Department (Functioning Specialists)	
3.3	Heating Systems Enterprises
3.4	Building Reconstruction Organizations
3.5	Hotel Management Branch
3.6	Manufacturing Enterprises
3.7	City Electrical Transport Enterprises
3.8	Communal Auto-Transport Enterprises
3.9	Nursery Enterprises
3.10	Road Organizations
3.11	Housing Maintenance Organizations (ZhEKS)
3.12	Technologies Inventory Enterprises
3.13	Water and Sewerage Production Enterprises
3.14	"City Light" Enterprises
3.15	"Ritual Service" Enterprises
3.16	"Multi-Branch" Housing and Communal Services Enterprises

^{1/} In this section oblast refers to the Kyiv and Sevastopil City Administrations as well. These two cities each have the special status equal to that of an oblast.

II. The Policy Role of the SCHCS

As Figure A.1 shows, the State Committee on Housing and Communal Services (SCHCS) is hierarchically the second highest government body (number 1.1) that is involved with VK issues. The Cabinet of Minister's (COM) top position (Figure A.1's number 1) prevents the SCHCS from implementing many of its own policies; for example the earlier mentioned COM imposed nominal communal service user charge for the general population. However, SCHCS' high standing over the rest of the Housing and Communal Service providers (HCS) does not translate into a similar COM-like ability to directly intervene in the operations of individual VKs.

Currently, SCHCS has three basic functions. First, SCHCS provides the economic, technical, and engineering policy guidelines that are produced by one of their three research institutes (Figure A.1's number 1.3.6). The three institutes even prepare guidelines that involve environmental quality or health standards set by other respective Ministries. The actual regulation is originally formulated by the relevant Ministry (e.g., the Ministry of Environmental Protection) and then given to the institute responsible for formulating the new guidelines incorporating the new standards. Each HCS provider, including VKs, is legally required to follow SCHCS guidelines. One such guideline is the earlier mentioned Resolution No. 93 that increases housing rents and communal user charges over the next few years to reflect actual productions costs. This resolution was researched and then submitted to COM, for its enactment, by SCHCS.

Second, SCHCS seeks funding for VK projects whose scale and implication deems "national" attention. Generally though, SCHCS does not get involved with funding issues. Projects that they have been involved with include efforts associated with reducing the amount of pollution entering the Dniester and Dnipro Rivers, and the Azov and Black Seas. In these instances, SCHCS has been able to obtain funding from the Ministry of Finance (MOF), or one of the central government level environmental or public health

"Extra-budgetary Funds²." Another example might be when a local government determines that a new VK or VK expansion is needed that will produce national benefits. In this instance, the local government used one of the three institutes to carry-out the necessary research before formally approaching SCHCS. Upon positive review, SCHCS may involve itself in the finance process; e.g., lobby the MOF to release funds through the national budget to construct a new facility. However, this is done on a case-by-case basis and occurs very infrequently (SCHCS, 1993).

SCHCS has no role in the VK "compensation" process. This process is initiated by an operationally unprofitable VK; i.e., high enterprise charges were unable to completely cross-subsidize their operation and maintenance costs. If the VK can demonstrate that its non profitability is due to the low COM set general population user charge, it is eligible to receive central government subsidies to "compensate" for their loss (SCHCS, 1993). Depending on the local political situation, either the oblast or the city administration will make the request for the VK. If approved by MOF, the compensation will then go back through the relevant local government entity to be awarded to the unprofitable VK (Gamota, 1993: 22).

Lastly, SCHCS "funds" research that has nation-wide implications at one of their three institutes. Typically, the SCHCS does not directly fund the institute but instead arranges the funding for them from another Ukrainian or international source. One such project is their Research Institute for Progressive Communal Technologies "UKRKOMYNDIPROGRES" (Kharkiv) project, titled "The Development of Scientific and Technical Concepts regarding Water Supply and Wastewater for the Population of

² Extra-budgetary Funds, both national and local government, are special funds that receive funding through the collection of specific fines or taxes that then are used for related expenditures; for example, the environmental Extra-Budgetary Fund collects pollution fines and is used to finance environmental projects. They enjoy a lot of popularity on both levels of government as they are outside of the regular national budgetary approval process.

Ukraine through the year 2010." Another current SCHCS institute undertaking is the "National Program for Providing Ukrainian Citizens with High-Quality Drinking Water."³

This last project, ordered by two Presidential decrees, sets out to dramatically change Ukraine's drinking water delivery process⁴. The two decrees' stated goal is "to guarantee in the shortest possible term, the access of all Ukrainian citizens to high-quality drinking water." Both decrees perceive water conservation as one the main ways to achieve this goal⁵.

"Improving the quality of water is not possible without implementing a system of water consumption and water delivery that is used in a majority of the developed countries in the world. 'The Program for the Rational Consumption of Drinking Water in Ukraine,' that was earlier enacted, is aimed at precisely this requirement and has priority in the short-term future" (SCHCS, 1992).

III. The Administrative and Fiscal Role of Local Government

A. Administrative

VKs, as Figure A.1 shows, are part of both the oblast administration (number 2.3.4) and the city administration (number 3.13). In theory the city VK is simply a branch of the oblast VK. This point is made clear by the fact that oblast administrations legally own all Ukrainian VK facilities and city mains, while city administration typically own all of the rest of the water and wastewater capital infrastructure within its jurisdiction (Shikin, 1993). VKs are responsible for the operation and maintenance of both capital infrastructure components (Spasiuk, 1993). Thus, a city VK first and foremost typically

³ This was written by the "Extraordinary Commission on the Ecology of the Dnipro River Basin and the Quality of Drinking Water: Working Group on Providing the Population with Drinking Water" in 1993.

⁴ The first decree is "On Measures to Improve the Environmental State of the Dnipro River and the Quality of Drinking Water" (Decree No. 120/92, July 3, 1992), and the second is "On Additional Measures to Improve the Quality of Drinking Water (Decree No. 162/92, October 21, 1992).

⁵ The program states the following four methods: 1) the introduction of economic, legal, and technical measures to protect the water basins; 2) the priority utilization of underground water for drinking water supply; 3) the development of central drinking water supply networks in rural regions for the rural population; and 4) the immediate introduction of personal and local water purification devices, and the production of bottled water."

responds to the needs of the oblast administration, and second, to the needs of the city administration that it is also part of. However, this is not always the case. This relationship depends on the historical and current political and fiscal relationship of the city administration to the oblast administration. For example, some city VKs, regardless of the fact that their facility is owned by the oblast administration, are most responsive to the city administration; this is the case in Kyiv, Odesa, Kharkiv, and Lviv (SCHCS, 1993). In these cases, the city administration provides VKs with more capital infrastructure funds than the oblast administration does (Cherneha, 1993).

Regardless of which level of government it is most closely aligned to, most VKs currently enjoy a fair degree of day-to-day operating freedom from their political entities (except the earlier mentioned COM-set nominal general population user charges). VK's contact point with the two levels of local government are the oblast Housing and Communal Service Department (OHCS) and the CHCS (numbers 2.1 and 3.1 respectively on Figure A.1). "Legally," almost all VKs are protected from the interference of political officials.⁶ However, the exceptions are: 1) when the VK needs to receive central government "compensation;" 2) when the VK fails to carry-out their activities to the "satisfaction"⁷ of the government set standard; and 3) when VKs establish non-general population user charges (Puchko, 1993). In the instances that the VK has been unable to "satisfy" the local government with its performance, the local government can take over its daily operations (Shikin, 1993). Lastly, the oblast administration approves all non-general population user charges, excessive water charges and pollution fines collected (Shikin, 1993).

