

**PILOT LOCAL  
GOVERNMENT  
PARTNERSHIP PROGRAM**

**ASSISTANCE TO  
MUNICIPALITIES ACTION  
PLANS FOR DURRES,  
KORCE AND ELBASAN**

Prepared for

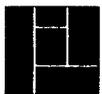


East European Regional Housing Sector Assistance Project  
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**HOUSING AND URBAN DEVELOPMENT ASSISTANCE  
IN CENTRAL AND EASTERN EUROPE**

**CONTRACT No EPE-0034-C-00-5110-00**

**ASSISTANCE TO MUNICIPALITIES  
ACTION PLAN FOR  
DURRES, KORCE AND ELBASAN  
ALBANIA**

**USAID Housing and Land Development and Urban Infrastructure Program**

In a Memorandum of Understanding (MOU) signed in January 1996, the Government of Albania and the Government of the United States agreed to work jointly to undertake reforms in the urban housing and land development and infrastructure sectors. Under the terms of the MOU USAID, is committed to

- provide policy and legal advice to support the development of the legal, regulatory and institutional framework governing the housing and land development and infrastructure sectors in Albania
- provide training to strengthen the capacity of Albanian personnel and institutions to implement and sustain sector objectives
- assist in implementing pilot projects in Albania in order to achieve concrete improvements in each sector, while building experience, capacity and credibility

The specific objectives of the MOU fall in two areas. They are as follows

- **Urban Infrastructure Privatization and Regulation**
  - i Improve the quality of urban services by increasing the investment and improving the management through private sector privatization
  - ii Establish the legal and regulatory instruments necessary for sustainable improvements in service quality
  - iii Increase the human resource capacity to manage investments in, and operations of, urban infrastructure and services through training and technical assistance
- **Housing and Land Development**
  - i Increase access to adequate and secure housing for a broad income range of households by making serviced land available for development and by increasing the participation of private individuals and enterprises in the housing sector
  - ii Improve the quality of residential living and protect environmentally sensitive areas by increasing the provision of infrastructure, urban services, and housing maintenance to selected residential communities

- iii Increase the efficiency of land use and urban growth and of public investments in infrastructure and housing, by instituting strategies that promote private participation in development, cost recovery, land development controls and income-targeted subsidies

### **Relation to USAID Strategic Objectives**

The technical assistance and training activities have been established under Strategic Objective 2 3 of the overall USAID program in Albania which is to promote “More Effective, Responsible, and Accountable Local Government” Within the context of this strategic objective the intermediate results, indicators and targets that correspond directly to housing and land management development and urban infrastructure are as follows

IR2 3 2 1 Local Government provides improved services

#### Performance Indicators (Targets)

- Number of cities with a 50% increase in hours of water service (Target for year 2000 - 12 cities)
- Increased investment in municipal services (Target TBD)
- Number of cities with increased volume of garbage collected and deposited in landfill (Target for year 2000 - 8 cities)

### **Background and Objectives of this Action Plan**

This proposed Action Plan will expand USAID efforts outside the capital city of Tirana where prior assistance in housing and land development has been concentrated The objective of the Action Plan is to provide coordinated assistance by U S and Albanian specialists in cities in Albania other than the capital Tirana to help improve access to adequate and secure housing served by basic infrastructure services, as described in the objectives of the MOU signed in January 1996 The assistance to the cities will be managed by a small core of U S and Albanian specialists who will develop a consistent approach to addressing similar issues in each participating city That approach will draw on the lessons learned and experience gained in the Tirana Land Management Program, which will be adapted and replicated in the work with other cities This will include the creation of a task force in each city with representation of key officials from the city itself, from the corresponding district and from the central government The task force will provide leadership and guide the implementation of the activities proposed under this Action Plan in the city The priority of the team of specialists will be to build up the knowledge and skills of the counterparts in each city, and at the district and national levels, so that they can carry on the work

To improve the prospects of providing real, practical solutions to existing housing and infrastructure problems, USAID has targeted cities which are receiving assistance under its Public

Administration program and which have or might obtain access to resources from other donors especially in the area of financing for investments in infrastructure. As a first step in the process of identifying the cities that might receive assistance, USAID convened a conference of mayors from six large to medium size cities in Albania in Tirana on July 10 and 11, 1996. The response was encouraging. Mayors and city planners identified their most pressing problems in the key areas. They all expressed an interest in receiving assistance to solve these problems. A USAID consultant met separately with each mayor and their staff to discuss potential projects. As a result of this preliminary screening, and based on other criteria, such as the likelihood of other donor financing for infrastructure, USAID has decided to provide assistance initially to Durres, Korce and Elbasan.

This Action Plan describes the activities to be carried out in each of these three cities. A team of U.S. and Albanian specialists traveled to Durres, Korce and Elbasan during the weeks of November 4 to 22, 1996 to meet with the mayors newly elected in October and with their staff. The list of proposed activities included in this Action Plan are the product of those meetings and discussions. In all cases they represent a convergence of the priorities of the mayors and other local officials on the one hand and of the areas of assistance included in the MOU between USAID and Government of Albania on the other.

### **Overall Structure of the Proposed Activities**

The visits to Durres, Korce and Elbasan, as well as the prior experience in Tirana, suggest that two key factors account for many of the current problems that cities face in providing adequate urban services to the residents of their communities. One factor is the deteriorated condition of key urban infrastructure systems, including water, waste water and roads after years of deferred maintenance. The other factor is the difficulty cities confront in keeping up with the demands for services generated by the sudden unplanned development of new housing, largely on peripheral lands, starting in the late 1980's.

Deferred maintenance helps explain why the water companies in Durres, Korce and Elbasan have been forced to limit service to their residential and business clients to a few hours each day. The existing sources that supply the water systems in those cities are adequate to serve not just the existing population, but also projected growth for many years. The water distribution system covers all areas of the cities and the pressure is adequate to serve those areas. The problem is the deteriorated state of the system, which loses more water to leaks than it serves to the clients. The water companies have elected to pressurize the systems for only a few hours each day, usually in the very early morning, in order to minimize the losses from these leaks. Most homes, apartment buildings and businesses have small storage tanks on their roofs which are filled during this brief period of service. Many of these tanks have uncontrolled overflows which result in additional lost water. This intermittent operation causes several related problems. The most significant is the introduction of contaminated ground water into the water pipes during the off periods. When the systems are shut off and drain down, pipes which leak under pressure will be

| Analysis of Water Supply and Hours of Service |                   |  |  |   |                                       |   |   |
|---|-------------------|--|--|---|---------------------------------------|---|---|
| City  | (1)<br>Population | (2)<br>Water<br>Supply<br>(liters/sec) | (3)<br>Maximum<br>Population<br>Served | (4)<br>Hours of<br>Service<br>(hrs/day) | (5)<br>Estimated<br>Lost Water<br>(%) | (6)<br>Estimated<br>Lost Water<br>at Current<br>Hours of<br>Service<br>(m <sup>3</sup> /year) | (7)<br>Estimated<br>Cost of<br>Lost Water<br>(lek/year) |
| <b>Durres</b>                                 | 200,000           | 700                                    | 403,200                                | 3                                       | 70%                                   | 958,125   | 9,897,431   |
| <b>Korce</b>                                  | 80,000            | 300                                    | 172,800                                | 3                                       | 50%                                   | 273,750   | 2,827,838   |
| <b>Elbasan</b>                                | 137,800           | 1,000                                  | 576,000                                | 7                                       | 70%                                   | 1,540,346   | 15,911,770  |

- (1) Total population currently served by the water distribution system (includes areas served outside the city)
- (2) Estimated average water supply yield
- (3) Theoretical population that could be served by the existing supply, assuming no lost water
- (4) Average hours of service per day as reported by the water enterprise
- (5) Estimated water lost at 24 hour service
- (6) Calculated water lost based on population currently served, assuming 150 lts/capita/day, existing loss percentage and current hours of service
- (7) Cost based on 10 33 lek per cubic meter of lost water Current price as calculated in USAID water rate study

sources of groundwater infiltration when the pressure is off. Existing waste water collection systems and the city streets suffer as well from the accumulated consequences of years of deferred maintenance.

