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# Affordability and willingness to pay – a desk study

Final Report

Document Reference: IPA/O3/DEL

Deliverable 5B

Contract number: 05KOS01/05/004

**March 2007**



Support for the Water & Waste Regulatory Office, Kosovo

An EU-funded project managed by the European Agency for Reconstruction



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## ACRONYMS

EUR	Euro (currency)
GDP	Gross Domestic Product
GNP	Gross National Product
KEK	Kosovo Electro-energetic Corporation
KLMC	Kosovo Landfill Management Company
MoF	Ministry of Finance
OSCE	Organisation for Security and Co-operation in Europe
POE	Public Owned Enterprise
SOK	Statistical Office of Kosovo
UNMIK	United Nations Mission in Kosovo
VAT	Value Added Tax
WWRO	Water and Waste Regulatory Office



**Document History and Status**

Version	Date	Reviewed By	Approved By	Revision Details
<b>DRAFT</b>				
01 draft	06/03/07	GC	GC	minor
<b>FINAL</b>	17/03/07	GC EAR WWRO	GC	minor

**Distribution of copies:**

Rev Number	Quantity	Format	Issued By	Issued To
<b>DRAFT</b>				
01	1	Electronic	GC	WWRO (Afrim Lajci)
01	1	Electronic	GC	EAR (Alan Brown)
<b>FINAL</b>				
N/A	1	Electronic, CD and hard copy (colour)	GC	WWRO (Afrim Lajci)
	1	Electronic, CD and hard copy (colour)	GC	EAR (Alan Brown)
	1	Electronic copy	GC	KTA (Skender Agolli)
	1	Electronic copy	GC	EPTISA (Jean Tilly)
	1	Electronic copy	AL	Minister, MESP (via WWRO). Translation in Albanian to follow via WWRO.
	1	Electronic copy	GC	IPA (Anthony Robson)
	1	Electronic, CD and hard copy (colour)	GC	IPA Kosovo project office
	1	Electronic	GC	MVV (Vladimir Usevich)
	1	Electronic	GC	Edinburgh Economics (Keith Burwell)

**Document Version:** FINAL  
**Project Number:** 2045  
**Printed:** 17/03/07  
**Last Saved:** 17/03/07  
**File Name:** Affordability Report\_FINAL\_070317  
**Author(s):** Keith Burwell  
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**Name of Organisations:** IPA Energy + Water Consulting , MVV Energie, Edinburgh Economics  
**Name of Project:** Institutional Support to WWRO  
**Name of Document:** Final Report on Affordability and willingness to Pay



## EXECUTIVE SUMMARY

### Findings

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There are limited available data for a detailed affordability and willingness to pay analysis but it has been possible to reach some preliminary estimates and conclusions as follows:

- 1 Average household income in Kosovo appears to be marginally higher (EUR 376.00 per month) than reported in previous reports largely due to inflation and real per capita growth effects.
- 2 The distribution of income in Kosovo is relatively uniform with a “Gini<sup>1</sup>” coefficient of 0.29 (low in comparison to other economies in the region). The average income of the poorest 10% is estimated as being 20% of the average household income, the household income of the next poorest 10% is estimated to be 40% of the average household income.
- 3 Income distribution by region is hard to determine but based upon average wages it appears relatively uniform.
- 4 The poor are estimated to comprise the poorest 20% of the population within which the very poor (below the food poverty threshold) are estimated to be the poorest 10% of the population and correlates closely with the government’s inferred poverty level based upon the number of families receiving social assistance (8.4%)
- 5 Average domestic per capita water consumption is estimated to be 80 litres per capita per day, but for the poorest this is estimated to be 50 litres per capita per day, based upon basic needs requirements.
- 6 It is estimated that between 6% and 10% of households may experience difficulties in paying their water bills.
- 7 If financial support for water supply services was provided to the poorest 20% of the population there is significant scope to increase prices, possibly by as much as 100% or even more. The degree of support is for the government to decide as national policy rather than one for the regulator to decide or even recommend.
- 8 The resistance to payment of water bills significantly exceeds the level expected due to affordability constraints alone, possibly attributable to: poor levels of service, convenience of payment, limited enforcement powers, institutional weaknesses and political effects.
- 9 To provide financial support for water supply services to the poorest 10% of the population will cost approximately EUR 1.2 million per year, approximately a quarter of the amount provided to assist the poor with their electricity bills. If this support was rolled out to the poorest 20% of the population the cost would be approximately EUR 2.5 million.
- 10 Current tariffs for waste services can meet full cost recovery targets provided revenue collection was at or near 100%. At current collection rates (approximately 50%), however, the waste tariffs need to be more than doubled to satisfy the full cost recovery criterion.
- 11 Current prices for waste are marginally above the Eptisa quoted affordability threshold of 1% of average household income but for the poorest 10% of households it can account for as much as 5% of household income due to the uniform fixed price structure of waste charges.

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<sup>1</sup> The Gini coefficient is a standard measure of income distribution where 0 is perfect distribution and 1 is the extreme imperfect distribution

- 12 Willingness to pay for waste services is low, the principal barrier being ineffective payment enforcement mechanisms although other forces such as inconvenience of payment systems, poor communications, and institutional weaknesses may also contribute to the problem.