⁶ Please see Appendix C Section 4 for more information.

⁷ "Satisfaction" is based on whether the VK has satisfied the prescribed "normative" quantity of water delivered, wastewater treated, etc. that the local government decrees as VK operation guidelines.

B. Fiscal

The different branches of local governments have historically played and continue to play major roles in financing VK's capital infrastructure (Puchko, 1993; and Shikin, 1993). As noted earlier, in the past, local governments used moneys approved and received from the Center (earlier Moscow and now Kyyiv), to pay for all the non-enterprise related capital infrastructure⁸. Also noted was the fact that these intergovernmental grants have been largely reduced, and local governments have been given the legal ability to seek some alternative mechanisms to finance their activities. The immediate result, though, has been that the development pace of many water and wastewater capital infrastructure projects has slowed. Some projects are even at a standstill, while others have been scrapped altogether (Kushnarjov, 1993: 3)

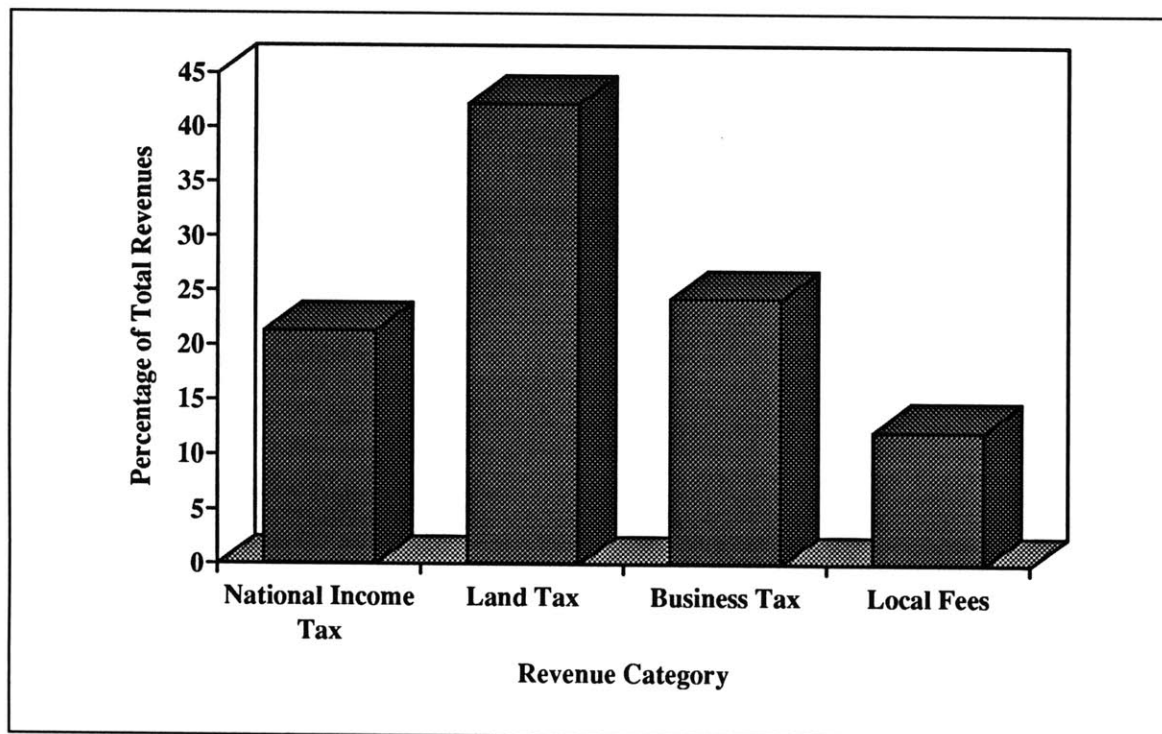
Responding to local government pressures, four pieces of legislation have been passed by the central government that grants the right to local governments to raise their own revenues. Local governments also manage a "technical conditions" process through that enterprises pay for all off-site capital infrastructure costs.

The first two pieces of legislation, the 1991 "On Local Radas of People's Deputies and Local Self-Government" law and its 1992 Amendment, formally gave cities the power to "independently solve all the issues of local life." These laws give cities the ability to collect various types of small fees, including: kiosk fees; billboard advertisement fees; farmer's market booth fees; hotel registration fees; etc. Unfortunately, this law has been tremendously underused as it is largely misunderstood by local government officials (Gamota, 1993: 19). For example, the "progressive" city of Kharkiv, as Figure A.2 shows expects to only collect 12.2 percent of its 1993 revenues using these recently

⁸ The section entitled, "VK Fiscal Structures," discusses enterprise financed water and wastewater infrastructure financing.

approved local fees. Based on other local government's experience with this new right, cities are far from being able to "independently solve all of the issues of local life."

**Figure A.2: Kharkiv City Rada of People's Deputies
1993 Planned Budget Revenues**



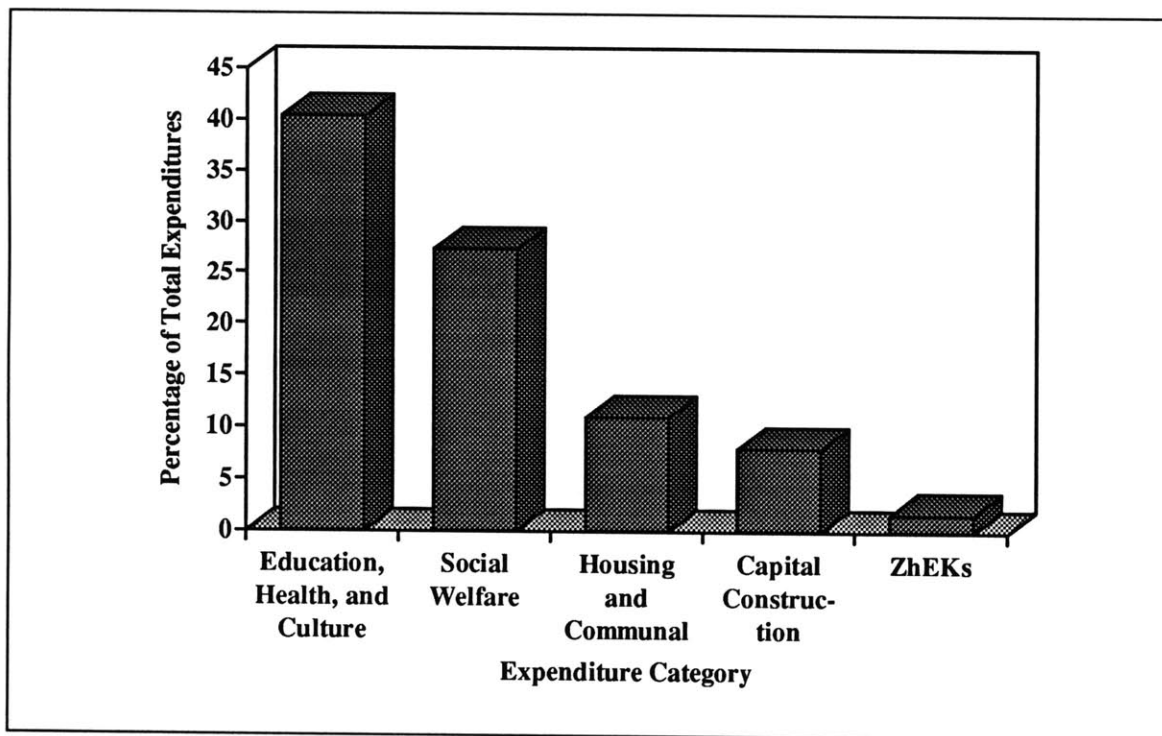
Sources: Gamota, 1993.