Deferred maintenance also is a serious problem affecting the large stock of apartments built by the state and privatized since 1989. Combined with the poor quality of the initial construction in many cases, the total lack of preventive maintenance will shorten the useful life of the apartments. This problem will become a major burden in the future when there will be a need to build new housing units to replace a significant part of the housing stock. The poor conditions in the blocks of apartments already is causing difficulties. A study by a World Bank consultant in Elbasan for the water enterprise shows that as much as 80 percent of unaccounted water lost in the system can be attributed to misuse and deferred maintenance in the blocks of apartments.

The rapid growth of unplanned residential developments on the periphery of cities has far surpassed the existing capacity of cities to manage urban growth and to extend services to the new areas. There are two problems. One is the adherence to city planning concepts and methods designed to control and dictate growth that have not proven to be agile enough to keep up with private housing initiatives in an evolving market economy. The other is that both the cities and the families who have developed new housing continue to rely solely on the central government to finance the expansion of the urban infrastructure systems to serve the new areas. Faced with the need to impose fiscal austerity, the Government of Albania has had to curtail expenditures and has been unable to provide the required financing. Further, it is not clear that the central government should have to bear the full burden of financing the expansion of urban services. Eventually such investments should become the responsibility of the cities, the utility enterprises and the homeowners themselves.

Because the causes are similar, the response to the problems in the three cities will be similar. The assistance proposed in the Action Plan for Durres, Korce and Elbasan is a specific implementation of one of the five following typical activities:

With regard to the problems caused by deferred maintenance, the activities are of three kinds:

- One is to help the cities develop “bankable” projects for financing by foreign donors. These are projects to finance the large accumulated cost of repairing and rehabilitating the infrastructure systems. The World Bank water loan in Durres and the German government water loan in Korce are good examples of such projects. The effect of the investment is to allow the city to catch up after years of neglect. USAID assistance would address the pre-project analyses required to qualify for donor financing.
- The second typical activity is to address the underlying cause of the problem, that is the lack of routine maintenance. The USAID privatization agenda already is addressing this

issue. The idea is to help these enterprises operate on a more business-like basis so that they can generate the funding needed for routine maintenance and new investments. At that point, the private sector also can become involved in operating and or owning all or part of the system. USAID assistance at the city level would help the local utility enterprises in such areas as analyzing rate structures, implementing cost accounting and cost management systems, improved bill collection, design of operating and maintenance plans, as well as techniques for contracting out or selling all or some of their functions to private investors and providers.

- The third activity will address the issues of lack of maintenance in the blocks of privatized apartments. The objective is to initiate a sustainable process through which home owners assume responsibility for providing preventive maintenance in their units and buildings. This activity will seek to raise the level of awareness and concern among residents and local officials of the short- and long-term consequences of deferred maintenance of the housing stock. USAID assistance will help identify practical measures that residents can take within their means to begin to address the issue and will provide guidance on how to form associations of home owners to administer the process.

With regard to the problems generated by the inability of cities to keep up with growth, the activities are of three kinds:

- One activity is to help the cities develop “bankable” projects for donor financing in this case to finance the expansion of infrastructure systems to serve the urban growth areas. As in the case of the repair and rehabilitation of the systems, the effect of such donor projects is to allow the city to catch up with the problem. USAID assistance would address the pre-project analyses required to qualify for donor financing.
- A second activity would begin to address the underlying causes of the problem. Cities can no longer rely on the central government to foot all or most of the bill for the cost of providing services in growth areas. Eventually, such investments should become primarily the responsibility of the cities, the utility enterprises and the homeowners themselves. USAID assistance would help the city analyze the costs of alternative growth strategies and standards and develop cost sharing and cost recovery mechanisms to finance the investments with contributions from all parties. This would be expressed in a city policy on how to finance investments in infrastructure. It would be reflected in an investment and financing plan and in land development standards and regulations.
- The third activity also would seek to address the underlying causes of the problem, in this case the need for urban growth management rules and procedures that are more agile and better adapted to a market-driven housing sector. Central planning and rigid controls are no longer viable. USAID assistance would help the city develop and implement tools such

as zoning, land use and subdivision regulations all applied in the context of more dynamic structure plans to guide growth and promote and encourage private development

All these activities will unfold in the context of a slow and incomplete decentralization of authority from the central to local governments and as part of a transition to a market economy. This means that the cities will have to be astute in involving many different parties as partners in the activities described above. City and local enterprise officials alone do not have the authority or the resources to implement any of the activities. They will need to construct alliances and collaborative efforts with district and central government officials, as well as with the residents in the local community and the new actors in the private housing sector, such as architects and developers. The experience in Tirana with the Land Management Task Force supported by the Government of Albania and USAID provides a valuable example of this approach that will be adapted and replicated in the work with other cities.

Table 1 shows which of the five typical activities are proposed in the Action Plan for Durres, Korce and Elbasan

| Activity                                   | Durres  | Korce   | Elbasan  |
|--|---|---|--|
| <b>Deferred Maintenance</b>                |   |   |  |
| “Bankable” Projects for donor financing    |   | The <i>Landfill Feasibility Study</i> will help the city develop a proposal for donor financing for a new solid waste landfill  |  |
| Privatization and enterprise restructuring | The <i>Landfill Management Plan</i> will help the cleaning enterprise develop and implement a landfill management plan and prepare for possible privatization of the landfill operation |   | The <i>Utility Financing Project</i> will help improve the financial self sufficiency of the water sewage and solid waste enterprises thus increasing prospects for total or partial privatization |
| Housing maintenance and rehabilitation     |   |   | The <i>Water Conservation Project</i> will develop low-cost practical measures that residents can implement to reduce lost water in the units and buildings and reduce their water bill            |
| <b>Urban Growth</b>                        |   |   |  |
| “Bankable” projects for donor financing    | The <i>Neighborhood Improvement Project</i> will help the city develop a proposal for donor financing to upgrade an area where 400 families live on own land without basic services     |   |  |
| Financing urban growth                     | The <i>Neighborhood Improvement Project</i> also will help the city identify immediate service improvements it can finance in the area with its own and community resources             | The <i>Housing Development Management Project</i> will help the city adopt a policy to share infrastructure investment costs in urban growth areas between land owners the city and local utilities |  |
| Managing urban growth                      |   | The <i>Housing Development Management Project</i> also will help the city develop land use zoning and subdivision regulations and a housing policy to guide and manage urban growth                 |  |

**DURRES, ALBANIA**  
**PROPOSED ACTION PLAN**  
**November 1996**

**General Situation**

The City of Durres is Albania's primary port on the Adriatic Sea. It has a population of an estimated 100,000 - 110,000, up from about 85,000 in 1990. The city is at the hub of the country's transportation system with rail and road connections to the north, south and east. It has a mild climate, cultural and historic resources (including a Roman amphitheater in dilapidated condition) and portions of ancient Ottoman city walls, and desirable recreational beaches. It also has ample areas set aside for industrial development as well as a developable land areas just beyond the current city borders.

Housing is primarily in multi-family 4-5 story buildings built over the past 50 years. These are organized around common courtyards and are concentrated in the center of the city. Buildings appear to be in fair to poor condition. Court yards are unimproved and typically cluttered with bunkers, kiosks, storage sheds and garages, and occasionally, huts used as living quarters. The Planning Director indicates that these uses are permitted and legally built but most appear to be of poor and unprofessional construction.

Some new housing, built since 1991 can be seen in the central area including several new apartment buildings and substantially built individual homes. To the south of the central district and behind the beach are a number of older and more recently built individual homes. Along the northern beach area in the Currila district, there are approximately 12 high rise apartments under construction which will provide 260 new apartment units. In 1992-93, the city subdivided large tracts of vacant state owned land adjacent to the central district in three sub neighborhoods referred to as the Hospital, Milk Factory and Stadium areas (hereinafter referred to as the Tri-Neighborhood District). Four hundred lots were created and sold to individuals, most of whom have built detached single family homes.