## Recommendations

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Based upon the conclusions and the analysis undertaken the following actions are recommended:

- 1 The government should be asked to examine the options for providing financial support to the poorest households to meet their water charges but such support should be balanced by price increases set to the affordability level of poorest of the remaining households. Preliminary analyses suggest that by providing financial support to the poorest 10% of the population tariff increases of over 40% or more could be tolerated by the remaining 90%. If financial support was provided to the poorest 20% the potential tariff increase could be as high as 100% or more. The government may elect to instruct the WWRO to undertake a more detailed analysis of the costs and benefits associated with such a strategy upon which a clear policy direction can be established. The administration procedures for providing financial support to the poor need to be developed by the government and the utilities. However a precedent has already been set by the recent Agreement between KEK and KTA for payments under the Subsidies and Transfer categories amounting to 10,076,000 euros to be made for social cases during 2007.
- 2 The WWRO, together with the utilities, both for water supply and waste services, should undertake an intensive communications campaign to encourage households to meet their payment obligations as a civic duty and not rely too heavily upon enforcement mechanisms that have already proved to be relatively ineffective.
- 3 The analysis supports a radical restructuring of the waste sector on the grounds of social affordability through the transferring of the responsibility to deliver services to the municipal structures and for the services to be financed through the property tax system<sup>2</sup>. This is considered to be significantly more equitable than the current flat rate charging system currently imposed on domestic households and can deliver significant improvements in operational efficiency.

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<sup>2</sup> As proposed in EPTISA's draft Cost Recovery Strategy

# 1 INTRODUCTION

The Terms of Reference specify, as part of the Direct Technical Support (section 4.2.2), Tariff Support, a requirement to examine and calculate affordability and willingness to pay.

The Inception Report proposal submitted by IPA elaborates on this activity (**Deliverable No 5b**) as:

*Affordability and willingness to pay are not mentioned specifically in the Regulations 2004/49 or Rules. However the Rules for Tariff Setting refer to Social Equity in Section 7: General Principles for Tariff Setting, as follows: “The tariff structure shall reflect equity and fairness of service and pricing. The government of Kosovo can subsidise low-income users through direct payments to the Service provider on behalf of the designated user for services provided”. Criteria to be followed by the regulator in his review of Service tariffs (see section 36 of the Rules for Tariff Setting) make no reference to affordability or willingness to pay.*

*We propose to undertake a desk study of affordability and willingness to pay using available Kosovo government and OSCE statistics to establish norms for affordability for Kosovo as a whole and, if information is readily available, for each of the seven regions served by the water and waste Utilities. The EPTISA draft Strategy for Cost Recovery indicates that 1.0 % of average income is the threshold for waste collection tariffs.*

*Establishing levels of willingness to pay is a much more subjective and difficult area-particularly in Kosovo where some (but not all) minorities currently do not pay for Utility services including electricity, water and waste, thus increasing the costs on communities who do pay for the service. We will undertake a desk study with limited field work if necessary to establish willingness to pay levels of Kosovo as a whole and, if information is readily available, for each of the seven regions served by the water and waste Utilities.*

*The WWRO Director has recently requested inclusion of “social cases” in the affordability analysis including consideration of applying a similar approach to that adopted recently by KEK in reaching agreement with the Ministry of Finance on direct payments of electricity bills for 2006 from MoF to KEK and thereafter for all registered social cases. As part of this exercise opportunities and implications of sharing customer databases between KEK, the water companies and the waste collection companies will be examined.*

*In addition initial discussions regarding sharing of customer information on utility customer databases (specifically KEK and water company databases) have been initiated with Gelsenwasser staff from the ‘Further Institutional Support Project to Water Utilities in Kosovo’ regarding Pristina Regional Water Company.*

During February and March 2007 the project economist visited Kosovo for a three week period in which he undertook to examine affordability and willingness to pay on the basis of the Inception Report proposals as well as other tasks related to tariffs and regulation. **The time dedicated to the affordability and willingness to pay issues was limited to ten days input.**

## 2 DATA SOURCES

The approach to this component of the project was, as set out in the Inception Report, limited to a desk study using available collated data from various sources. The principal sources of data used were:

- *Private income in Kosovo 2003 – 2005*, Statistical Office of Kosovo (2006)
- *Kosovo demographic and health survey 2003 – Preliminary results*, Statistical Office of Kosovo (2004)
- *Labour market statistics 2005*, Statistical Office of Kosovo (2006)
- *Kosovo in figures 2005*, Statistical Office of Kosovo (2006)
- *Private Consumption in Kosovo 2003 – 2005*, Statistical Office of Kosovo (2006)
- *Ethnic Conflict and Economic Disparity: Serbians and Albanians in Kosovo*, Bhaumik, Gang and Yun (2004)
- *Waste Management*, International Solid Waste Association (ISWA) (2004), with analysis by Macfarlane & Rushbrook (1998)
- *Poverty in Kosovo is widespread, but inroads can be made*, World Bank News Release 2005/5 (2005)
- *Urban water supply rehabilitation programme V – Kosovo, Socio-economic study*, Kittleberger et al (2005 (inferred))
- *Study on tariff policy – final report Hidrodini*, Kittleberger et al (2006)
- *Study on tariff policy – final report Hidroregjioni Jugor*, Kittleberger et al (2006)
- *The rights and obligations of businesses operating in Kosovo*, UNMIK (2001)
- *Kosovo – Economic profile*, European Commission (<http://ec.europa.eu/cgi-bin/etal.pl>) (2005)
- *Further institutional support to the waste utilities in Kosovo -Baseline reports (8 no)*, Eptisa, (2006)
- (Extract from) *Financial and operational factors influencing the provision of municipal solid waste services in large cities*, Macfarlane, (1998), (Sourced from WHO common database (WHOLIS) doc no EUR/ICP/ENHA 01 01 01)

In addition to a review of the above data the consultant met with numerous officials of various agencies and consulting projects in order to gain further insight into the specific problems and challenges of the water supply and waste sectors.