The 1992 "On Payment on Land" law further gives local governments the right to collect a nationally set property tax for the purposes of "financing the development of the urban infrastructure." However, along with these new abilities came two new central government companion restrictions. The first restriction is that the property tax rate, set by the Rada, is extremely low. This is in response to the current grave economic situation.⁹ The second restriction is that the MOF has to approve each expenditure drawing on the funds collected. Thus, given the current economic crisis, the funds collected by the property tax, stemming from COM and Rada directives, are being used to

⁹ Currently, the average earned income is \$10 per month and inflation is running 30 to 90 percent per month (World Bank, 1993).

finance "social protection" expenditures (Kushnarjov, 1993). For example, Figure A.2 illustrates that the city of Kharkiv plans to collect over 40 percent of its revenues from property tax alone. However, as Figure A.3 shows, less than 8.1 percent of its planned expenditures are to be used for capital construction costs. Due to the lack of available data regarding actual expenditures, it is difficult to estimate how much in reality went towards capital infrastructure.

**Figure A.3: Kharkiv City Rada of People's Deputies
1993 Planned Budget Expenditures**



Sources: Gamota, 1993.

New interpretations of the 1992 "On Forms of Land Ownership," the fourth piece of legislation, allow local governments to earn revenues through the sale of its vacant urban land and to shift the economic capital infrastructure burden to the private sector (Kharkiv Executive Committee, 1993). Of the three earlier mentioned pieces of legislation, it has

thus far shown the greatest potential. This is partly because it is capable of capturing a true "market" value of the land. Unlike the other three, which suffer from central government restrictions, the central government does not interfere with either the auction or the private developer's capital infrastructure investment. For example, at a recent land auction in Kharkiv (January 21, 1994), the city government earned over \$40,000 on the sale of rights to only two properties (Gamota, 1994). There is an emerging group of Ukrainian local government officials that also see its potential. As one stated:

"...urban land privatization by way of open and competitive auctions will emerge as an important tool of increasing the efficiency of urban land usage, accumulating financial resources, rationalize urban development, and a means for local radas to implement national policies of urban development..."
(Nudleman, 1993: 4).

However, it is important to note that the above auction has so far been the only one that has taken place, and only this summer are other cities beginning to initiate similar programs (Gamota, 1994). In general, local governments have been slow to take advantage of this source of revenue. This is partly attributable to the mass confusion and uncertainty that exists with the law itself. For the 70 years prior to the laws enactment, only State ownership existed, with private individuals, enterprises, and collectives receiving the right to use the land from the State (Shemshuchenko and Kulinich, 1993). The 1992 law allows private individuals and collectives to own their land. Many local government officials and Ukrainian citizens either are unaware that these new land rights exist or are uncertain as to their permanence (Gamota, 1993: 20). In addition, one of the main sources of public infrastructure providers in the west (Kayden, 1993), enterprises, can still only obtain lease or permanent use rights to the land.

A potential fifth piece of legislation, that many in government are discussing, would grant enterprises the right to privately own the land upon which their enterprise is located (Kayden, 1993). This type of legislation might promote enterprises to invest more heavily in their facility's capital infrastructure. Currently, under the 1992 "On Forms of

Land Ownership," only cooperatives and private individuals can privately own their land. Thus, many local government officials currently feel that many enterprises are waiting for "solid" private property rights before they would undertake the type of large-scale development that would greatly benefit the city" (Gamota, 1993: 20).

For those enterprises that are developing their facilities despite not having private ownership of their land, the city administration manages a process called "technical conditions" to determine the facility's "impact" on the city's current capital infrastructure (Semienov, 1993). As Figure A.4 illustrates for two development sites in Kharkiv, technical conditions are fees to pay for all the "technical and engineering" offsite costs associated with receiving the different urban services; i.e., a one-time "hook-up" fee that each individual communal service provides (Pohuliava, 1994). The six main communal service providers that are part of this process include: water, wastewater, heating, gas/network extension, electricity and rainwater. Other providers that can be included are telephone, road and radio service providers.

In cities, while the individual communal service providers calculate their respective fees, it is the Department of Planning and Economics of the Executive Committee of the City Rada of People's Deputies that sets the final total amount that the enterprise pays (Pohuliava, 1994). By law, the technical conditions can not be more than 30 percent of the expected construction cost (Vovk, 1993). The document that sets the technical condition is the City Executive Committee Decision. This city decision 1) permits the real estate development to take place and 2) "establishes" all construction related costs. Included in the decision is the stipulation that as the development's construction cost changes, so may the technical conditions. Again however, the technical conditions may not be greater than 30 percent of the new real estate development cost.

Figure A.4

PRE-APPROVED TECHNICAL CONDITIONS FOR TWO PROPOSED REAL ESTATE DEVELOPMENTS IN KHARKIV, UKRAINE
(All prices in 1984 karbovenets: \$ US 1 = 1 krb)

SITE A

Object to be built: Office with a cafe at Karl Marx Street (Center raion)

Site Description: Located near the railroad station. The size of the parcel is 0.05 hectare. The site is located in a central part of the city, that is currently undergoing reconstruction. The topography is smooth. The building is expected to have 1500 m² of usable floor space.

Urban Service	Impact Abatement Cost/m ² of Building	Impact Abatement Development Cost
- water supply network	66.67	100,000
- wastewater	60	90,000
- heating	100	150,000
- gas/network extension	13.33	20,000
- electricity	33.33	50,000
- rain water	66.67	100,00
TOTAL	340	510,000

SITE B

To be built: Office with a built-in shop at Sverdlova Street (suburbs)

Site Description: The size of the parcel is 0.2 hectare. The building shall not have more than 5 floors. The first floor will contain either a commercial store or a cafe. The upper floors can contain offices and hotel suites. The topography is smooth. The building is expected to have 3000 m² of usable floor space.

Urban Service	Impact Abatement Cost/m ² of Building	Impact Abatement Development Cost
- water supply network	100	300,000
- wastewater	66.67	200,000
- heating	100	300,000
- gas/network extension	16.67	50,000
- electricity	10	30,000
- rain water	16.67	50,000
TOTAL	310	930,000

Source: Sealed Bidders Information Packet. Executive Committee of the Kharkiv City Rada of People's Deputies. January 21, 1994. (These two lots were made available for auction with pre-approved Technical Conditions.)

