CHAPTER 7

FINANCIAL FEASIBILITY – COST BENEFIT ANALYSIS

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ABBREVIATIONS AND ACRONYMS

AIFC	Average Incremental Financial Cost
CBA	Cost Benefit Analysis
CRR	Cost Recovery Ratio
CSR	Cost Service Ratio
DIC	Discounted Investment Cost
DNR	Discounted Net Revenue
DSR	Debit Service Ratio
EBT	Earnings Before Taxes
EBIT	Earnings Before Interests and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
EBRD	European Bank for Reconstruction and Development
EC	European Community
EE	Eligible Expenditure
EIB	European Investment Bank
E&M	Equipment and Machinery
ENPV	Economic Net Present Value
ERR	Economic Rate of Return
EU	European Union
FCR	Full Cost Recovery
FIDIC	Fédération Internationale Des Ingénieurs-Conseils (i.e. French for the International Federation of Consulting Engineers)
FOPIP	Financial and Operational Performance Improvement Programme
FNPV	Financial Net Present Value
FRR	Financial Rate of Return
FW	Financial (market) Wage
HH	Household
IAS	International Accounting Standards
IFI	International Financial Institute
IFRS	International Finance Reporting Standard
IPA	Instrument for Pre-accession Assistance
IRR	Internal Rate of Return
K	Capital Invested
KfW	Kreditanstalt für Wiederaufbau
Lcd	Liters per capita per day
LRCD	Land and Road Construction Directorate
NBS	National Bank of Serbia
NCF	Net Current Fund
NIP	National Investment Plan
NPV	Net Present Value
NRW	Non Revenue Water
O&M.ADM	Operation, Maintenance and Administration

PIU	Project Implementation Unit
PUC	Public Utility Company
RBWC	Regional Bulk Water Company
RSD	Republic of Serbia Dinar
SCF	Standard Conversion Factor
SFR	Self Financing Ratio
SME	Small and Medium Enterprises
SOP	Sectoral Operational Programme
SPI	Number of Staff per 1000 Connections
SW	Shadow Wage
SWCF	Standard Wage Conversion Factor
TA	Technical Assistance
TO	Tourism Organization
VAT	Value Added Tax

7 FINANCIAL FEASIBILITY – COST BENEFIT ANALYSIS

7.1 Introduction

The cost benefit analysis (CBA) is the central chapter of a feasibility study when it comes to securing the implementation of the proposed infrastructure and mobilizing the complete necessary financial resources for the capital investment of the project.

The CBA developed for the project was carried out in full compliance with the principles and rules set out in the most current EC guidelines and specifically by the guidance document published by the Directorate General Regional Policy (DG Regio) called “Guide to Cost-Benefit analysis of investment project under Structural Funds, Cohesion Fund and Instrument for Pre-Accession” dated June 16, 2008.

The chapter presents essentially 6 groups of critical financial information related to the project.

The Chapter 7.2 presents the analysis of the project in financial terms. That means the hard numbers, revenues and cost figures and streams of cash flows necessary to frame the project, show the necessary investment and OM&Adm costs over time, calculate important financial performance indicators and demonstrate its short terms and long terms financial viability and sustainability in financial terms. This also include an assessment of the affordability of the proposed utility (PUC managed) infrastructure as well as tourism infrastructure (LRDC then TO managed) for the planned visiting tourists and the local population.

The chapter 7.3 presents then the economic feasibility. The starting point is the financial analysis to which three types of correction have been made: (i) fiscal corrections, (ii) corrections for externalities, and (iii) accounting (shadow) pricing correction. Fiscal corrections include indirect taxes (e.g., VAT), subsidies and pure transfer payments (e.g., social security payments) which must be deducted. Corrections for externalities quantify and value the main externalities which for an economic oriented tourism development project include (i) revenues of the hotels and guest houses expected to be developed in the project area by the private sector, and (ii) estimated employment gain due to accelerated tourism. Under the accounting pricing correction, observed market (i.e. financial) prices are adjusted with the help of conversion factors to take into account inputs’ opportunity costs, especially the shadow wage for labour and consumers’ willingness to pay for outputs.