There are an estimated 800 illegal squatter homes in Durres located in two major concentrations. One is within a 170 hectare tract of state owned land - known as the Gateway Area - which the City desires to develop as a planned new neighborhood and for which there is an approved site plan. This area was drained in the 1930's and is maintained by a flood control pump station located near the northern beach area. There are approximately 200 illegal homes scattered within this area, which also includes the solid waste dump site. The other concentration is in the Shkozet district, which is in the eastern portion of the city adjacent to an industrial district. Some of these homes may be built on state land and others on private land. Illegal homes and the homes in the Hospital portion of the Tri Neighborhood District are not served by public sewers. The illegal homes are not served by public water supply. An artesian (flowing) well drilled near the dumping area provides water to this illegal housing area. Those in the Hospital area are served only by neighborhood stand pipes.

Land Ownership A number of land parcels in the city have been repossessed by former owners and housing is being or has been built on them, these include the Currila apartments described above. Approximately 500 other individuals have restitution claims for developed properties. A restitution commission is now in the process of allocating vacant state land to these people as compensation for the property that they can't reclaim, some of which will be in the Gateway Area referred to above. It is expected that this process will be completed within the next two to three months.

Water is supplied to Durres by a District Water Enterprise. This enterprise operates the largest water system in Albania in terms of geographic area and total length of pipelines. It serves a total population estimated at 200,000, including 120,000 in Durres and 80,000 in the municipality of Shijak and 69 villages connected to the long transmission pipelines. Bulk water is also sold to the municipality of Kavaja located south of Durres. The water enterprise has been the subject of numerous previous studies and is presently undergoing extensive rehabilitation under a multi-phased program with World Bank Financing. USAID has also prepared an analysis of current operating costs and water rates recommendations.

The water supply comes from two well fields located to the north of Durres. The Fushe Kuge well field has a dependable yield of 700 liters per second and is located 4.5 km north of Durres. The second well field is located in Fushe Kruge, having a yield of 140 liters per second. The combined yield of 840 liters per second represents a daily capacity of 72.6 million liters per day (19.2 million gallons per day). After subtracting the bulk water sold to Kavaja (2.6 million liters per day) and using an average daily usage of 150 liters per day (39.6 gallons), this supply should serve a population of approximately 466,000. Since the existing population served is estimated at 200,000 the supply seems more than adequate. Due to the poor condition of the distribution systems, water lost through leakage and illegal connections is estimated at 70 percent if the distribution systems were pressurized 24 hours per day. Due to this high rate of unaccounted for water, the water distribution systems are pressurized for only three hours per day, usually during the early morning. Most homes, apartment buildings and businesses have small storage tanks on their roofs which are filled during this brief period of service. Many of these tanks have uncontrolled overflows which result in additional lost water. The supply pipelines are pressurized 24 hours per day.

This intermittent operation causes several related problems. The most significant is the introduction of contaminated ground water into the water pipes during the off periods. When the systems are shut off and drain down, pipes which leak under pressure will be sources groundwater infiltration when the pressure is off. This is especially serious in the higher elevations of the distribution systems which will experience negative pressures (vacuum) when the system is turned off. The director of the Durres water enterprise stated that additional liquid chlorine (four times the normal rate) is added to the water at the supply wells and storage tanks to account for this contamination source. The intermittent nature of the service also reduces the systems availability and response time for fire protection.

Wastewater The wastewater collection system in Durres contains 130 km of combined storm drainage and sewer pipes. Large open canals in the flood control area collect several discharges and drain them to the main flood control pumping station where they are pumped to the sea. A second discharge near the beach and port will be eliminated when pumping station No 7 is rehabilitated by the World Bank Project. The biggest problem with the wastewater collection system is deferred maintenance. The wastewater enterprise has no equipment, other than hand tools and it was reported that 60% of the system is blocked with silt and sand. The material has washed into the system from construction activities in the hilly areas above the town and the recent construction of telephone, power and water pipes. One of the large main collector channels is blocked causing a local over load of other collectors and Pump Station No 8. This area floods during every rain. All wastewater is discharged to the sea without treatment. Potential treatment of the wastewater was considered by the European Union but given a lower priority as compared to the City's other problems.

Solid Waste The collection and disposal of solid waste is the responsibility of one of five enterprises under the authority of the City of Durres Director of Public Works. The city is divided into two collection zones. Zone A, including approximately 60% of the area and population of the city, was privatized in July, 1996, after a competitive tender process. According to contract conditions, the contractor will service containers every day, six days per week at an annual cost of \$380,000. The City cleaning enterprise is continuing to provide collection services in Zone B which includes the remaining 40% of the city. The City also collects waste in illegal housing development both inside and outside the yellow line, but containers are not provided. When the new contractor containers are placed in Zone A, the City will upgrade containers in Zone B and provide containers in the illegal housing zones. The cleaning enterprise is performing surprisingly well. In the areas that the team visited, the waste is efficiently collected. The streets are relatively clean and there is no evidence of significant informal dumping.

Collected waste is currently dumped in an open area, adjacent to the Gateway Area and to old fish ponds. The disposal site, which covers 2 to 3 hectares, is accessed by a 1 km dirt road which is in very poor condition and inaccessible during heavy rainfall. When the trucks cannot make it to the actual dumping site, they dump along the access road, which is lined on both sides with waste piles. The access road is also lined on the south side with illegal housing. The waste is dumped in piles and is not compacted or covered. Basically the site is being operated very inefficiently with only one layer or lift of waste. On the day of the inspection there were no fires in the areas but the Director reported that fires were an occasional problem. Although there is a bulldozer on the site it was not operating.

Cost of Urban Services Starting in January of 1997, the central government will discontinue all operating subsidies for water and solid waste services. The corresponding enterprises will depend solely on service fees to finance their operations. This policy already seems to have been implemented *de facto* in the area of solid waste. According to the Director of Public Works, the central government has not paid its share of the costs of the private solid waste

contract during this year. The City owes the contractor over \$193,000 for services performed since July, 1996. If the central government follows through with the decision to discontinue operating subsidies, fees for solid waste services will have to increase by more than ten times to cover current costs. Using the private contract in Zone A as a reference, an average family of four would have to pay Lek 160 per month for solid waste services in Durrës compared to Lek 2.50 per month at present.

The cost of supplying water through the Durrës regional system was the subject of an Urban Services Water Rate Analysis, conducted by USAID in September, 1996. It showed that in 1995 the revenue collected from water bills averaged Lek 12/m<sup>3</sup> produced, compared to an estimated cost of Lek 27/m<sup>3</sup>. The study recommended increasing water rates for 1997 and beyond by almost three times to generate an average revenue from all users of Lek 30/m<sup>3</sup>. If the residential rate were to triple to Lek 15/m<sup>3</sup>, an average family of four would pay Lek 270 per month, as compared to Lek 90 at present. The combined solid waste and water service charges would increase from Lek 92.50 to Lek 430 per month. This would represent just over 4% of the current average monthly family income of Lek 10,000. It will require a concerted effort by the City and the enterprises to implement this dramatic increase in the cost of public services.

Infrastructure Investments The World Bank Project is the only major existing investment in basic infrastructure services in Durrës. A feasibility study was conducted for the Durrës water system in 1993. As a result of that study, a two-phased project of rehabilitation has been started. The World Bank is financing the first phase of \$19 million that includes the rehabilitation of 60 km of distribution pipelines in Durrës and Shijak and the installation of 32,000 individual user meters. The existing transmission main will also be upgraded through pressure control stations and master meters for each of the village distribution systems. In the City of Durrës, the first phase work is divided into six zones. To date, rehabilitation of distribution pipes has been completed in only one zone. Installation of meters has not begun.

The original feasibility study also identified many deficiencies in the sewage collection system. Several of these problems, considered to be of an emergency nature, have been included in the phase one World Bank project. These include the restoration of pump station No. 7 and the elimination of the raw sewage discharge to the beach area just north of the port. Phase one also includes funding of \$300,000 for equipment needed to clean and maintain the sewage collection system.