Typically though, the total cost of the technical conditions is greater than 30 percent of the projected real estate development costs (Gryzlov, 1994). In these cases the difference is paid by the MOF via a compensation transfer to each communal service provider via the local government. Often times though, the prospective developer does not even pay the 30 percent value (Pohuliava, 1993). This occurs if s/he is able to negotiate with the Executive Committee an in-kind payment for the socio-economic development of the city in lieu of all or part of the technical conditions payments. Good examples of typical in-kind payments are kindergartens, social centers, and other built objects whose ownership is transferred to Executive Committee (Pohliava, 1993).¹⁰

The VK technical condition fee is based on the associated costs related to expanding its current capacity to meet the amount of service requested by the proposed enterprise (Pohuliava, 1993). For water delivery, such factors are considered as the water pressure needed¹¹, pipe costs to connect the site to the oblast main, the cost of a water pump if one is needed, and other related costs to maintain the same level of service to the system. For wastewater service, such factors are considered as pressure, pipe costs, costs associated with expanding the wastewater holding capacity of the VK's collector, installing new pumps, the type of wastewater (e.g., industrial, residential or rain), the type and character of the drain and sewer and other related costs to maintain the same level of service of the system.

As Figure A.4 shows, each fee varies from site to site. Typically, sites located in the city's Center raion incur higher technical condition costs than sites outside of the older part of the city. The variation is due primarily to the inner city's older infrastructure that tends to already be at capacity or is in need of rehabilitation. Figure A.4 supports this generalization, where site A, in the center, is given an averaged 340 krb/m² technical

¹⁰ It was not clear however, whether the MOF additionally compensate the respective communal service providers.

¹¹ The water pressure needed for delivery depends on the type of construction; for example a one-floored building has different water pressure needs compared to a sixteen-floored building.

condition charge while site B, located in the suburbs, receives an averaged 310 krb/m² technical condition charge.

In summary, as the above discussion on local government finance mechanisms suggests, local governments are just beginning to explore the many different non-governmental finance and revenue options available. This process of finance reform, given the central government's growing inability to issue intergovernmental transfers, will undoubtedly continue for the foreseeable future (Gamota, 1993: 14). The main impediment however, remains those officials in power and those in the general population who are uncertain that 1) the reforms being legislated are secure, and 2) that a Soviet-style government does not come back and simply remove them.

IV. Existing VK Fiscal Structure

A. Current Charge Structure

As mentioned earlier, VKs are responsible for only their operating and maintenance expenses, and they are expected to be self-sustaining via user charge collection and over-consumption penalty collection. Their three main operation and maintenance responsibilities are providing water and wastewater services, daily maintenance, and major renovation to water and wastewater facilities and pipe network.¹² As cited earlier in chapter 2, there are four different categories of users with five different user charges for drinking water and sewerage charges. According to the SCHCS, the generic user charge structure is as follows:

1. a. General Population
- b. Local-government Budget Organizations
 (e.g., Oblast Administration building)
2. Communal Service Providers
 (e.g., hospitals, schools)
3. Enterprises; both State- and Joint-Stock
4. Agricultural Enterprises

¹² Please see Appendix C section 4 for more detail.

As has already been discussed, the user charges for the general population is set by the COM and all others are calculated by the individual VK, but approved by the oblast Administration. In general, the user charge for Group (1a) is extremely low and for Group (3) is extremely high. For example, Figure A.5 shows that OVK charges the general population the COM set 10 krb/m³ and enterprise roughly 1480 krb/m,³ while its estimated marginal cost for producing water is 201.96 krb/m³. The other groups' user charges are generally a little higher than the marginal cost of producing water. According to SCHCS country-wide estimates, collected general population user charges only cover 11.5 percent of drinking water provision and 12.7 percent of sewage provision, while as a group, the general population, consumes roughly 50 to 80 percent (Dron, 1993).

Figure A.5: "OVK's" Water and Wastewater User Charges¹³
(As of July 5, 1993; US\$ 1 = 4500 krb)

CATEGORY OF USER	UNIT	PLANNED WATER CHARGE ¹⁴	PLANNED SEWER CHARGE
1a. General Population "HPN"	krb/m ³	10.00	5.00
1b. General Population "PPY"	"	37.50	5.00
2. Local Budget Organizations	"	336.06	185.45
3. Enterprises	"	1480.04	899.23
4. Communal Service Providers	"	373.70	222.17
Unit Production Cost	"	201.96	111.45

Source: OVK, 1993b.

There have been two results of such cross-subsidization. First, up to 44% of some Ukrainian enterprises' operating costs are attributable to what they paid for water and sewer services (Abramovitch, 1993). Typically, enterprises simply pass along this increase

¹³ Note that the Odesa structure does not include agricultural enterprises.

¹⁴ Note that the tariffs and charges shown include the national 28% Value-Added-Tax, which goes to the central government.

to their consumers (Dron, 1993). Second, VKs have experienced unplanned revenue shortfalls. The high user charges encouraged many enterprises to consume less water. Subsequently, these enterprises ended up paying a smaller water bill than the VK had planned for in their operating budget.

Typically, the VKs that receive "compensation" from the MOF for non profitability are located in regions where the general population consume more than 70% of the VK's water. Currently, most VKs are unprofitable and receive these moneys (SCHCS, 1993). The level of VK subsidy has been estimated to have reached 4.1% of Ukraine's GNP¹⁵ and continues to grow (Dron, 1993).

The amount of water for which a consumer is charged is based on either actual metering or on pre-determined norms when meters are not present. In general, no metering exists for residential water and wastewater consumers. In such cases, one of the earlier mentioned institutes determines how much that a particular consumer could consume based on the diameter of the water pipe servicing their building. Thus, the the total amount the general population is charged is not related to their actual use (Puchko, 1993). The amount of wastewater that a consumer is charged is determined in the same manner as for drinking water, norms for residential consumers and using the water meters for the others. In both instances, the "normative" amount of water that the general population is charged for, at COM set rates, requires the approval of the oblast administration.

B. Excessive Water Consumption Fines

Many VKs ration the general population's water service due to delivery problems. Thus, a fine structure has been developed by VKs to encourage enterprise users to use

¹⁵ GDP figures were not available for this comparison.

only the amount previously contracted; it is also a good revenue generator¹⁶. This fine only applies to enterprise users. For every unit of water consumed above their contracted amount, the enterprise is levied a per unit (in excess) fine of its charge multiplied by 5. Water meters are located at each enterprise and VKs are generally extremely careful to monitor such excessive use occurrences. One of the institutes determines the contracted amount that also requires the oblast administration's approval. The amount that enterprises are contracted to receive are generally set at a figure just below what they originally requested (Shikin, 1993).

C. Water Pollution Fines

VKs are collectively the largest single water polluter in Ukraine (Demydenko, 1993). VKs act as a filter for all of the pollution that is dumped into their system. However, under Ukrainian law, they nonetheless are treated as polluters and pay pollution fines. This system of fines stems from a COM decree, N.18 of January 13, 1992, which defined the procedure for water and air pollution fines and created environmental extra-budgetary funds. The decree ordered the SCHCS and MEP to develop instructions regarding water pollution fines and conditions for wastewater that enter natural water reserves. These instructions define the annual water pollution limits for each consumer type. In theory, the total amount of fines collected from all natural waterway polluters, including housing management companies (i.e., the state), equals a theoretical treatment cost (MEP, 1992).