## 3 INCOME ANALYSIS

### 3.1 General

Previous analyses of affordability and willingness to pay undertaken by others examined these aspects on the basis of average incomes and average consumption. This report does not repeat these past efforts but rather builds on them. In particular, this analysis takes a more focussed approach on income and consumption distribution patterns to identify the degree to which the poor are affected by tariffs for services and the extent to which financial support to the poor may be necessary.

There have been various assessments of household income, the most robust being the Statistical Office of Kosovo's reports for 2004 and 2005. The figures from these reports, and others besides, are analysed to determine average incomes, and their relative distribution by population and region.

For the purposes of this analysis this report focuses on the urban population only, being the beneficiaries of regulated water supply and waste services.

### 3.2 Average household incomes

There are two principal estimates of monthly household income available from the Kosovo in Figures 2005 report (T7.1 and T7.2), with 2004 being the data reference year.

T7.1 estimates the average monthly consumption for urban households as EUR 326.50 (including own produced food of EUR 3.57).

T7.2 estimates average monthly income for urban households as EUR 322.93.

Household income and consumption surveys often under-report income due to an unwillingness to report unofficial income generating activities (for taxation reasons) and generally do not fully capture the impacts of additional payments such as overtime etc. Common practice is to focus on consumption as an indicator of income rather than reported income; in this case there is no material difference. Although there is no supporting data for this the income levels would be expected to be marginally higher than consumption levels.

However, the surveys conducted relate to net disposable income and excludes taxes and enforced savings. Some 65% of average income comprises net income from taxed wages. Based upon the current tax and pension regulations the gross household income, upon which benchmark affordability indicators are based, the average gross household income at 2004 price levels is estimated to be approximately EUR 341.00.

Such income levels need to be adjusted to cater for the effects of inflation and economic growth. Inflation effects based upon the average Euro zone inflation rate for the period mid 2004 to mid 2007 (three years) has been approximately 2.0 to 2.5% per year (assume 2.2% average).

The national accounts for GDP per capita growth for Kosovo are not indicative of household income growth due to the high level of capital inflows. However, the European Commission (Kosovo Economic Profile, 2005) estimates GDP growth (real) to average above 3% over the period 2003 – 2005. Factoring in the reported annual population growth rate of 1.7% per capita growth (real) is estimated to be 1.3%.

An alternative source, the SOK document, Private Consumption in Kosovo 2003 – 2005, suggests that consumption per capita between 2003 and 2005 has increased by 13%

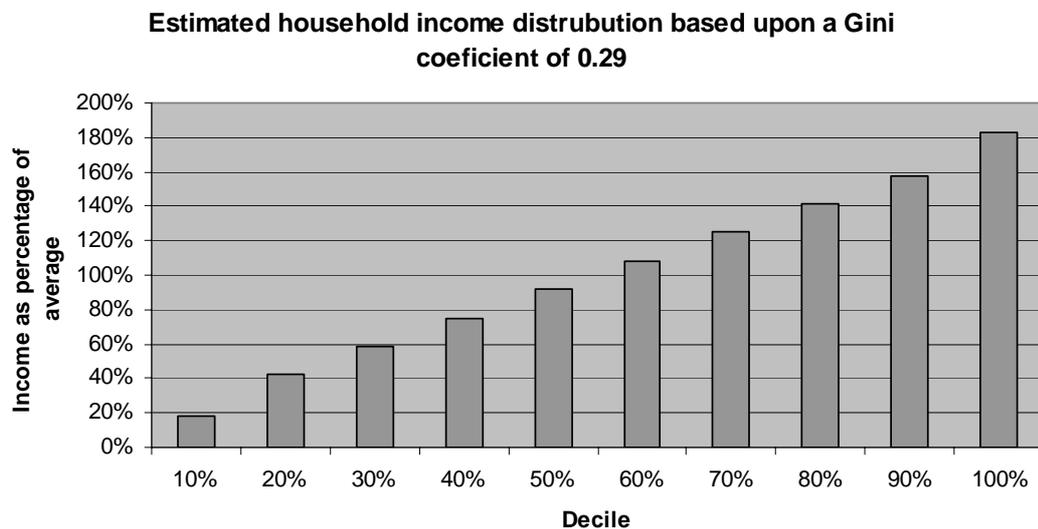
(nominal). Allowing for inflation the consumption figures suggest a real income per capita growth rate of 4.0% per year.

For the purposes of this analysis the mid point of these two assessments (2.7%) has been assumed as (real) income per capita growth over this period and has continued at this rate to mid 2007. With inflation and per capita income growth gross household income (before taxes and enforced savings) is estimated to have increased from EUR 341.00 at mid 2004 to approximately EUR 376.00 by mid 2007.