The chapter 7.4 focuses on the sensitivity and risk analysis. It summarizes the probability that the project will achieve a satisfying performance (in terms of IRR or NPV), as well as the variability of the results compared to the “optimal” estimate made under the main financial assessment.

The chapter 7.5 provides insight about the current and short term future prospects of the financial situation of the PUCs established in each of the municipalities

concerned by the project to provide water related services to beneficiary population. This is important to assess the financial viability data necessary to establish the capacity of the PUCs to operate sustainably the infrastructures proposed to be implemented in the project.

The chapter 7.6 finally analyses the past and current creditworthiness of the municipality of Surdulica, the main beneficiary of the project. This is important because some of the capital investment will have no choice but to be financed out of loans from IFIs or banks established in Serbia. Lender always want to have adequate assurance of the creditworthiness of a recipient of a loan (as part of the due diligence of its loan operation) before considering negotiating such a loan for a project.

7.2 Financial Analysis

7.2.1 Methodological Approach for the CBA

As pointed out in the Guide to CBA, 2008, the **incremental method** is the standard method recommended for carrying out the CBA, including the economic and financial analyses to ensure that the grant support provided by the EC services strictly support an investment project but do not contribute to shore up the cash-flow of weak utilities or else.

A difficulty arising from the application of the incremental approach is the determination of the revenues and cost directly generated by the project. A clear-cut separation of the revenues and cost generated by the project from those of the existing infrastructure is always problematic, even more so in the light of the presently observed decreasing population and water demand. The practical approach taken to overcome this difficulty is to define an assumed “without-project” scenario for the whole system, with its own projections of revenues and cost. The incremental revenues and cost can then be determined by subtracting the revenues and cost of the “without-project” scenario from those of the “with-project” scenario. In spite of the methodological constraints of the incremental method, a realistic attempt was made to define “with” and “without” scenarios with their reasonably realistic set of assumptions.

In the financial analysis, the calculation of the financing gap follows a strictly incremental or project-oriented approach, as it takes into consideration only revenues and cost directly attributable to the project (i.e. the incremental values). This means that no benefits or cost attributable to existing infrastructure nor other investment program are taken into account in the calculation. This means also that investment measures foreseen in future construction/ extension phases beyond the strict investment and reinvestment directly linked to the defined project for which EC and other support are sought through this feasibility study are not taken into account in the “with project” scenario.

In the "with-project" scenario, the projections of water demand, tariffs and cost of the operation of the system have been made without considering the effects of the investment measures contemplated in the long-term investment program after 2013 (end year of the implementation of the project investments). In other words, the financial analysis provides an answer to the question, whether the project and the operator(s) as the beneficiary of the project, are both financially sustainable in the long-term after the project is implemented, blending out the effects of future investment measures.

7.2.2 "With" and "Without" Project Scenarios

The Tables 7.1 and 7.2 below summarize the assumptions and the definitions used in the "with-project" and "without-project" scenarios.

Table 7.1: Overall Service Performance Boundaries of Scenarios

Item	With Project Scenario	Without Project Scenario
General Definition and Scenarios Boundaries	The with-project scenario encompasses all the investment measures contemplated in the phase 1 of the chapter 5 (essentially utilities water, wastewater and solid waste) plus tourism infrastructure (road, storm water, tourism infrastructure proper). Institutionally the PUC , the LRCD and the TO will be consolidated and strengthened as described in Chapter 9.	The without-project scenario assumes that none of the measures of the project will be implemented. The institutional structure within the Surdulica municipality remains essentially unchanged
Population	The resident population in the project areas has been assumed to develop similarly in the "with-project" and "without-project" scenarios, according to the population forecasts presented in the chapter 2.	
Tourism Development	The availability of new utility and tourism infrastructure is expected to attract private investors who would build hotels and guesthouses as documented in the "realistic" scenario of the chapter 4 in terms of tourist beds created and estimated average yearly occupancy rates.	No significant tourism develop in the area because of the lack of utility and tourism infrastructure.