Pollution discharged into natural waterways is monitored by local MEP inspectors. The local MEP inspectors are also responsible for collecting the associated pollution fines. All of the collected fines are allocated in the following way:

¹⁶ Note that a VK does not include these fines as part of their budget. Thus, a "compensated" VK can actually be profitable (Puchko, 1993).

1. 70% - to the city administration extra-budgetary fund for environmental protection projects;
2. 20% - to the oblast administration extra-budgetary fund for environmental protection projects; and,
3. 10% - to the MEP extra-budgetary fund for environmental protection projects.

One of the intentions of the above structure is that it can finance the expansion or technical upgrading of an under capacity or ineffective VK wastewater treatment facility. In those cities where such VK's exist, a good percentage of the collected funds go toward upgrading the facility. Note however, fines can not be levied against those who pollute on their own territory and unprofitable enterprises are exempt, and enterprises with "special local conditions" may incur reduced fines.

In addition to the fines that VKs pay for releasing pollution into waterways, VKs also collect pollution fines from enterprises who release wastewater that exceeds the pollution limits set forth in their contract with the VK. This limit is established by one of the MEP's research institutes and is approved by the oblast or city Administrations. All collected fines are given to the local government non-budgetary environmental fund. At present the methodology is per-unit based, whereby the polluter's total fine is equal to (water user charge x pollution fine coefficient x quantity of water) - (water user charge x quantity of water). The coefficient is set based on a methodology that evaluates the concentration of pollution released; however, the COM has set the maximum coefficient to equal 10.

D. VK Ownership, Management and Financial Rights Reforms

Some VK management, OVK included, are currently interested in promoting ownership, management, and economic rights reforms that they feel will improve their ability to be self-financing. Such measures include: 1) user charge setting ability; 2) raising funds own their own to finance needed capital infrastructure improvements; and 3) sector privatization (Shikin, 1993). The SCHCS has largely supported this movement

(SCHCS, 1993). Unfortunately, COM and the Rada, as this thesis has documented, are still concentrating at the larger "ideological" reform picture, i.e., decentralized vs. centralized. However, two, more pragmatic and less controversial, reforms have already been approved by COM.

One of the two major reforms that has already been enacted gives VKs the right to directly withdraw an overdue monthly bill from an enterprise's bank account.¹⁷ This reform replaces the old three or four month long process of back payments. VKs previously would take the enterprise to court in order to collect the overdue-payment. The court always ruled in the VK's favor (Shikin, 1993).

The second major reform gives local governments the legal ability to lease the oblast owned VK facility; the OVK, discussed in the next section, currently operates under this arrangement. As was mentioned earlier, this includes both the water and wastewater treatment plants and all main water and wastewater pipe networks. The lessee assumes all of duties associated with operating a VK; as specified by the SCHCS guidelines. Many VK and SCHCS officials view this as the first step towards the privatization of water and wastewater services (Gamota, 1993). However, as other officials point out:

"...without the reforms of user charges, the privatization of communal services can not take place, because no one would want to invest in a company that is restricted from being profitable" (Dron, 1993).

V. Odesa Vodokanal: A Case Study

A. OVK's Main Technical and Economic Indicators

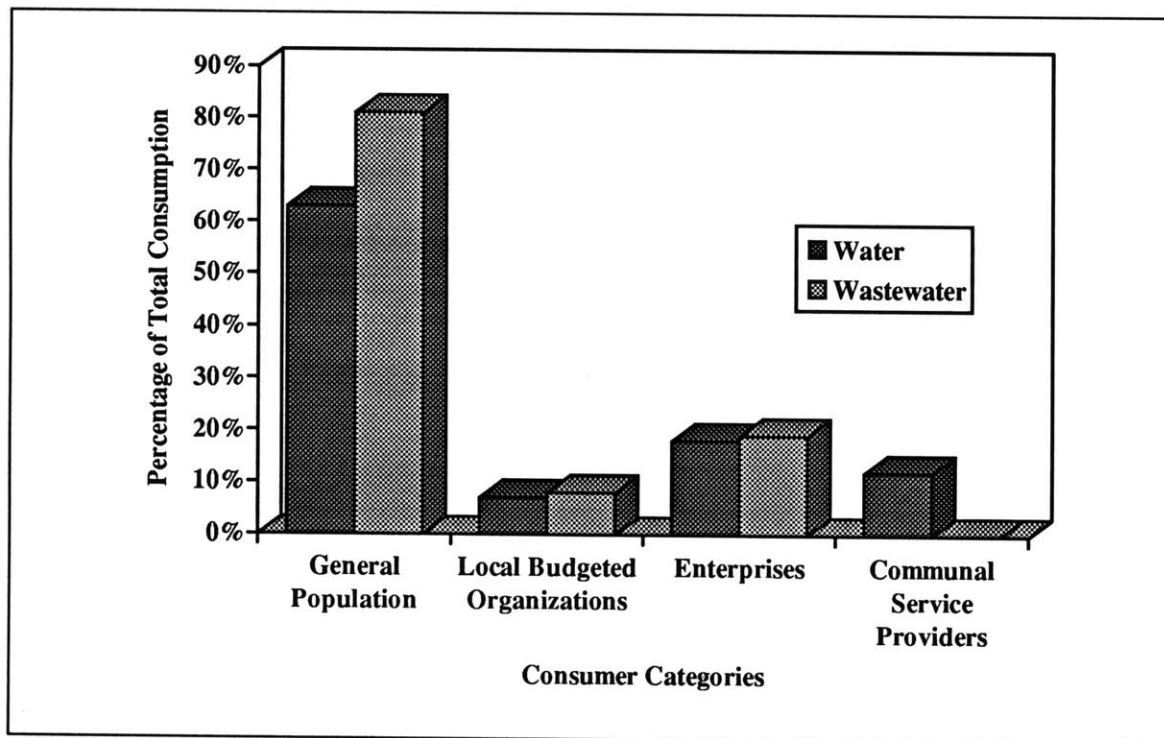
The OVK is the sole provider of water and wastewater services to the 1.3 million residents of the southeastern Ukrainian city of Odesa. In the first half of 1993, the OVK planned to sell over 109 million m³ of drinking water and treat over 78 million m³ of

¹⁷ This of course is dependent on whether or not that particular industry has such funds available. If they do not, they generally will try to obtain credits from the Central Bank to pay their bill. VKs do have the right to stop providing their services to industrial users for non-payment.

wastewater (Appendix B); some 20 percent of the water is not recaptured. Experts, however, estimate that 40 to 50 percent of the drinking water produced is lost during transport (Shikin, 1993). In general, water service is rationed throughout the city, and the inner city suffers from a decaying water and wastewater pipe network (Shikin, 1993). There are even places in the older sections of the city where wastewater leaks from pipe breaks (Shikin, 1993).

Figure A.6 shows that the OVK expected that the general population would consume the most water and locally budgeted organizations would consume the least, roughly 50 percent and 7 percent of the total water provided respectively (Appendix B).