For the purposes of this analysis the average monthly household income is assumed to be EUR 376.00 for 2007.

### 3.3 Distribution of income by households

Although Kosovo is regarded as extremely poor by European standards the depth of poverty is not that great. Bhaumik, Gang and Yun et al (*Ethnic Conflict and Economic Disparity: Serbians and Albanians in Kosovo, (2004)*), estimate the Gini coefficient for Kosovo to be 0.29. This results in the approximated income distribution relative to average income as illustrated in Figure 1.



**Figure 1 – Estimated distribution of household income**

This analysis suggests that the average income of the poorest 10% of households is just under 20% of the overall average, the next poorest decile marginally above 40% of the overall average and so on.

### 3.4 Income distribution by geographic region

There is very limited available data on income geographical distribution. The only identifiable indicator is Table 10.8 (Kosovo in Figures 2005) for average wages by region. An analysis of this data results in the distribution of wages by region as set out in Table 1:

**Table 1 – Average wages by region**

Region	Average wage as % of national average
Ferizaj	103%
Gjakov	106%
Gjilan	82%
Mitrovic	102%
Pej	105%
Pristina	104%
Prizen	99%

For the purposes of this study the average household incomes for each region are assumed to vary according to the same percentages illustrated above.

### 3.5 Definition of the poor

The World Bank's *Kosovo Poverty Assessment* (2005) states:

*'In 2002, about 37% of the population was living below the poverty line of EUR 1.42 / adult equivalent per day*

*'The population living below the extreme (food) poverty line of EUR 0.93 per equivalent adult per day as estimated at 15%'*

Bhaumik, Gang and Yun, *Ethnic Conflict and Economic Disparity: Serbians and Albanians in Kosovo*, (2004) state:

*'... that in Kosovo, in 2000, 56.7 percent of Serb households and 45.9 percent of Albanian households lived below the poverty line.'*

Kittleberger et al, *Urban water supply rehabilitation programme V – Kosovo, Socio-economic study*, (2005) state:

*'... up to 25.6% of all households in the sample consider themselves as being poor (8.7% as extremely poor, 16.9% as very poor...'*

*'The quantitative income data from the same survey show that between 21.3 and 40.8% of the sampled households fall under the category poor and a minimum of 9.7% under the category "very poor".'*

The SOK Analysis 'Kosovo in Figures 2005' does not define poverty but provides figures for families receiving social assistance in 2004, which by inference, can be interpreted as a government definition of 'poverty'. Extrapolating the figures presented in this report over the whole population of Kosovo the poverty line equates to marginally more than 8% of households (8.4% on average ranging from 5.6% for Prizen to 11.0% for Pristina).

Recognising real (albeit modest) economic growth between 2002 (World Bank assessment) and 2004 it may be reasonable to assume that the poverty situation improved over this period but, without any supporting evidence, it is, on the basis of currently available data, indeterminate.

Using the income distribution analysis presented in Section 3.3 (adjusted for adult equivalence<sup>3</sup>) suggests that the percentage of population living below the poverty line of EUR 1.57 per day (EUR 1.42 adjusted for Euro-zone inflation of 2% over the period 2002 – 2007) suggests that approximately 20% of the urban population is currently below

<sup>3</sup> There is no available statistical data on adult equivalence factors so a very rudimentary factor of 0.7 has been assumed, i.e. the average urban household of 5.5. persons is equivalent to  $0.7 \times 5.5 = 3.85$  adults.

the poverty line<sup>4</sup>. For extreme food poverty at below EUR 1.03 (EUR 0.93 adjusted for inflation) 10 % of the population are affected which very closely correlates with the number of families receiving social assistance<sup>5</sup>.

For the purposes of this analysis it is assumed that the marginally poor should be defined as the poorest 20% and the very poor defined as the poorest 10% of the population.

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<sup>4</sup> 19% average with a range of 18% to 25%.

<sup>5</sup> 10% average with a range of 9% for all except Gjilan at 13%.

## 4 HOUSEHOLD WATER DEMAND AND AFFORDABILITY ANALYSIS

### 4.1 Average demand

Figures from the reporting records of the WWRO have revealed the following estimated domestic water demands<sup>6</sup> (litres per capita per day) and m<sup>3</sup> per household per month<sup>7</sup> illustrated in Table 2.

**Table 2 – Estimated average per capita and household domestic water consumption**

Utility	Litres per capita per day	m <sup>3</sup> per household per month
Pristina	79.8	13.2
Prizen	76.4	12.6
Pej	109.8	18.1
Mitrovic	63.4	10.5
Gjakov	99.3	16.4
Ferizaj*	33.7	5.6
Gjilan	67.0	11.1
<b>Weighted average</b>	<b>76.0</b>	<b>12.5</b>
<b>(excluding Ferizaj)</b>	<b>79.7</b>	<b>13.2</b>

\* The resulting estimated demand for Ferizaj is disproportionately low and may be disregarded as being unreliable for the purposes of this analysis.

This results of this analysis (aside from Ferizaj) are realistic and compares with expectations for household demands for water supply in urban areas where apartment living is the norm. For the purposes of this analysis the estimated per capita demand for Ferizaj is assumed to be the average for those excluding Ferizaj.