The second phase of the project, estimated to cost \$21 million, will include the rehabilitation of an additional 60 km of distribution pipelines in Durrës and Shijak. The second phase will also replace all pumps and motors in the two well fields. It includes a second transmission main from the Fushe Kuge well field, following a different route, closer to the shore areas. Since the existing supply yield and system demand do not appear to justify the additional transmission pipeline, this portion of the project is the subject of further evaluation. Studies prepared as part of Phase One of the project have identified several areas of the city where

distribution extensions are needed as a result of housing development that has occurred since the feasibility study was completed in 1993. They include the Tri-Neighborhood District and the illegal housing in the Gateway Area. It is anticipated that these areas will be added to phase two of the project. Funding and design of the second phase have not been completed.

Investments by the municipality of Durrës in infrastructure have been very limited. In 1996, the city expected to receive \$280,000 from the central government for road surfacing and improvements to the drainage. In addition, it programmed \$150,000 from its own resources for additional work in road surfacing and for improvements to the sidewalks in the city. None of the central government funds have been made available to date. Use of the city's own resources have been blocked by the Treasury pending the conclusion of the elections of local officials. City officials estimate that the proposed investments in road surfacing would address about 50 percent of existing needs. At the moment, it is not clear how much, if any, of the investments will take place.

### **Proposed Action Plan**

The objective of the proposed action plan is to improve access to adequate and secure housing served by basic infrastructure services in Durrës, consistent with the objectives of the MOU signed in January 1996 by USAID and the Government of Albania. Accordingly, the work program includes activities to improve the water, waste water and solid waste services available to the residents of Durrës, as well as activities that increase the efficiency of land use and urban growth, and of public investments in infrastructure and housing. The action plan will provide practical, short-term solutions to existing problems in Durrës in these areas. It also will help build the capacity in the medium term to improve services and to mobilize additional investments in infrastructure for new and existing housing in Durrës. The proposed activities are as follows:

- Activity 1, Durrës Neighborhood Improvement Project - This activity will address the needs of 400 families living without basic services on plots of land distributed by the city in three separate neighborhoods in 1992-1993. The expectation is that the city will make modest investments in infrastructure in the area in the short term with resources from its own budget and from private land owners while seeking donor funding for an expanded investment program in the medium term. The activity also will build a local capacity to promote private initiatives to build housing, implement cost recovery and income-targeted subsidies to finance service provision and rely on land use regulation and subdivision controls to guide development. (Attachment 1 provides a detailed work plan for this activity.)
- Activity 2, Durrës Landfill Management Plan - This activity will help the city cleaning enterprise prepare an operating plan for the existing landfill to include periodic compaction and covering, access, vertical and horizontal construction, fire control, leachate management, recycling potential, environmental monitoring, record keeping and

site closure. The immediate impact will be to remove potential health hazards in the landfill in Durres in a relatively short period. The assistance also will explore the option of a private contract for landfill operations. The Durres landfill management plan will provide a replicable model of landfill management tools which are specific to local waste composition, geological conditions and weather, and are feasible within the resource limitations of local solid waste enterprises in Albania. (Attachment 2 provides a detailed work plan for this activity.)

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**ATTACHMENT 1**  
**Activity 1 Durres Neighborhood Improvement Project**  
**Activity Description and Work Plan**

The three neighborhoods where the city of Durres distributed residential plots in 1992-1993 provide an excellent opportunity to develop a pilot service provision project. Most of the housing is in place and located on land owned by the residents and urban services are urgently needed. The activity will be managed by a Durres Task Force convened by the city with additional representation from the district and central government. This will provide an opportunity to build an alliance among the city, district and the central government authorities and staff responsible for land management and infrastructure investments. The proposed activity is similar in key respects to the projects in Tirana that are under the guidance of the Land Management Task Force (LMTF). Many of the survey and planning techniques pioneered by the LMTF can be applied to the proposed Durres project. The commitment of the Ministry of Construction to contribute toward the staffing of a Durres Task Force will assure an effective transfer of the lessons learned by the Tirana LMTF.

The most important objective of the Durres Neighborhood Improvement Project will be to improve the quality and volume of infrastructure and urban services for the 400 families living in the area. To this end, the initial analysis will focus on those service improvements that can be financed with the combined resources available to the city and to the residents of the community. This will provide the opportunity for the city to develop a general policy on financing for new services in other urban growth areas of the city. Those investments in the Neighborhood Improvement Project area that cannot be financed by the city and community will be packaged as a proposal for donor financing. The Durres Task Force can then apply the knowledge and experience gained in preparing this first proposal in other areas of the city with similar problems.

The key benchmarks that will serve to measure progress in achieving the objectives of the Tri-Neighborhood Improvement Project are

- Approval by the Durres Task Force of the preliminary project design and financing plan
- Approval by the City of a policy on financing for new services in urban growth areas
- Implementation of initial service improvements with city and community resources
- Completed proposal for donor financing for additional service improvement investments

The quantifiable measure of project impact will be the number of families who obtain access to housing with basic services, including connections to water and waste water systems and access to solid waste collection services

| <b>Durres Neighborhood Improvement Project</b>  |   |                        |
|---|---|------------------------|
| <b>Tasks</b>  | <b>Responsibilities</b>   | <b>Schedule</b>        |
| Conduct an initial workshop for Durres and Korce on the concepts and methods of neighborhood improvement using the Tirana experience as a model   | <b>Task Force</b> LMTF conducts workshop  | Jan 13 1997            |
|   | <b>USAID</b> Supports logistics   |                        |
| Inventory existing physical & environmental conditions including location and condition of infrastructure and housing and property boundaries   | <b>Task Force</b> City staff conduct the inventory  | By Feb 21              |
|   | <b>USAID</b> Consultants prepare inventory format   | By Jan 10              |
| Complete a socio economic survey to determine household characteristics such as income and tenure as well as organizational affiliation   | <b>Task Force</b> City staff conduct the survey interviews  | Feb 3 21               |
|   | <b>USAID</b> Consultants prepare sample and questionnaire<br>Review and analyze the survey results                        | By Jan 31<br>By Mar 14 |
| Convene and organize a neighborhood advisory committee to review local problems and development needs and priorities  | <b>Task Force</b> City staff conduct dialog with neighborhood   | By Mar 14              |
|   | <b>USAID</b> Consultants provide guidance on dialog   | By Jan 31              |
| Complete the analysis and review of existing conditions problems and priorities   | <b>Task Force</b> DTF conducts workshop on findings   | Apr 28 - 30            |
|   | <b>USAID</b> Consultants prepare draft report on findings   | By Mar 31              |
| Develop schematic service improvement designs and cost estimates Prepare a financing plan including a cost sharing and affordability analysis Identify feasible investments with city/community resources | <b>Task Force</b> City staff provide data and site maps Prepare designs and cost estimates and review financial analysis  | By Jun 30              |
|   | <b>USAID</b> Consultants prepare financial analysis and review service improvement designs and cost estimates             |                        |
| Review the preliminary designs and financing plan Approve investments for immediate implementation  | <b>Task Force</b> DTF makes presentation to City Council and Territorial Adjustment Council for their review and approval | By Aug 15              |
|   | <b>USAID</b> n/a  | n/a                    |
| Prepare and submit a proposal for donor financing   | <b>Task Force</b> DTF approves proposal and submits to donors   | By Sept 30             |
|   | <b>USAID</b> Consultants prepare draft proposal   | By Sept 5              |

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**ATTACHMENT 2**  
**Activity 2 Durres Landfill Management Plan**  
**Activity Description and Work Plan**

The existing solid waste dumping area is uncontrolled and presents a significant threat to public health through surface water contamination, air pollution and disease spread by insects and vermin. Both design controls (excavation, drainage, leachate systems) and operating controls (compaction, covering, fire prevention, record keeping) are needed to remove these potential health hazards. The proposed management plan will give the cleaning enterprise the tools and guidelines to improve the existing landfill operation. The proposed plan also will provide a replicable model of landfill management tools which are specific to local waste composition, geological conditions and weather, and are feasible within the resource limitations of local solid waste enterprises in Albania.