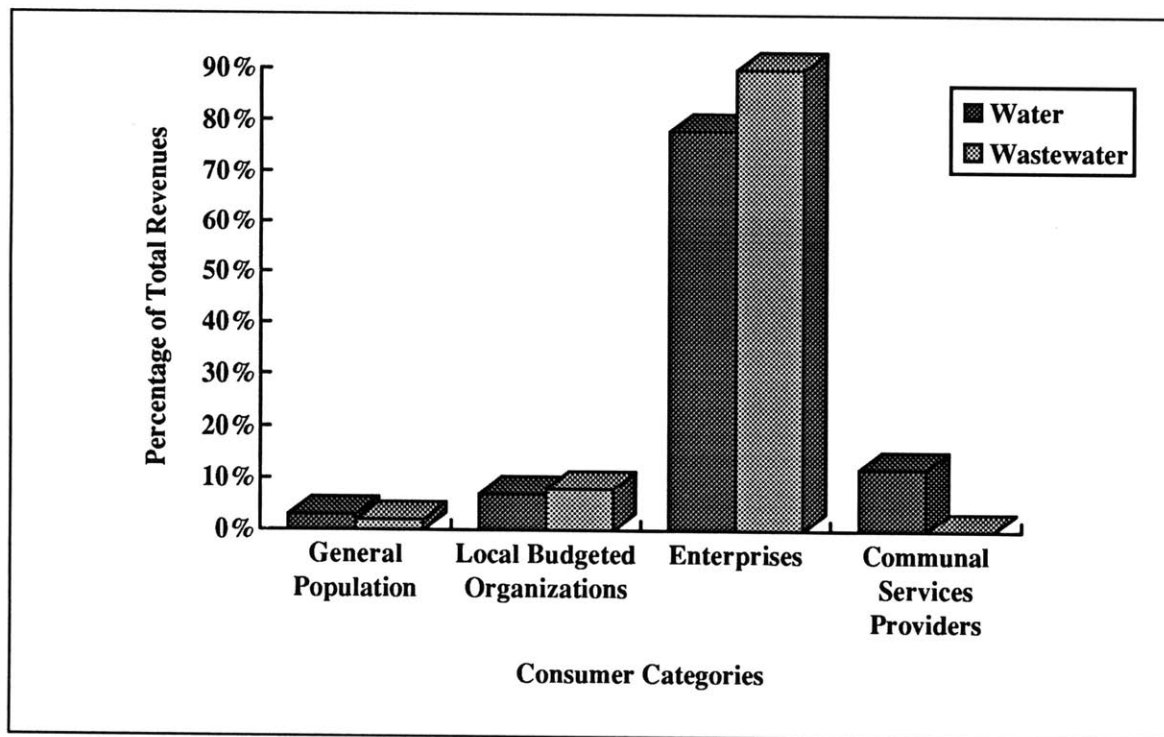
Figure A.6: OVK Planned Water and Wastewater Consumption by Consumer Category for the First Half of 1993



Source: OVK, 1993.

Enterprises are the next largest consumer group; responsible for 18 percent of the total water provided (Appendix B). However, as Figure A.5 illustrated earlier, enterprises pay a user charge close to 150 times more. As a result, and as Figure A.7 shows, enterprises provide close to 80 and 90 percent of OVK's planned water and wastewater operating revenues while the general population pays 1 percent (Appendix B). Note that these estimates do not reflect excessive water charges that OVK receives nor do they include the water pollution fines¹⁸ that OVK pays the local MEP (Shikin, 1993).

Figure A.7: OVK Planned Water and Wastewater Revenues by Consumer Category for the First Half of 1993



Source: OVK, 1993b.

¹⁸ In 1992, OVK paid the MEP over 47 million krb in pollution fines for dumping over 77 million m³ of polluted water. This included: 7,861 tons of floating material; 6,880 tons of organic waste; 572 tons of phosphorous and metal products; and 20 tons of oil products (Odesa MEP, 1992).

However, according to their planned estimates for the first half of 1993¹⁹, OVK experienced a profitable first year. The expected net income for the water supply and wastewater section for the first half of 1993 is roughly 6.6 billion krb (\$1.5 million²⁰) and 2.6 billion krb (\$0.6 million). Combined, the OVK expected a 6 month profit over \$ 2 million. According to OVK, they have never received MOF compensation (Shikin, 1993).

This planned profit, however, hides all of the major facility expansion and rehabilitation projects that OVK are involved with or have planned. These improvements, it should be noted, result from decades worth of inadequate infrastructure investment, both normal maintenance and adequate expansion to offset development (i.e., technical conditions) (Shikin, 1993). All of these capital projects are financed by the local government in one of the ways earlier described.

B. Planned Capital Expenditures

For fiscal year 1993, the Odesa city rada granted OVK, as a non-budget item, 1.2 billion krb for capital infrastructure projects (Cherneha, 1993). This amount represents 18 percent of the city's entire budget (Cherneha, 1993), the first such payment from the city rada (Cherneha, 1993). This city grant however, only pays for roughly 20 percent of the 13 OVK capital projects²¹ currently undertaken or planned (Shikin, 1993). It is their hope that they can find financing on their own to tackle future projects.

The main current project, as was mentioned earlier, is the technological upgrading of one of their two wastewater plants: the SBO South. The South currently only primarily treats some 400,000 m³ per day. A very environmentally sensitive part of the Black Sea receives this poorly treated wastewater. Experts view this is the main cause of water pollution from Odesa to the Black Sea and of beach closures during the summer; the latter

¹⁹ Please see Appendix B for detailed information.

²⁰ This is using the January 1993 exchange rate of US\$ 1 = 4,500 krb. All subsequent values use this rate unless otherwise noted.

²¹Please see Appendix B for further information.

is of grave concern for the tourism industry (MEP, 1993). The other 12 projects include: building a sludge processing facility for the SBO North Wastewater facility; rehabilitating the water and wastewater pipe network system; expanding the water and wastewater pipe network system. All totaled, these projects are estimated to cost over \$ 310 million (Shikin, 1993).

C. OVK Organization and Management Initiatives

OVK is one of the more reform-minded OVKs in Ukraine today. As such, it has largely taken full advantage of all of the recent enterprise, real estate and communal service pricing laws that the Ukrainian government has passed. Taking advantage of the enterprise laws, OVK's management and staff have made themselves into a legal enterprise whose profits are distributed among its council members.²² It keeps its own balance sheet, has its own bank accounts (including hard currency), its own seal, stamp and letterhead. OVK's Director is the Chairman of the OVK Council.

As a legal enterprise, OVK entered into a 5 year lease agreement with the Odesa Oblast Administration, the legal owner of all VK property; although OVK is given the ability to "buy-out" the property. The lease agreement states: "The property is transferred to the Lessee on lease in order that it be more efficiently used, and to create favorable conditions for conducting its main activities."

OVK assumes all the rights and responsibilities associated with being the successor of property rights and obligations as a communal service provider. OVK's two major responsibilities include: 1) "guaranteeing the provision and removal of water in the quantitative and qualitative parameters according to the Lessee's technical capability;" and 2) "executing major renovation and daily maintenance repairs of the main production facilities (works) on lease" (Appendix C, Section 4).

²² Please see Appendix C for the actual translated lease agreement.