### 4.2 Income elasticity of water demand

A comparison of the average demands against average incomes shows no statistically significant relationship although this should not suggest that there is no income elasticity of demand.

There is no available data to enable a realistic estimation of the potential for reduced demand by the low income households. However, studies undertaken elsewhere in similar urban environments such as Romania suggests that income elasticity of demand could be in the order of 0.5 to 0.7. For the purposes of this analysis it is suggested that a conservative value should be 0.5, i.e. for a 10% reduction in household income a 5% reduction in demand could be expected. There would however, be a floor level to demand based upon minimum requirements, say 50 litres per capita per day (8.5 m<sup>3</sup> per household per month for an average household size of 5.5 persons).

Based upon these parameters the bottom 10% of the population (by income) would effectively be using this minimum level of 50 litres per capita per day. For Gjilan and

<sup>6</sup> Specific consumption figures for domestic demands are not readily available and estimations have been made on the basis of an examination of the billing records for domestic and non-domestic consumption reconciled against their respective tariffs. A more detailed analysis based upon actual rather than estimated consumption is necessary if a more definitive result is required. For the purposes of this affordability study the results are considered adequate.

<sup>7</sup> Based upon average urban household size of 5.5 as reported in the SOK Demographic Survey 2003.

Mitrovic this floor level may affect approximately 20% of the population<sup>8</sup> and for Gjakov and Pej the demands for the poorest may be marginally above the floor level of 50 litres per capita per day.

### 4.3 Price elasticity of demand

There is no available data to determine price elasticity of demand. It is assumed, however, that the largely urban apartment lifestyle in Kosovo leaves limited scope for water demand to be affected by price effects, especially amongst the poorer sections of the community where water consumption levels are already assumed to be low. There may be a price elasticity effect amongst the wealthier sections of the community but this sector is outside the scope of the concerns of an affordability analysis. Where price elasticity of demand has been estimated elsewhere in the world it is normally quite low, in the order of -0.3, e.g. a 10% increase in price will result in a 3% reduction in demand. However, such studies also suggest that price elasticity effects are greater at the higher end of the income scale where there is greater capacity to reduce consumption, e.g. garden watering, but almost zero at the lower end of the income scale where there is very little capacity to reduce consumption. For the purposes of this analysis price elasticity effects for the poor is not considered.

### 4.4 Costs of service to the customers

The current charges for water supply and wastewater services to domestic customers are set out in Table 3.

**Table 3 – domestic water tariffs**

Utility	Fixed charge (EUR / month)	Volume charge for water (EUR/m <sup>3</sup> )	Volume charge for wastewater (EUR/m <sup>3</sup> )
Pristina	1.00	0.25	0.05
Prizen	1.00	0.17	0.05
Pej	1.00	0.15	0.05
Mitrovic	1.00	0.26	0.05
Gjakov	1.00	0.25	-
Ferizaj	1.00	0.25	0.07
Gjilan	1.00	0.25	0.05
<b>Average</b>	<b>1.00</b>	<b>0.23</b>	<b>0.05</b>

*Note: the above charges are subject to value added tax at the rate of 15% which needs to be taken into consideration in the determination of affordability levels.*

It is important to recognise that the charges are based upon simplified tariff analyses that have not captured full cost recovery, notably full current cost depreciation (or equivalent infrastructure renewals charges), nor do they generate a return on capital. It is outside the scope of this affordability analysis to examine the degree of cost recovery but it is necessary to put such charges into perspective. The volumetric charges for water supply in the privatised, but strictly regulated, water supply industry in England and Wales, where there is full cost recovery and a fair return on capital for investors is earned, range from EUR 1.70 to EUR 2.30 per m<sup>3</sup> for domestic customers. Even allowing for cost differentials in labour and services and a zero return on capital it is obvious that the current tariffs employed in Kosovo are significantly below the true costs of services and it would not be unreasonable to expect, in the longer term, four fold price increases (or more) to achieve the goal of full cost recovery.

<sup>8</sup> The results for Ferizaj are questionable as the demand data is considered unreliable.

## 4.5 Affordability

There is a generally accepted principal that the affordability ceiling for water supply services is 3 - 4 % of average household income. It is also recognised that based upon such averages the poorest sector may be required to pay more as a percentage of their income. There is no rule as to what the ceiling levels for the poorest sector should be but empirical evidence suggests that water and wastewater services charges for the poor can consume some 6% of household income (sometimes even as high as 10% in extreme cases). For the poor in Kosovo this analysis shall assume a ceiling of 5% of household income to be spent on water supply and wastewater services. For comparison purposes the analysis also examines the impact if the affordability ceiling for the poor was the same as the average, i.e. 3% of household income. The results of this analysis are illustrated in Table 4.

**Table 4 – Percentage of population unable to meet payments for water and wastewater services**

Utility	Population unable to meet current tariffs based upon maximum of 5% of hh income	population unable to meet current tariffs based upon maximum of 3% of hh income
Pristina	6.0	11.1
Prizen	5.1	8.4
Pej	5.3	9.6
Mitrovic	6.2	10.8
Gjakov	5.8	13.3
Ferizaj	6.3	12.5
Gjilan	7.6	15.3
<b>Average</b>	<b>5.8</b>	<b>10.0</b>

By interpolation approximately 8% of the population may not be able to afford water and wastewater charges at current tariff levels if the ceiling for affordability was set at 4% of household income. This analysis suggests that those households classified as social cases (8.4% of the total population but possibly marginally less for urban households where incomes are, on average greater) are effectively those households for which the payment of water charges is expected to be problematic. This reinforces the case for government support to these households to pay their water bills, either through direct payments to the utilities or additional financial support to the households directly.