Table 7.2: Assumptions on Cost Coverage Mechanisms and Tariff Development

Item	With-Project Scenario	Without-Project Scenario
Utility Tariff for the resident population	In the "with-project" scenario, it is assumed that the resident population can only afford a limited tariff corresponding in average to 5 % of the averaged three lowest deciles household monthly income (1,5 % for water supply; 2,5 % and wastewater; and 1,0 % for solid waste).	In the "without-project" scenario the existing tariff in each town was applied and inflated yearly based on domestic inflation.
Utility Tariff for tourists	In the "with-project" scenario, it is assumed that the full cost tariff (investment, O&M and depreciation for reinvestment) for utility services beyond the costs covered by the resident population as outlined above, will be covered through utility taxes to be applied per "night" spend by tourists in the project area.	In the "without-project" scenario, no tourism development and therefore no revenues from tourists are takne into account.
Tourism Infrastructure	In the "with-project" scenario it is that part of the cost of developing and maintaining	In the "without-project" scenario the current tourism tax of 60 RSD was

Item	With-Project Scenario	Without-Project Scenario
	the tourism infrastructure (local road, storm water and tourism facilities) will be covered through an enhanced "tourism tax" estimated currently at 80 RSD (base year 2009).	applied.

7.2.3 Project Financial Objectives

The project ultimate objective is to prepare the way toward full cost recovery (FCR) of all cost associated with investment, operation and management of the developed utilities and tourism infrastructure. FCR may be defined as when the PUC or directorate responsible for the investment reach a point where it can meet all of their financial obligations out of tariffs and taxes, as well as financing future investments. Costs to be covered mean at least (i) investment cost, (ii) full operating and maintenance costs, (iii) loans servicing and (iii) depreciation to allow re-investment of developed infrastructure at the end of their economic life. In addition FCR means preferably a reasonable capacity to meet future capital expenditure requirements for extension of facilities. This is the long term aim.

In the particular project , the full cost recovery out of tariff is essentially promoted and therefore documented in terms of cash flow for the utility services only (water, wastewater, solid waste) managed by the project PUC. The tourism LRCD and the TO are not expected to be able to generate sufficient cash out of the proposed limited "tourism tax" to be able to achieve full cost recovery of the proposed tourism facilities (local road, storm water and tourism facilities). These are the component of the project that will essentially need grant support for initial investment and they are therefore treated in the financial analysis as a separate group of investment (so called (Tourism Infrastructure").

The financial sustainability of the PUC targeted under the project, means that the water, wastewater and solid waste tariffs should in principle be set at an adequate level to successively meet the following financial objectives:

Operating Costs
(i) Cash operating and maintenance costs;

Other Indirect and non-cash Operating Costs
(ii) Depreciation
(iii) Interest
(iv) Government taxes and duties

Cash Flow Requirements
(i) Given rate of return criteria;
(ii) Principle repayments on loans;
(iii) Reasonable proportion of capital expenditure (proposed project and future extension).

(iv) Maintain an acceptable cash balance in any year to meet working capital requirements

Balance Sheet Structure
(i) Acceptable balance sheet structure (debt to equity ratio) (e.g.70:30);
(ii) An adequate rate of return (net profit) on capital (expressed as return (profit before interest and after tax) on net fixed assets in operation (e.g.8% on net fixed assets in service, historic)
(iii) Acceptable level and age structure of accounts receivable. That is, accounts receivable should not exceed 40 - 60 days of sales, and older debts should be aggressively pursued with strict enforcement of disconnection policies as a threat for non-payment.

Multilateral agencies and IFIs such as EBRD, EIB, KfW also have specific cost recovery objectives in their loan agreements. These ensure that the water tariffs are at levels to meet debt service payments and long term sustainability. Three IFIs related financial objectives are considered in the financial analysis of this project:

The Cost Recovery Ratio (CRR) that requires that the operating companies generate total revenues, equal to or greater than the sum of the total operating expenses, including depreciation and the amount by which debt service requirements exceed the provision for depreciation.