The agreement also gives OVK three main rights that allow it to act in an economically and politically independent manner. These are: 1) "independently conduct its economic activity;" 2) "execute works, produce and supply product and consumer goods, render services to the public, and dispose of earned income (profits)"; and 3) "undertake reconstruction, expansion, and technical refitting of the leased property, thereby increasing its value" (Appendix C, Section 4). However, with respect to financing water and wastewater mains in the city, the Odesa oblast administration is responsible (Appendix C, Sect. 4-4).

Given the inability of the oblast administration to fund them, OVK officials have stated that they would like to gain even more fiscal autonomy. Major reform proposals that they are pursuing include: 1) user charge setting ability; 2) raising funds own their own to finance needed capital infrastructure improvements; and 3) sector privatization (Shikin, 1993). In addition, they are interested in exploring the various non-governmental finance mechanisms used in other countries (Shikin, 1993).

APPENDIX B. Main Technical and Economic Indicators for "OVK" for the First-Half of 1993.

The below data provided by ODESVODOKANAL (July 22, 1993).

Figure B.1: Planned Total Revenues, Operating Costs, and Total Net Income for Both OVK Services for the First-Half of 1993
(US\$ 1 = 4500 krb)

I. TOTAL	Units	Planned	Planned/Total
A. Total Revenues	m.krb	39,918.90	1.00
- General Population	"	1,148.90	0.03
- Local Budgeted Organizations	"	3,001.30	0.08
- Enterprises	"	32,201.20	0.81
- Communal Service Providers	"	3,567.30	0.09
B. Total Operating Costs	m.krb	30,706.80	---
C. Total Net Income	m.krb	9,212.10	---

Figure B.2: Planned Quantity Sold, Operating Revenues, Operating Costs, and Net Income for OVK Drinking Water Delivery for the First-Half of 1993
(US\$ 1 = 4500 krb)

II. DRINKING WATER	Units	Planned	Planned/Total
A. Total Drinking Water Sold	m.m³	109.00	1.00
- General Population "HPN"	"	52.2	0.47
- General Population "PPY"	"	17.7	0.16
- Local Budgeted Organizations	"	7.9	0.07
- Enterprises	"	19.1	0.18
- Communal Service Providers	"	12.1	0.12
B. Drinking Water Revenues	m.krb	28,617.98	1.00
- General Population "HPN"	"	407.68	0.01
- General Population "PPY"	"	518.61	0.02
- Local Budgeted Organizations	"	2,074.15	0.07
- Enterprises	"	22,084.94	0.78
- Communal Service Providers	"	3,532.60	0.12
C. Total Operating Costs	m.krb	22,013.83	---
D. Average Water Charge	krb/m³	262.55	---
E. Unit Production Cost	"	201.96	---
F. Net Income	m.krb	6,604.15	---

Figure B.3: Planned Amount Treated, Operating Revenues, Operating Costs, and Net Income for OVK Wastewater Services for the First-Half of 1993
(US\$ 1 = 4500 krb)

III. WASTEWATER	Units	Planned	Planned/Total
A. Total Amount Treated	m.m³	78.00	1.00
- General Population	"	57.0	0.73
- Local Budgeted Organizations	"	6.4	0.08
- Enterprises	"	14.4	0.19
- Communal Service Providers	"	0.2	0.00
B. Wastewater Revenues	m.krb	11,300.90	1.00
- General Population	"	222.64	0.02
- Local Budgeted Organizations	"	927.23	0.08
- Enterprises	"	10,116.31	0.90
- Communal Service Providers	"	34.71	0.00
C. Total Operating Costs	m.krb	8,693.00	---
D. Average Charge	krb/m³	144.88	---
E. Unit Production Cost	"	111.45	---
F. Net Income	m.krb	2,607.90	---

APPENDIX C. The ODESVODOKANAL Lease Agreement

Below is the translated Lease Agreement between the Odesa Vodokanal and the Odesa oblast administration.

LEASE AGREEMENT

City of Odesa

No.

April 30, 1993

The Odesa oblast administration, further referred to as the Lessor, in the name of the Deputy Chairman of the Administration, V.S. Lysenko, acting by virtue of the Clauses regarding the local state administration, and on behalf of one party, and the organization of lessees, "Odesvodokanal", further referred to as the Lessee, in the name of the Chairman of the Council of Lessees, A.S. Shikin, acting by virtue of the Clauses of the organization of lessees and the legislation of Ukraine, and on behalf of the other party, entered into this agreement, hereinafter referred to "Agreement" regarding the following:

I. SUBJECT OF AGREEMENT

1.1. The basis for entering into this Agreement is the decision of the Board of authorized organizations of lessees.

1.2. In accordance with the Agreement, the Lessor leases, and the Lessees takes on paid lease state property built by the water main and sewage utility administration as an entire property complex, hereinafter referred to as "Property", starting January 1, 1993.

1.3. The Lessor transfers, and the Lessee takes the following property on lease:

	(in karbovanets)
Fixed Capital Assets:	
a) original value	2,749,787,000
b) book value	1,316,282,000
Including the value of the property:	
original value	883,274,200
book value	591,379,300
Incomplete Major Construction	80,647,200
Equipment to be installed	16,069,000
Reserves and input (less depreciation)	91,212,000
Including:	
incomplete production	22,000
cash reserves	659,854,000

total current assets (floating capital)	751,066,000
amortized deductions from the production development fund	0

1.4. The property is transferred to the Lessee on lease in order that it be more efficiently used, and to create favorable conditions for conducting its main activities. The property shall be leased for 5 years, which expires on December 31, 1997.

1.5. The transfer of separate property on sub-lease is only permitted at the consent of the Lessor.

The balance sheet as of January 1, 1993 and the settlement of lease payments are an integral part of this Agreement (Appendix 1 - Act of Transfer-Assumption of Property, Appendix 2 - Settlement of Lease Payments).

After signing the present Agreement and the assumption of property, the Lessee assumes the status of a leasing enterprise and is referred to as the Lease Enterprise "Odesvodokanal".

From the day of registration with the state, the Lessee assumes the rights of legal entity and becomes the successor of property rights and obligations of the organization, the property of which has been leased. The Lessee becomes the possessor of the Property the moment the present Agreement is signed.

2. PROCEDURE FOR TRANSFER OF LEASED PROPERTY

2.1. The lease of property does not imply the transfer of ownership rights to the property. The owner of the leased property remains the Odesa Provincial Council of Peoples' Deputies, while the Lessee possesses and uses it throughout the lease period.

Amortization deductions from the leased property, proceeds from the sale of the property, as well as funds allocated for improvements to the premises (detached or non-detached) are all ownership of the Odesa Provincial Council of Peoples' Deputies.

2.2. The transfer of property on lease is executed at a value based on an appraisal of the property (including depreciation) at the moment it is transferred by the parties. The value of the property is determined by similar method when it is returned by the Lessee to the Lessor upon expiration of the lease agreement, as well as upon breach of contract by either party.

2.3. Any property built at the Lessee's expense, as well as material and other valuables (not part of the leased property) is owned by the Lessee, in the event these funds were earned or acquired via legitimate means, as stipulated by legislation.

3. LEASE PAYMENTS

3.1. Lease payments are calculated into the provincial government (Oblast-YH) budget and transferred to the settlements account of the Financial Administration of the Odesa Provincial State Administration in the amount of 208,617,000 karbovanets per annum on a quarterly basis in corresponding sums, according to Appendix 2.