The key benchmarks that will serve to measure progress in achieving the objectives of the Durres Landfill Management Plan are

- Agreement on landfill management plan following workshop in Durres
- Completed assessment of Durres landfill management implementation strategies, including privatization
- Presentation by the Durres cleaning enterprise of proposed landfill management plan and implementation strategy for approval by appropriate authorities

The quantifiable measure of project impact will be the increase in the volume of solid waste deposited in a landfill that is managed properly

| <b>Durrës Landfill Expansion and Management Plan</b>  |   |                 |
|---|---|-----------------|
| <b>Tasks</b>  | <b>Responsibilities</b>   | <b>Schedule</b> |
| Develop process to collect solid waste tax and to address problems of non-payment   | <b>Cleaning Enterprise</b> City and enterprise staff design process             | By Jan 15       |
|   | <b>USAID</b> Consultants comment and review proposal                            | By Jan 31       |
| Inventory existing conditions including waste generation and composition, collection methods, existing dumping practices  | <b>Cleaning Enterprise</b> Staff prepare inventory                              | By Jan 15       |
|   | <b>USAID</b> Consultants prepare inventory format                               | By Jan 1        |
| Develop landfill management plan, including design and operating controls, equipment needs and additional area required Prepare estimate of related operating and capital costs | <b>Cleaning Enterprise</b> Staff provide data and review proposal               | By Feb 14       |
|   | <b>USAID</b> Consultants prepare proposed plan                                  |                 |
| Conduct workshop for enterprise staff to review and discuss proposed landfill management plan   | <b>Cleaning Enterprise</b> Provide site for workshop                            | Mar 10 - 14     |
|   | <b>USAID</b> Consultants conduct workshop                                       |                 |
| Assess alternative implementation approaches, including privatization of landfill management  | <b>Cleaning Enterprise</b> Provide financial data Assess feasibility of options | By Apr 18       |
|   | <b>USAID</b> Consultants prepare comparative analysis of options                | By Mar 31       |
| Prepare preliminary proposal for review by enterprise and city officials of landfill management plan and implementation strategy  | <b>Cleaning Enterprise</b> Staff prepare and submit written proposal            | By May 15       |
|   | <b>USAID</b> Consultants prepare draft proposal                                 | By Apr 30       |
| Implement approved landfill management plan and implementation strategy   | <b>Cleaning Enterprise</b> To be determined                                     | n/a             |
|   | <b>USAID</b> To be determined   |                 |

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## ANNEX A DURRES INFRASTRUCTURE ASSESSMENT

### 1 1 WATER

#### 1 1 1 General

Water is supplied to the City of Durres by a District Water Enterprise. This enterprise operates the largest water system in Albania in terms of geographic area and total length of pipelines. It serves a total population estimated at 200,000, including 120,000 in the City of Durres and 80,000 in the City of Shijak and 69 villages connected to the long transmission pipelines. Bulk water is also sold to the City of Kavaja located south of Durres. The Durres water enterprise has been the subject of numerous previous studies and is presently undergoing extensive rehabilitation under a multi-phased program with World Bank Financing. USAID has also prepared an analysis of current operating costs and water rates recommendations.

#### 1 1 2 Supply, Transmission and Storage

The water supply comes from two well fields located to the north of the City. The Fushe Kuge well field has a dependable yield of 700 liters per second and is located 40.5 km north of Durres. The second well field is located in Fushe Kruge, having a yield of 140 liters per second. The combined yield of 840 liters per second represents a daily capacity of 72.6 million liters per day (19.2 million gallons per day). After subtracting the bulk water sold to Kavaja (2.6 million liters per day) and using an average daily usage of 150 liters per day (39.6 gallons), this supply should serve a population of approximately 466,000. Since the existing population served is estimated at 200,000 the supply seems more than adequate. Figure shows a schematic drawing of the Durres water system.

Transmission pipes of 700 mm (28") and 500 mm (20") carry the water from the two well fields to the major distribution systems in Durres and Shijak. These pipelines were replaced in the 1950's and were determined to be in generally good condition with little leakage. Although the major users, Durres and Shijak, are at the end of the transmission pipelines, there are an additional 25 distribution systems connected to the transmission pipes, serving 69 villages.

#### 1 1 3 Distribution

The Durres water enterprise distributes water to individual customers through 27 separate distribution systems. These systems total approximately 165 km of pipe, and were installed in the 1930's and 1950's. They vary in size from 80 mm to 400 mm (3" to 16") and are generally in poor condition due to excessive leakage and illegal connections.

There are five, in-ground concrete storage tanks that serve the larger distribution systems in Durres and Shijak, totaling 14,200 m<sup>3</sup> (3.75 million gallons). This represents 17 percent of the average daily production capacity. The village systems do not have storage capacity, other than individual user tanks. A schematic of the supply and distribution system is shown in Figure 1.

#### 1.1.4 Existing Operation

Due to the poor condition of the distribution systems, water lost through leakage and illegal connections is estimated at 70 percent if the distribution systems were pressurized 24 hours per day. Due to this high rate of unaccounted for water, the water distribution systems are pressurized for only 3 hours per day, usually during the early morning. Most homes, apartment buildings and businesses have small storage tanks on their roofs which are filled during this brief period of service. Many of these tanks have uncontrolled overflows which result in additional lost water. The supply pipelines are pressurized 24 hours per day.

This intermittent operation causes several related problems. The most significant is the introduction of contaminated ground water into the water pipes during the off periods. When the systems are shut off and drain down, pipes which leak under pressure will be sources groundwater infiltration when the pressure is off. This is especially serious in the higher elevations of the distribution systems which will experience negative pressures (vacuum) when the system is turned off. The director of the Durres water enterprise stated that additional liquid chlorine (four times the normal rate) is added to the water at the supply wells and storage tanks to account for this contamination source. The intermittent nature of the service also reduces the systems availability and response time for fire protection.

#### 1.1.5 World Bank Project

A feasibility study was conducted for the Durres water system in 1993. As a result of that study a two-phased project of rehabilitation has been started. The first phase (\$19 million) includes the rehabilitation of 60 km of distribution pipelines in Durres and Shijak and 32,000 individual user meters. The existing transmission main will also be upgraded through pressure control stations and master meters for each of the village distribution systems. In the City of Durres, the first phase work is divided into 6 zones. To date, rehabilitation of distribution pipes has been completed in only one zone. Installation of meters has not begun.

The current work under phase one of the project has identified several areas of the city where distribution extensions are needed as a result of housing development that has occurred since the feasibility study was completed. It is anticipated that these areas will be added to the phase two work. These areas are indicated on the infrastructure site map shown in Figure 2.

The original feasibility study also identified many deficiencies in the sewage collection system. Several of these problems, considered to be of an emergency nature, have been included in the

phase one World Bank project. These included the restoration of pump station No. 7 and the elimination of the raw sewage discharge to the beach area just north of the port. The phase one work also provides \$300,000 in equipment needed to clean and maintain the sewage collection system.

The second phase of the project (\$21 million) will include the rehabilitation of an additional 60 km of distribution pipelines in Durres and Shjak. The second phase will also replace all pumps and motors in the two well fields. The second phase includes a second transmission main from the Fushe Kuge well field, following a different route, closer to the shore areas. Since the existing supply yield and system demand do not appear to justify the additional transmission pipeline, this portion of the project is the subject of further evaluation. Funding and design of the second phase have not been completed.

### 1.1.6 Financing and Fees

The costs of supplying water through the Durres regional system was the subject of an Urban Services Water Rate Analysis, conducted by USAID in September, 1996. This analysis determined that there are a total of 35,701 known services in the entire system including Durres, Shjak and the 69 villages as follows:

| Service Category    | City          | Villages     | Total         |
|---------------------|---------------|--------------|---------------|
| Residential         | 30,000        | 4,846        | 34,846        |
| Private Enterprises | 623           | 0            | 623           |
| Institutions        | 232           | 0            | 232           |
| <b>TOTALS</b>       | <b>30,855</b> | <b>4,846</b> | <b>35,701</b> |

Current water rates are established by the Ministry of Public Works, Territory Adjustment and Tourism. These rates are 5 lek/m<sup>3</sup> for families and up to 60 lek/m<sup>3</sup> for private enterprises, and government institutions. Since there are no meters at present, residential water bills are estimated at a consumption rate of 150 liters per person per day. At present an average family of 4 pays 90 lek per month for water.