The Debt Service Ratio (DSR) that requires that tariffs be set so that cash flows after meeting cash operating expenses are at least 1.3 times estimated debt service costs.

A Self Financing Ratio (SFR) that requires that tariffs be set (that is, the average financial tariff) so that cash flows after meeting cash operating expenses and debt service, are also sufficient to meet 20% of projected capital expenditure defined in this project as future capital costs averaged over three years.

The table 7.3 summarizes the main financial objectives defined for the project.

Table 7.3: Financial Objectives and Sustainability Requirements of the Utility PUC

Indicator	Financial Objective
EBITDA	A positive **Earning Before Interest Taxes, Depreciation and Amortisation (EBITDA)** is an indispensable requirement for the total period of analysis (revenues achieved through operating activities must higher than the OM&Adm cost in all years).
EBIT	As a general rule, the **Earning Before Interest Taxes (EBIT),** result after deduction of depreciation cost and write-off of bad debt) should be positive too, however, a negative EBIT can be accepted in exceptional cases if the other sustainability requirements are fulfilled.
CRR	In the **Cost Recovery Ratio (CRR)** revenues should be equal or greater than the sum of total operating expenses, including depreciation plus debt service requirement in excess of depreciation
Cash-flow from operation	The **cash-flow from operations** (EBITDA + changes in working capital) must be positive in all years, to reflect sufficient availability of cash for operating activities.

Indicator	Financial Objective
Cash at end of year	**Cash at end of year** must be equivalent to at least 30 days of OM&Adm cost throughout the total period of analysis, after consideration of all cash-flows related to operations, investment and financing. This requirement must be fulfilled without considering the cash reserves accumulated for investment.
DSR: EBITDA /Debt Service	The **Debt Service Ratio (DSR)** expressed as the cash-flow after meeting cash operating expenses are at least 1.3 times estimated debt service costs during the whole repayment period of the loan.
SFR	The **Self Financing Ratio (SFR)** prescribes that adequate level of cash reserves must be accumulated, especially after the end of the construction period and the following years, as a provision for the financing of future investment measures sufficient. This reserve should be at least 20% of projected capital expenditure defined in this project as future capital costs averaged over three years.

7.2.4 Project CBA Model

The Project CBA Model developed provides a structured framework for the financial assessment of the project. The model consider separately the PUC managed investment (water, wastewater and solid waste) which have a potential for FCR out of tariff charged to tourism full and the LRCD and TO managed tourism infrastructure (local road, storm water and tourism facilities) which are less able to generate significant revenues.

The Model is designed to be consistent with accrual based accounting in which revenues and expenses are recognized when they are earned or incurred. This is also consistent with the accounting practices in Serbia. It also take into account the "Incremental Approach" required by the EC guidelines for project financing with EU grant. The "incremental approach" in the model is applied for the calculation of the investment cost, the operation costs, the revenues, the profit & loss statement and the funding gap calculation.

Cost calculation for the financial performance of the project in terms of overall cash-flow and balance sheet was made for the PUC managed system only because it is the only component that can aim at financial FCR, taking the "with project" scenario as basis.

Financial projections for the PUC are prepared, based on forecasted sales, and the resulting revenues and operating costs. This identifies the average tariff per m^3 (water & wastewater) and ton (solid waste) to meet the operating and maintenance costs of the system, recover investment costs and meet any debt service obligations, and achieve agreed financial objectives over the construction period and following commissioning of project assets when debt service commences as defined in table.

The Model consists of a series of linked worksheets. It develops year on year projections of revenues (based on utility service sales) and operating costs and is followed by financial statements incorporating project capital costs and funding, together with any other major projects and loan repayment obligations.

In one worksheet the affordability of tariffs for local resident population especially for lowest income households is examined to ensure that tariffs are affordable.

The worksheets in the Model are summarized below. While the spreadsheets have been listed in a particular order, this may not necessarily the sequence in which calculation is done.