The Lessee shall execute lease payments on a quarterly basis in sums equaling 1/4 of the annual lease payment not later than the 20th day of the first month of the following quarter.

3.2. The amount of the lease payment can be reviewed to maturity of lease at the request of either one of the parties hereto upon changes in prices and tariffs via centralized decision, decrees of the Cabinet of Ministers of Ukraine regarding the level of payment rates, and in other cases stipulated by legislation of Ukraine.

3.3. Amortization deductions remain at the disposal of the enterprise for replenishing fixed capital assets (funds).

3.4. Lease payments do not depend on the performance results of the Lessee's economic activities.

3.5. Lease payments transferred late or not in the full amount are penalized for each day of the late payment in the sum of .2% of the payment amount due (including the day payment is executed). Overpayments which appear on the settlements account are subject to reimbursement or shall be credited to the next quarter's payment.

4. RIGHTS AND RESPONSIBILITIES OF THE PARTIES

4.1. The Lessee is obligated to:

- use the leased property for the purposes it was intended and in accordance with the terms of the present Agreement;
- guarantee the provision and removal of water in the quantitative and qualitative parameters according to the Lessee's technical capabilities;
- timely transfer of lease payments, deductions, and taxes to the budget account;
- execute major renovation and daily maintenance repairs of the main production facilities (works) on lease;
- return the leased property upon breach of the present Agreement in the appropriate condition, less depreciation;
- should the said property go out of order earlier than the amortized term of service, transfer the under amortized value of fixed assets and other losses to the provincial budget account;
- submit all accounting records to the addresses, in the standard format and terms set in accordance with effective legislation;
- fulfill the terms of business contracts, and bear all responsibility for executing purchases and sales of product (labor and services) with the water main and sewage utility, as well as with other enterprises.

The security of the leased property is backed by an insurance policy, which the Lessee takes out at its own expense.

4.2. The Lessee has the right to:

- independently conduct its economic activity;
- execute works, produce and supply product and consumer goods, render services to the public, and dispose of earned income (profits);

- lend out certain types of equipment or property included in the leased premises for temporary use or rental, if such acts do not detract from production potential, and do not preclude the fulfillment of terms of the present Agreement;

- undertake reconstruction, expansion, and technical upgrading of the leased property, thereby increasing its value;

- enter into direct business contracts with organizations, enterprises, cooperatives, associations and private entities for the execution of works, output of product, and rendering services;

- purchase goods, raw materials, equipment and other resources necessary to execute such business contracts;

- participate in various forms of financial and credit inter- relationships;

- extend credit to other enterprises and organizations on a contractual basis;

- create a business fund of members of lessee organizations, and transfer the sum of fixed assets procured from net profit of the enterprise;

- independently distribute earned income, create funds (i.e. insurance, development, etc.) necessary for the efficient operation of the enterprise;

- conduct foreign economic activities in a procedure established specifically for state enterprises.

4.3. Upon expiration of the term of this Agreement, the Lessee has the right of first refusal to renew the term. Upon extension of this Agreement for a new term, the terms may be amended at the consent of both parties.

The Lessee, if accused of any disasters leading to irreparable damage to the property, is obligated to undertake renovation and restoration of the property within a technically acceptable term.

If the accident was the fault of a third party, the Lessee submits a claim at its expense in the above mentioned procedure, and undertakes the necessary renovation and restoration of the property.

If the accident was a result of force-major circumstances, or a claim cannot be submitted against or satisfied by a third party, restoration of the property is covered by insurance. In the event the damages are not fully covered by insurance, the difference between restoration expenses and the value of property is determined by an act of investigation.

The Lessee is not responsible for the obligations of the Lessor.

4.4. The Lessor:

1. Transfers the following property on lease to the Lessee:

	(in karbovanets)
Fixed production assets	2,749,787,000
Floating capital assets	751,600,000

2. Sets the lease payments to the Lessee for the use of the property.

3. Controls the availability, condition, purposes and efficiency of use of the leased state property.

4. Finances the construction of new water mains and sewers included in the urban development plans for the oblast, and renders assistance in technical upgrading.

5. In the event the condition of the leased property deteriorates due to its improper use on the part of the Lessee or default on the terms of this Agreement, takes the initiative to submit amendments or requests a premature breach of Agreement.

6. The Lessor does not bear responsibility for the obligations of the Lessee.

5. LIABILITIES OF THE PARTIES

5.1. For default or improper fulfillment of contractual obligations herein, the parties are liable in accordance with legislation of Ukraine.

5.2. Disputes resulting from execution of this lease Agreement are reviewed by the parties in an agreed upon procedure. Upon failure to reach a consensus, the disputes is appealed for review to an arbitration court.

6. TERM OF VALIDITY OF AGREEMENT AND TERMS OF AMENDMENTS TO, BREECHEES AND EXTENSIONS OF AGREEMENT

6.1. The present Agreement was entered into January 1, 1993 and is valid to December 31, 1997.

The terms of the Agreement retain their binding force for the entire term of validity of the Agreement, and, even in the event that, after it is signed, regulations set by legislation place the Lessee at a disadvantage.

6.2. Amendments to or breach of Agreement may occur with the consent of the parties. The submitted amendments and supplements are reviewed by the parties over the course of one month. A unilateral waiver from execution of the Agreement or entering changes is not permitted.

6.3. Breach of Agreement at the initiative of one of the parties can be executed by the decision of an arbitration court in the event of default of obligations by either of the parties or on the basis of cases stipulated by legislation of Ukraine.

6.4. Upon expiration of the term of validity of the Agreement, the Lessee has the first right of refusal to renew it. Upon extension of the Agreement for the new term, the terms may be amended at the consent of both parties.

6.5. The reorganization of the Lessor and the Lessee (entering into economic companies, associations, and joint ventures) is not considered grounds for amendment of terms or suspending the effect of the Agreement.

6.6. The Lease Agreement is suspended in the event of:

- end of term for which it was entered into;
- buy-out of leased property;
- destruction of leased property.

6.7. Interrelationship between the parties not regulated by the present Agreement are regulated by legislation in effect.

6.8. The Lease Agreement is considered entered into the moment a consensus regarding all terms of the Agreement is reached and it is signed by both parties.

6.9. The Agreement was drawn up in quadruplicate, each copy of which has equal legally binding effect:

Copy No.1 - the Lessor
Copy No.2,3,4 - the Lessee

6.10. LEGAL ADDRESSES OF THE PARTIES

LESSOR: Odesa Oblast Administration
270032 Odesa, Ukraine
Prospect Shevchenko, 4

LESSEE: Enterprise Organization "Odesavodokanal"
270023 Odesa-23, Ukraine
vul. Basseina, 5

Appendices:

No.1 - Act of Transfer-Assumption of Capital Production Assets;

No.2 - Settlement of Lease Payments;

No.3 - Balance Sheet as of January 1, 1993.

Lessor

Lessee

Deputy Chairman of the Odesa
Oblast Administration

Chairman of the
Odesavodokanal

V.S. Lysenko

A.S. Shikin

INTERVIEWS AND ASSISTANCE

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Gryzlov, Michael. Kharkiv Office Manager, USAID/RTI.

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