Taking this analysis further it is possible to determine the tariff increases that could be afforded by 80% of the population recognising that the remaining 20% would need financial support as illustrated in Table 5.

**Table 5 – Tariffs set at the affordability level of 20% of the population**

Utility	Tariff (EUR / m <sup>3</sup> ) based upon ceiling level of 5% of hh income (% increase on existing tariffs)		Tariff (EUR / m <sup>3</sup> ) based upon ceiling level of 3% of hh income (% increase on existing tariffs)	
Pristina	0.76	(154%)	0.42	(41%)
Prizen	0.75	(243%)	0.42	(89%)
Pej	0.56	(182%)	0.31	(56%)
Mitrovic	0.90	(189%)	0.50	(60%)
Gjakov	0.63	(150%)	0.35	(39%)
Ferizaj	0.76	(137%)	0.42	(31%)
Gjilan	0.70	(132%)	0.37	(25%)
<b>Average</b>	<b>0.73</b>	<b>(171%)</b>	<b>0.41</b>	<b>(49%)</b>

There is the trade-off between providing the utilities with tariffs that sets them on the path to full cost recovery whilst at the same time providing greater assistance to the poor, or suppressing tariffs to affordability levels but considerably slowing the process towards full cost recovery. Either way government support will be needed, to subsidise the poor customers or to finance the gap between current income levels and longer term full cost recovery, normally through the financing of their capital investment requirements. This is a government policy decision as to which is the preferred strategy. Ideally, the balance should be struck at the level that costs the economy the least, i.e. where the net subsidy effect is lowest. It is outside the scope of this affordability analysis to determine what this break-even point is but simple inspection of the results so far suggests that substantial increases to the existing tariffs and at the same expanding the level of support to the customers, to say the poorest 20%, may be more viable than the status quo. This is not, however, a decision for the WWRO to make or even to recommend but rather a decision for the Government of Kosovo upon which the WWRO shall implement through its powers and procedures.

#### 4.6 Willingness to pay

Without the results of a detailed contingent valuation analysis it is not possible to determine the level of willingness to pay for water supply and wastewater services. The recent study, *Urban water supply rehabilitation programme V – Kosovo, Socio-economic study*, Kittleberger et al (2005) attempted to determine the degree of willingness to pay but the results were, to some degree, inconclusive. The principal statements with respect to willingness to pay within this report include:

*‘ . . . 22% would be willing to pay more money for water if the service would be visibly improved by the supplier.’*

*‘ . . . 43.6% stated that they would not agree to pay more even for improved services.’*

*‘ . . . (of those willing to pay more) The average amount would be EUR 7.11.’*

*‘ . . . willingness of households to pay higher fees for an improved water supply and sewerage service is limited. Those who have a poor supply or sewerage service are more willing to increase their payment than the other hh.’*

It is not possible to determine the impacts of any proposed increases in tariffs based upon the above statements.

The only tangible data related to willingness to pay is the revenue collection performance of the utilities as illustrated in Table 6.

**Table 6 – Revenue collection performance (as percentage of billed amounts)**

Utility	2005	2006 (Jan – Oct)	Average
Pristina	37%	44%	41%
Prizen	64%	50%	57%
Pej	45%	42%	44%
Mitrovic	33%	28%	31%
Gjakov	70%	66%	68%
Ferizaj	61%	49%	55%
Gjilan	58%	58%	58%
<b>Average</b>	<b>48%</b>	<b>47%</b>	<b>48%</b>

The above results are poor in the extreme relative to well developed utility service providers elsewhere in the world. The affordability analysis suggests that such low

revenue collection figures cannot be attributable to affordability constraints which could be expected to be 5% to 10% of the total billings. Other forces are undoubtedly influencing payment patterns. There is no available supporting data as to what these forces may be and no conclusions can be drawn at this stage. However, a purely subjective assessment based upon unofficial opinions expressed by various parties suggests that the causes of non-payment may be attributable to a variety of reasons including:

- The level of service in many cases may be so low that the customers resist payment on the basis that they do not feel that they are getting value for money.
- The procedure for customers to pay their utility bills may not be suitably convenient and customers who may be willing to pay may choose not to on the basis that it may require a disproportionate level of effort relative to the value of the bill.
- The imposition of sanctions, particularly disconnection, may be limited, if not impossible, when there are shared services and one party to the shared service does not pay. This is prevalent in apartment blocks where the service is provided through a single connection and meter where it would not be possible to disconnect individual households. This may have a cumulative effect where others who would ordinarily be willing to pay choose not to if others around them do not pay.
- There may be a limited willingness to collect revenues from the customers, especially when the bills may be so low as to not warrant the effort involved in collection and enforcement.
- There may be a reluctance to pay utility bills by ethnic groups which may have a secondary effect on other groups who may see no reason to pay if others do not without suffering penalties (disconnections or other sanctions).