Based on 1995 figures, the revenue collected from water bills averaged 12.03 lek/m<sup>3</sup> produced, compared to an estimated cost of 26.85 lek/m<sup>3</sup>. Recommended future rates for 1997 and beyond recommend a rate structure that realizes an average revenue from all users of 30 lek/m<sup>3</sup>. If the residential rate were to triple to 15 lek/m<sup>3</sup>, an average family of four would pay 270 lek per month. The water analysis was not clear as to whether the recommended average rate includes interest and principal payments on the World Bank Loan.

In the two cities served, Durres and Shijak, water bills are paid along with the electric bills to the power enterprise. In the villages, this is not possible and rates are collected from individual users. Collection of water bills is much higher in the cities than in the villages.

### **1.1.7 Future Changes**

The government of Albania (GOA) is moving toward privatization or local self-sufficiency of all municipal services. This will have a significant impact on water enterprises throughout Albania. The current subsidy from the central government to make up the difference between costs and revenue will no longer exist. Local systems must recover the full cost of services from the system users.

In moving toward self-sufficiency, the Durres Water Enterprise intends to change its operating methods in the future. Rather than operating both supply and distribution systems for the entire distribution system, they intend to operate only the distribution systems in Durres and Shijak which are being upgraded and metered. After master meters are installed on the 25 village systems, the District system will sell bulk water to the villages, leaving operation of the local distribution systems up to local village authorities, including the collection of water bills.

## **1.2 SOLID WASTE**

### **1.2.1 General**

The collection and disposal of solid waste is one of five enterprises under the authority of the City of Durres Director of Public Works. As with other municipal services, the GOA intends to decentralize its support of these services and make them self-sufficient in the near future.

### **1.2.2 Collection**

The City is divided into two collection zones. Zone A, including approximately 60% of the area and population of the City, was privatized in July, 1996, after a competitive tender process. The Italian contractor collects waste from 350 containers and cleans the streets, sidewalks and open spaces in the zone. According to contract conditions, the contractor will employ 120 workers and use 2 compactor trucks to service the zone. Containers are serviced every day, 6 days per week. The contract of \$1 (US) per square meter includes 355,000 m<sup>2</sup> of streets and sidewalks and 25,000 m<sup>2</sup> of open space for a total contract of 380,000 m<sup>2</sup> or \$380,000 per year. Assuming a total city population of 120,000, the population served by Zone A is 72,000. These figures equal a monthly cost of \$1.76 per family of four, or approximately 158 lek per month for waste collection and street cleaning.

The private contract in Zone A is experiencing some technical difficulties as well as a major financial problem. The Italian contractor will be using Italian compactor trucks to collect from 11

m<sup>3</sup> containers. The existing city containers are not compatible with the new collection trucks. New containers have arrived in Durres but have not cleared customs. In the interim, the Italian contractor is using the City trucks to help collect in zone A. The contract can be extended up to 50% of the original area but the cost is subject to negotiation.

The City has not received any funds from the central government to pay for the private Zone A contract. According to the City public works director, the City owes the contractor over \$193,000 for services performed since July, 1996. Since the contract includes penalties for late payments, this is a critical situation. In addition to the 1996 deficit, the City may not receive any central government funds in 1997 if the GOA implements its decentralization of municipal services as scheduled.

The City cleaning enterprise is continuing to provide collection services in Zone B which includes the remaining 40% of the city. According to the public works director there are 150 containers in Zone B which are collected with 2 German compactor trucks. The City also collects waste in illegal housing development both inside and outside the yellow line, but containers are not provided. When the new contractor containers are placed in Zone A, the City will upgrade containers in Zone B and provide containers in the illegal housing zones. The City had intended to also privatize Zone B but have not awarded the contract due to its current financial problems with Zone A, and the total lack of a financing mechanism for 1997.

Although the City cleaning enterprise is facing significant problems, they are performing surprisingly well. During our 3-day visit, the waste was efficiently collected, the streets were relatively clean and we did not observe any significant informal dumping in those areas that we visited.

### 1.2.3 Disposal

Collected waste is currently dumped in an open area, within the former swamp area, adjacent to the old fish ponds. The location is shown on Figure 2. This area was drained in the 1930's and is maintained by a flood control pump station located near the northern beach area. The disposal site is accessed by a 1 km dirt road which is in very poor condition and inaccessible during heavy rainfall. When the trucks cannot make it to the actual dumping site, they dump along the access road, which is lined on both sides with waste piles. The access road is also lined on the south side with illegal housing. An artesian (flowing) well drilled near the dumping area provides water to this illegal housing area. The well is reportedly 200 meters deep and its quality is unaffected by the dump.

The area of the dumping location is estimated from 2 to 3 hectares. The waste is dumped in piles and is not compacted or covered. Basically the site is being operated very inefficiently with only one layer or lift of waste. On the day of the inspection there were no fires in the areas but the

Director reported that fires were an occasional problem. Although there is a bulldozer on the site it was not operating.

Although specific investigations were not made, this area was reported to be underlain by extensive clay layers and not part of any aquifer recharge area. This should be confirmed with field investigations. If the clay formation is present, there is little potential for groundwater impacts from leachate contamination. Leachate that forms in the dump, will flow into the main drainage and sewage canal which flows between the dump and the former fish ponds. In the future, this main sewage canal may be pumped to a treatment facility before discharging to the sea. Environmental impacts from the dumping operation will include minor surface water impacts and air quality impacts during periods of burning.

The lack of any operational or design controls, especially compaction and covering with soil, may lead to several problems. Compaction and cover are means of controlling odors, blowing debris, insects and vermin. Compaction and daily cover will also reduce the effects of a fire. Compaction and daily cover will also permit the landfill to be more efficiently run, allowing it to be built vertically upward rather than the current uncontrolled horizontal growth.

#### **1 2 4 Waste Generation Data Base**

In order to evaluate waste collection and disposal systems, a waste generation data base (Figure 3) has been prepared for the City of Durres. Using a population of 120,000 and a growth rate of 2% per year and a waste generation of 6 kg/person/day a data base has been prepared showing waste generation and estimated collection each year for a 25 year planning period. Using other variables listed at the top of the data base, the volume of waste collection and disposal has been calculated. The data base indicates a loose daily collection volume of 185 m<sup>3</sup> requiring 337 containers. Compacted volume in collection trucks is estimated at 130 m<sup>3</sup>. The data base indicates that the existing number of storage containers (500) and collection vehicles are adequate.

The second part of the data base estimates landfill requirements. Assuming 10% of the landfill volume is cover soil, the current landfill volume is 86 m<sup>3</sup> per day assuming long term densities listed in the data base. If a more efficient operation is implemented, using an average height of 8 meters, the city will require 2.31 hectares for a 5 year landfill, 4.94 hectares for 10 years and 14.59 hectares for 25 years. These areas are shown on Figure 2.

#### **1 2 6 Other Issues**

Medical waste. The City contains two hospitals. These facilities do not separate their infectious medical waste and it is dumped in the dump along with, and mixed with other City waste. This presents a significant health risk to waste collection workers and persons working at the dump or living near it. A pathway exists for medical waste to contaminate the sewage canal and subsequently the beach area since sewage is pumped untreated into the sea.

**Waste Composition** Since most consumable items in Albania are imported, the waste contains a lot of disposable packaging and materials. The most notable of these are plastic bottles and throwaway beer bottles. The potential of recycling these materials should be investigated. A local plastics manufacturer may be interested in recycling plastic containers into new products. Potential markets in Albania or in Italy may exist for other materials in the waste.

## **1.3 WASTEWATER**

### **1.3.1 Collection**

The wastewater collection system in Durres contains 130 km of combined sewer pipes varying in size from 200 mm pipes to 1.5 x 1.5 meter covered canals. Large open canals in the flood control area collect several discharges and drain them to the main flood control pumping station where they are pumped to the sea (see Figure 2). A second discharge near the beach and port will be eliminated when pumping station No 7 is rehabilitated by the World Bank Project.

The biggest problem with the wastewater collection system is deferred maintenance. The wastewater enterprise has no equipment, other than hand tools and it was reported that 60% of the system is blocked with silt and sand. The material has washed into the system from construction activities in the hilly areas above the town and the recent construction of telephone, power and water pipes.

One of the large main collector channels is blocked causing a local over load of other collectors and Pump Station No 8. This area, which is located on Figure 2, floods during every rain.

Although the World Bank Feasibility Study addressed the wastewater collection system, they identified only the major problems which are being addressed in the first implementation phase. The system could not be completely evaluated due to the poor condition of the system. Cleaning equipment is being provided under the first phase and hopefully a more detailed evaluation can be performed once the system is cleaned and inventoried. A detailed wastewater collection map is also being completed as part of the first phase work.

### **1.3.3 Treatment**

All wastewater is discharged to the sea without treatment. Potential treatment of the wastewater was considered by the European Union but given a lower priority as compared to the City's other problems.

## 1 4 INFRASTRUCTURE SUMMARY AND RECOMMENDATIONS

### 1 4 1 Summary

In general the infrastructure systems are functioning in Durres at an acceptable level given the limited resources available to the City. Water is being provided to the majority of City residences of an acceptable to marginal quality. Waste is being collected in both zones of the City and the streets are generally clean. Wastewater is generally collected and transmitted to receiving waters without significant health or environmental impacts.

There are significant technical deficiencies in the water and wastewater infrastructure systems but these have generally been defined and are being addressed by existing or proposed programs. Water deficiencies in the supply, transmission and major distribution systems are being addressed by the on-going World Bank phase one program. The second phase should provide further improvements and, hopefully, a return to 24 hour potable water service in the cities of Durres and Shjak. The second phase will also address water main extensions to areas of the City where recent legal and illegal growth has occurred.

The future proposed operation of the water system may help the district water enterprise attain self-sufficiency but it will transfer operation accountability for the smaller village systems to local village governments. These village governments may not have the resources to accept those responsibilities and the quality of services may decline, and costs will increase. This is a major deficiency in the overall system that is not being addressed by any known programs.

The wastewater collection system is functioning and several emergency measures are being implemented under the phase one of the World Bank Project. A new system map and new equipment should provide the needed resources for the wastewater enterprise to perform much needed deferred maintenance and minor repairs. After these are performed, the system needs to be evaluated for existing and future capacity. An interim and long term plan for system upgrade and extensions to unserved areas is needed in the near future.

The major wastewater deficiency is a total lack of any treatment before the wastewater is discharged to the sea. Previous evaluations by various donor agencies have placed a low priority on wastewater treatment in comparison to providing clean water, wastewater collection and dependable solid waste collection. However, if Durres is to grow in the future and develop its largest natural resource, the sea, wastewater treatment should be given a higher priority. The former fish farm ponds offer a unique opportunity to use an existing resource for waste water treatment.

In addition to the above technical issues, the City of Durres is facing an enormous financial challenge in the near future when the central government decentralizes accountability for funding.

local services. The highest priority issue is not the provision of municipal services but how to maintain and finance those services in the future.

#### 1.4.2 Proposed Pilot Projects

##### **Landfill Management Plan - Durres**

The existing solid waste dumping area is uncontrolled and presents a significant threat to public health through surface water contamination, air pollution and disease spread by insects and vermin. Both design controls (excavation, drainage, leachate systems) and operating controls (compaction, covering, fire prevention, record keeping) are needed to remove these potential health hazards. The proposed management plan will give the cleaning enterprise the tools and guidelines to improve the existing landfill operation. The proposed plan also will provide a replicable model of landfill management tools which are specific to local waste composition, geological conditions and weather, and are feasible within the resource limitations of local solid waste enterprises in Albania.

##### **Local Financing**

The highest priority in Durres should be given to addressing the financial accountability for reaching self sufficiency for the provision of local services. The current GOA plan for cities to become self sufficient by January 1, 1997 is unrealistic. Immediate activities should be directed at establishing a mechanism to begin collecting the new higher cleaning tax in 1997. Even though this tax is a major increase over the existing tax, and will not be welcomed by its residences, the city needs to begin this process. Secondary activities should include negotiating with appropriate GOA officials to establish a more realistic time frame for reaching self sufficiency.

##### **Other Potential Projects**

In addition to the above two projects the project team identified several other potential projects that met the general objective of our assignment but are given a lower comparative priority.

1 *Village Water Systems* The proposed operation of the district water system will transfer responsibility and accountability of the local village water systems to local village authorities. Individually, these villages do not have the technical or management resources to accept this responsibility. A pilot project is proposed to select a group of villages and evaluate alternatives for managing their local distribution systems, either through a new communal water distribution enterprise or privatization.

2 *Wastewater collection Master plan* The World Bank project will complete a new system map, and provide equipment to perform deferred maintenance and daily operations. A master plan is needed to re-organize the wastewater enterprise, prepare

budgets and begin a short term and long term plan for cleaning and upgrading the system  
Extensions to unserved areas and flooding areas should be given priority

3 *Wastewater Treatment Study* The former fish ponds offer a unique opportunity to construct an efficient, low cost treatment system using passive manmade wetland systems. Since the ponds exist, the system may have low capital costs and also low operating costs because of the low energy wetland treatment of the waste. A Feasibility Study should be completed to explore this in more detail, establish design flows and design parameters.

4 *Hospital Waste Management Guide* The two hospitals in Durres do not separate their waste. This project would prepare a guideline for the separation and identification of infectious medical waste and offer alternatives for disposal including an on-site incinerator.

5 *Recycling Feasibility Study* The Durres waste includes a lot of materials that could be recycled. A study should be completed, evaluating the quantity of these materials and potential markets in Albania, neighboring countries and Italy. An existing plastics plant in Durres may be a market for some of the plastic in the waste.

## Proposed Pilot Project

### Village Water Systems - Durres

The proposed operation of the district water system will transfer responsibility and accountability of the local village water systems to local village authorities. Individually, these villages do not have the technical or management resources to accept this responsibility. A pilot project is proposed to select a group of villages and evaluate alternatives for managing their local distribution systems, either through a new communal water distribution enterprise or privatization. The following tasks are recommended:

Task 1 The Durres water enterprise, in cooperation with appropriate ministry and USAID officials, selects a commune or group of communes or villages to participate in the pilot project.

Task 2 USAID prepares a Feasibility Study of the pilot area including:

- 1 Inventory of service area
  - Length, diameter, material and condition of the distribution network
  - Number and type of service connections
  - Prepare System Map
- 2 Plan to upgrade distribution system to acceptable levels (Service time 8,12,24 hrs per day) Assume 5-year plan to attain 24 hour water service
- 3 Prepare cost estimates for capital improvements and operating budgets for 5-year planning period
- 4 Prepare financing plan to complete improvements and operate system, to include user fees and potential GOA or donor financing
- 5 Evaluate 2 options with pros and cons
  - New communal enterprise
  - Private water company
- 6 Recommendations

Task 3 Draft tender documents for Privatization or prepare operation and maintenance plan for new communal water enterprise

Task 4 Implementation

**MANPOWER ESTIMATE**

|        |  | USAID<br>Local<br>Engineer<br>(days) | USAID<br>Technical<br>Consultant<br>(days) | Local<br>Durres Water<br>District |
|--------|--|--------------------------------------|--|-----------------------------------|
| Task 1 | Select pilot participants                  | 8                                    | 2  | 5                                 |
| Task 2 | Feasibility Study                          | 20                                   | 15   | 10                                |
| Task 3 | Draft Tender Documents/<br>Operations Plan | 10                                   | 10   | 2                                 |
|        | <b>TOTALS</b>                              | <b>38</b>                            | <b>27</b>                                  | <b>17</b>                         |
| Others | Legal consultant                           | 2                                    |  |                                   |