All of these issues are not regulatory but rather the responsibility of the management of the utilities themselves. The WWRO should, however, try to facilitate initiatives to help improve the situation including:

- An intensive communications strategy, in harmony with that of the utilities, to inform the customers over the importance of paying for utility services and the implications of not paying.
- Lobbying government where changes to existing legal instruments (or new ones) are necessary to ensure improved revenue collection performance.
- Encouraging / promoting management initiatives and incentive schemes including private sector participation in revenue collection and other services.
- Setting realistic but nonetheless challenging targets for revenue collection performance in the tariff determination process and allowing incentives for out-performance and disincentives for under-performance relative to the targets.

## 4.7 Support mechanisms

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Regulation 2004/49 10.3 (f) suggests a ‘. . . responsibility of the Provisional Institutions of Self Government, not service providers, to help low income Customers pay their invoices.’. This does not appear to place an obligation on these institutions to meet such charges. However, a precedent has been set by a government subsidy to the Kosovo Electro-energetic Corporation (KEK) of EUR 4.5 million from the national budget. Assuming that such subsidies are directed towards low income families throughout

Kosovo (urban and rural) and limited to 10% of the population such subsidies equate to approximately EUR 8.00 to EUR 10.00 per poor household per month. Based upon a basic minimum service of 50 litres per capita per day for the poorest 10% of households the household monthly bill for water would be in the order of EUR 3.30 to EUR 3.50 per month. For the total urban population in Kosovo this would equate to approximately EUR 1.2 million per year, approximately a quarter of the annual subsidy granted to KEK. If this support was expanded to the poorest 20% of the urban population some EUR 2.5 million would be needed.

The impact of such support on the water utilities would reduce the accounts receivable. The subsidy (for the poorest 10%) would represent approximately 8% of domestic water billing. Assuming that all poor households currently do not pay their water bills this would effectively increase average domestic revenue collection from its current level of 48% of billing to more than 55%. The impact on overall revenue collection performance would be less, from an average of 56% to marginally more than 60% but would still, nonetheless, enable the water tariff to be less than it would otherwise need to be.

If the government was to go down this route there would need to be strict controls over how such funds were administered including:

- Establishing a registration system (based upon the existing social cases registration structure) whereby the qualifying customers can be identified and recorded on the billing system. It may not be possible, on the grounds of data protection and privacy rules, for the KEK database to be passed on to the water utilities. It is suggested that the onus should be placed on the customer to apply to the utilities for support and to provide suitable documentary evidence of qualifying for support rather than relying on the national database systems which may not be reconcilable with customer billing systems.
- The registration should be updatable on a regular basis, e.g. annually, as some customers may escape from poverty and therefore will no longer qualify for assistance.
- Limiting the amount of payments to basic needs only and not to subsidise extravagant water usage. This would entail adjustments to the billing systems, e.g. for bills to reflect support provided but any additional billing over and above basic needs would still be the responsibility of the customer to pay.

## 5 HOUSEHOLD WASTE COLLECTION / DISPOSAL AFFORDABILITY ANALYSIS

The waste collection / disposal affordability analysis is significantly simpler than that for water supply due to the uniformity of prices for domestic households regardless of the volume of waste generated.

### 5.1 Costs of service to the customers

The costs of services to domestic customers with effect from 1 June 2006 are as scheduled in Table 7.

**Table 7 – Waste collection charges (EUR / month) (2005) for domestic households**

POE	Region	EUR/ month / household (including VAT)
Pastrimi	Pristina	3.50
Eko-Regioni	Prizen	4.20
Ambienti	Pej	3.50
Uniteti	Mitrovic	3.50
Çabрати	Gjakov	4.30
Pastërtia	Ferizaj	4.30
Higjiena	Gjilan	4.30

Within each service provider's area of responsibility there is no variation of price between different categories of households by house type or location nor is there any variation of price depending upon the amount of waste generated.

The revenues raised from these charge are expected to cover the costs of waste collection and the subsequent disposal costs for which the collection utility pays the disposal company (the Kosovo Landfill Management Company (KLMC)).

Further examination of the Eptisa analyses suggests that for most utilities significant increases are required for full cost recovery based upon the 2005 revenue collection performances (refer Table 8). Eko-Regioni and Pastërtia would appear to be operating at or near full cost recovery.

**Table 8 – Estimated full cost recovery tariffs and required increases**

POE	Region	Suggested cost recovery tariffs (EUR/hh/month)	% increase on current tariffs
Pastrimi	Pristina	6.56	87%
Eko-Regioni	Prizen	4.17	-1%
Ambienti	Pej	8.08	131%
Uniteti	Mitrovic	10.65	204%
Çabрати	Gjakov	5.18	20%
Pastërtia	Ferizaj	4.44	3%
Higjiena	Gjilan	6.10	42%

The collection services are provided by publicly owned waste collection utilities<sup>9</sup>. Both the collection service providers and the KLMC operate at well below full cost recovery and require substantial subsidies to deliver the current levels of service. However, the charges necessary for full cost recovery reflect the current poor levels of revenue

<sup>9</sup> The waste utilities are officially classified as Public Owned Enterprises (POE).

collection (refer Table 9). According to the Eptisa analyses in all cases full cost recovery could be achieved with tariffs substantially below current levels, in the order of EUR 2.20 – EUR 3.20 inc. VAT, if revenue collection was 100%. There is an obvious need for an intensive communications campaign to inform the public of the implications of not paying for the services, notably the fact that full cost recovery at below current tariffs is possible, but at current levels of revenue collection tariffs for those that do pay will have to tolerate substantially higher prices. The WWRO can also contribute to the campaign as part of its own communications strategy.