**SCHEDULE**

- Task 1      Select Participants - January 1 through January 15
- This task to be performed primarily with local staff within city, Durres water District and ministry input
- Task 2      Feasibility Study - January 13 through January 31
- This task to be performed by the Technical Consultant and local staff with significant input from the Durres Water District. Work to be performed during the second TDY in mid January
- Task 3      Tender Documents - March 17 through March 28
- This task to be performed during third TDY after review and selection of alternatives
- Task 4      Implementation - Late Spring/early Summer 1997

## **Proposed Pilot Project Wastewater Treatment - Durres Fish Ponds**

The former fish ponds in Durres offer a unique opportunity to use an existing resource and construct a low cost, efficient wastewater treatment system which could be replicated in other portions of Albania and possibly other countries. Treatment of wastewater using manmade wetlands and lagoon systems is gaining in popularity especially where financial resources are limited. The existing former fish ponds cover an area of approximately 190 hectares and appear ideal for the implementation of a lagoon/wetland wastewater treatment system. This area may be large enough to become a regional facility including waste from Shijak and other villages that drain into the sea near Durres. A feasibility study is recommended to investigate this potential in more detail, and establish design and cost parameters for potential donor financing. The following tasks are recommended:

- Task 1 Review existing information. An initial key subtask will be the ownership of the fish ponds and any current plans to re-activate them or use them for other purposes. This task will also review any existing reports including hydro geology of the area, wastewater master plans, etc.
- Task 2 Flow Estimates. Since most sewers in the Durres Region are combined, a reasonably accurate estimate of wastewater flows will be required, including both wet weather and dry weather flows. This should be a regional review to include both quantity and quality (strength) of the wastewater flows.
- Task 3 Technology review. This task will review current reference documentation on lagoon/wetland systems. Area requirements, plant types, and other applicable design parameters will be established.
- Task 4 Collection Strategy. This task will identify all major raw sewage discharge points in Durres and the region and present collection/pumping strategies to divert raw wastewater (dry/wet weather) to a lagoon/wetland treatment system.
- Task 5 Conceptual Design. Using the results of Tasks 1 through 4, present a conceptual design of a lagoon/wetland treatment system.
- Task 6 Cost estimates.
- Task 7 Environmental/Economic review. This task will review both positive and negative impacts of the proposed facility, including conceptual economic benefits to the region resulting from reduced pollution, i.e. tourism.
- Task 8 Recommendations.

**MANPOWER ESTIMATES**

|                             | USAID<br>Local<br>Engineer<br>(days) | USAID<br>Technical<br>Consultant<br>(days) | Local<br>Resources &<br>Enterprises<br>(days) |
|-----------------------------|--------------------------------------|--|---|
| Task 1 Review Existing Data | 5                                    | 3  | 5   |
| Task 2 Flow Estimates       | 10                                   | 5  | 2   |
| Task 3 Technology Review    | 3                                    | 5  | 0   |
| Task 4 Collection Strategy  | 5                                    | 3  | 3   |
| Task 5 Conceptual Design    | 5                                    | 10   | 3   |
| Task 6 Cost Estimate        | 3                                    | 5  | 2   |
| Task 7 Environmental Review | 5                                    | 10   | 5   |
| Task 8 Recommendations      | 5                                    | 5  | 3   |
| TOTALS                      | 41                                   | 46   | 23  |

**SCHEDULE**

- Task 1 Review Existing Data January 1 through January 20, 1997
- Task 2 to 8 Complete and Present preliminary Report January 13 through January 31 1997

NOTE The above man-hour and schedule assumes a 3 person USAID consulting team consisting of a general civil engineer, a treatment process engineer and environmental engineer

## ANNEX B HOUSING ASSESSMENT

### City Housing and Land Development Priorities

City and District officials indicate the following priorities

- 1 Implement the Gateway Area plan
- 2 Upgrade the Tri Neighborhood District
- 3 Upgrade the Currila District
- 4 Complete a new city-wide master plan <sup>1</sup> The purpose of the plan would be to provide the basis for an application to the National Territorial Adjustment Commission to expand the city boundaries (referred to as "the yellow line") and increase private land that can be used for urban non-farm purposes

Other needs mentioned but not considered as urgent are

Sewage treatment facilities  
Removal of illegal squatter housing

### Priority Areas Identified by USAID Consultants

In addition to those needs identified by city officials, there are at least three areas of need that are apparent and that are likely to become increasingly urgent over the next several years. These include

**A Land use regulations** There is a clear need to increase local administrative capacity and the development of land use regulations to respond to increasing demands for private housing development. This will become especially urgent when the boundaries of the city are enlarged.

**B Apartment building and grounds maintenance** The development of processes and financing mechanisms for the maintenance and improvement of existing apartment buildings is another important need. An estimated 90% of the housing stock is in such buildings and while the individual apartments are all privately owned, neither the city or apartment owners have the responsibility for maintaining the structures or the courtyards. While city officials and residents are apparently currently preoccupied with other housing priorities, this issue is certain to become of major concern in the near future.

**C Upgrading of illegal settlements** While city officials indicate that their intention is to eventually forcibly remove these homes, this seems an unlikely prospect. At some point, city officials will realize that the settlements are permanent and need to be provided with urban services.

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A draft master plan has been prepared by the University of Danuzzio, located in Pescara, Italy. The plan is under review by the National Design Institute. Funds to complete the plan have been requested of Italian and European PHARE sources.

## Proposed USAID Technical Assistance

There are two projects where the priorities of the City and the terms of the MOU between the GOA converge. These are the implementation of the Gateway Area project and the upgrading of the Tri Neighborhood District. The Currila District upgrading and the master plan completion are not considered appropriate for USAID assistance. In the case of the Currila District, the housing requiring services is being sold to upper income households who are likely to be able to provide their own services, in the case of the master plan, there is no clear evidence of the urgency of the need for extending the city boundaries.

The implementation of the Tri Neighborhood District and Gateway Area projects would accomplish the following objectives:

- provide opportunities for the building of alliances between the City, District and the national government
- provide opportunities for the expansion of the administrative capacity of the City
- Improve the quality of residential living and protect environmentally sensitive areas by increasing the provision of infrastructure and urban services

In addition, the projects are similar in key respects to the projects in Tirana that under the guidance of the Land Management Task Force (LMTF). Many of the survey and planning techniques pioneered by the LMTF can be applied to the proposed Durres projects. The commitment of the Ministry of Construction to contribute toward the staffing of a Durres program will assure an effective transfer of the lessons learned by the Tirana LMTF.

Since the Gateway Area is encumbered with squatter housing and the uncertain results and possible conflicts that may be generated by the restitution process, it is recommended that a minimum of effort be expended on this project, but sufficient to provide relevant assistance at such time as the encumbering issues are resolved. The proposed work program would focus on obtaining information that will enable USAID to advise on development opportunities and strategies, it is not anticipated that this project would be an appropriate focus of USAID participation in a full implementation effort.

The Tri Neighborhood District upgrading is a more appropriate focus of intensive immediate assistance since most of the housing is in place and urban services are urgently needed.

**Pilot Project  
Gateway Area Project Work Program**

| <b>TASKS</b>   | <b>RESPONSIBILITIES</b>   | <b>SCHEDULE</b>       |
|--|---|-----------------------|
| Review impacts of illegal housing and restitution<br>a aerial photos<br>b maps<br>c analysis   | Data collection Ministry<br>Analysis Ministry, USAID & District       | Complete by<br>2/1/97 |
| Analyze privatization options  | Preliminary analysis USAID & Ministry<br>Review & comment all parties | 3/1/97                |
| Develop alternative objectives and development strategy<br>a Process analysis<br>b economic impact analysis<br>c Legal strategy<br>d Management plan | Preliminary analysis USAID & Ministry<br>Review & comment all parties | 4/1/97                |