## 5.2 Affordability

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Experiences elsewhere in the world (Macfarlane & Rushbrook, 1998) suggest that waste expenditure per capita equates to approximately 0.5% of Gross National Product (GNP) per capita. Absent of any data on GNP a first approximation of Gross Domestic Product (GDP) per capita of EUR 1000.40 (2004 data) is applied in this analysis. Allowing for estimated (real) DGP per capita growth and assuming 5.5 persons per household the GDP per household is assumed to be approximately EUR 480.00 per month. Consequently, on the basis of 0.5% of GNP, monthly waste expenditure would be expected, on average to be in the order of EUR 2.40, with VAT equivalent to EUR 2.76, effectively the median of the tariffs determined by Eptisa if revenue collection was near 100% of billing.

This value of 0.5% of GNP should not, however, be construed as an affordability ceiling level but rather expectations of expenditure on waste relative to the national economy. There are no firm guidelines as to the ceiling levels of affordability for waste services, although 1% of average household income has been cited by Eptisa in their analyses. On this basis monthly household tariffs in the order EUR 3.76 (including VAT) would appear to be the ceiling level of affordability which is marginally below the current average tariffs.

Obviously, with a uniform charging system the cost as a percentage of household income would be significantly greater for the poorest, possibly as high as 5% of household income, a level at which resistance to payment may be reasonably expected. The POEs may wish to consider an alternative pricing basis that is more reflective of household income and waste generated, e.g. apartments to be charged on a lower tariff than houses.

An alternative mechanism, and one that is employed in most economies, is for the costs of domestic waste collection and disposal to be financed through the local property taxation regime. The current property tax system in Kosovo is based upon the area of each property. By increasing the property tax to cover waste services effectively provides a more equitable pricing system, i.e. wealthier households living in larger properties that generate more household waste than poorer households will pay more tax. Conversely, the poorer households will effectively pay a smaller amount than they are requested under the current uniform pricing system. This institutional arrangement is strongly recommended in the Eptisa report '*Further institutional support to the solid waste utilities in Kosovo (2006)*', but recognises the significant amendments to existing legal instruments and the need for new institutional structures. It is also important to recognise that the current charges for waste services are more than the average household property taxes. An effective doubling (or more)<sup>10</sup> of the tax to cover waste services may not be supported by the municipal authorities even if the impacts on the poor are more favourable than the status quo.

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<sup>10</sup> The cost effects may be tempered slightly through efficiency gains in the costs of collection, currently estimated to be as much as 10% of the overall waste services costs.

### 5.3 Willingness to pay

The principal indicator of willingness to pay is the revenue collection performance as illustrated in Table 9 (Source: Eptisa baseline reports).

**Table 9 – POE domestic revenue collection performance**

POE	Region	Domestic revenue collection 2005 (%)
Pastrimi	Pristina	42%
Eko-Regioni	Prizen	52%
Ambienti	Pej	40%
Uniteti	Mitrovic	27%
Çabrati	Gjakov	56%
Pastërtia	Ferizaj	58%
Higjiena	Gjilan	52%

The Eptisa analyses suggest that the principal barrier to revenue collection in the waste sector is the lack of effective enforcement mechanisms. In the case of individual houses payment for waste collection is enforceable on the grounds that no payment will result in the waste not being collected. However, for the vast majority of households who live in apartments such measures are not available to the POEs in that waste is deposited in communal bins whereby it is not possible to leave the waste uncollected on the basis of some customers not meeting their obligations.

Willingness to pay for waste services can be improved through several approaches including:

- Improved convenience of payment procedures
- Information campaigns directed towards civic responsibilities and the need for payment (especially highlighting the fact that tariffs would otherwise be significantly higher for those that do pay)
- Alternative pricing structures that are more cost reflective, e.g. lower prices for apartments than those for houses
- Alternative institutional arrangements, notably transferring the responsibility for service delivery on to the municipal authorities with the POEs contracted to them and paid by the municipal budget, in turn financed by property taxes

### 5.4 Supporting mechanisms

Unlike the arrangements for electricity, and as proposed in this report for water, a subsidy arrangement for poor households may be less practicable, certainly on the basis of the current uniform pricing structures that are employed.

If, however, such an approach was considered the cost implications for meeting the waste services charges for the poorest 10% of the population would be similar to the water costs, in the order of EUR 1.2 to 1.5 million per year.

As for the water sector recommendations it is suggested that the onus for registration as a customer entitled to support be placed on the customer, i.e. to apply to the waste POE for the subsidy, rather than to rely on government databases which may not correlate with POE customer databases.

Rather than to go down the route of developing subsidy mechanisms for the poor it is recommended that serious consideration is given to a major restructuring of the

institutional arrangements and the role of the municipal authorities. Consideration should be given to employing the property taxation regime as the principal revenue collection vehicle thereby facilitating a more cost reflective charging system, especially for the poor. Within the property tax regime it may be possible to develop support mechanisms for the very poor through reduced taxes and rebates.