Table 7.4: Description of CBA Model Worksheets

Number	Worksheet Title	Description
1.	Inputs	Contains the major input variables and assumptions of the model
2.	Population	Contains calculation of population projections for three possible scenarios
3.	Demand, Investment, OM costs Water Supply	Projections of demand, Investment, OM costs for water supply
4.	Demand, Investment, OM costs Waste water	Projections of Demand, Investment, OM costs for waste water
5.	Demand, Investment, OM costs Solid waste	Projections of Demand, Investment, OM costs for solid waste
6.	Demand, Investment, OM costs Storm water drainage	Projections of Demand, Investment, OM costs for storm water drainage
7.	Demand, Investment, OM costs Local roads	Projections of Demand, Investment, OM costs for local roads
8.	Demand, Investment, OM costs Tourism infrastructure	Projections of Demand, Investment, OM costs for tourism infrastructure
9.	Data Loan	Contains calculations of loan repayment and debt service and funding sources description
10.	Tariff, Affordability, Revenues Water Supply	Contains affordability analysis, revenues in EUR and RSD and full cost based tariff calculations Water Supply
11.	Financial analysis Water Supply	Contains output report financial analysis for all components together Water Supply
12.	Tariff, Affordability, Revenues Waste water	Contains affordability analysis, revenues in EUR and RSD and full cost based tariff calculations Waste water
13.	Financial analysis Waste water	Contains output report financial analysis for all components together Waste water
14.	Tariff, Affordability, Revenues Solid waste	Contains affordability analysis, revenues in EUR and RSD and full cost based tariff calculations Solid waste
15.	Financial analysis solid waste	Contains output report financial analysis for all components together Solid waste
16.	Working capital, Income statement, Cash flow	Contains calculations of working capital, profit and loss and cash flow projections of PUC
17.	Financial analysis PUC	Contains output report financial analysis for all components together PUC
18.	Tourism tax, Revenue	Contains projections of tourism tax and revenues in EUR and RSD
19.	Financial analysis TO	Contains output report financial analysis for all components together TO
20.	Economic analysis	Contains output report analysis of economic cost and benefit for all overall project

Number	Worksheet Title	Description
21.	Sensitivity analysis	Contains different scenario and risk analysis based on variation of main variables
22.	Graphs	Contains graphic presentations of main financial and economic variables

The forecast period of the model is that period over which the financial projections are considered. The model use a forecast period of 25 years extending to the year 2035 as defined in the "realistic" tourism development scenario forecast which is in line with the EU guidelines for CBA analysis.

The model expresses prices either in constant terms as well as in current terms. Current prices include allowance for projected annual inflation over the forecast period. Current prices are, therefore, the actual monetary amounts expected to be paid or received in each year.

The model contains estimates of projected future inflation rates in the EU countries as well as in Serbia based on data available from the Serbia government and the World Bank.

For the financial calculation, the model relies on the financial assumptions and parameters highlighted in Table 7.5.

Table 7.5: Financial Assumptions and Parameters for the PUC

Financial Parameter With Description	Unit	"With Project" Scenario	"Without Project" Scenario
Discount rate			
Financial discount rate	%	5,0	5,0
Social discount rate	%	5,5	5,5
Depreciation			
Existing assets	%	2,5	2,5
Pipe work economic life	years	40	40
Civil works economic life	years	50	50
E&M economic life	years	15	15
Tax			
VAT	%	18	18
Income tax (corporate tax)	% of EBT	10	10
Working Capital			
Collection from debtors	days	120	120
Collection annual efficiency gain	days	5	5
Collection target	days	60	60
Annual write offs , bad debts	% annual billing	2	2
Stocks	Days of OM&A cost	30	30
Account payable	Days of OM&A cost	45	45
Cash Management			
Minimum cash at hand	Days of OM&A cost	14	14
Maximum overdraft	Days of OM&A cost	50	50
Overdraft interest rate	%, RSD nominal	10	10
Bank Loan			
Loan interest	%, EUR nominal	8	8

Financial Parameter With Description	Unit	"With Project" Scenario	"Without Project" Scenario
Loan Interest	%, RSD nominal	21	21
Loan duration	years	12	12
Grace period	years	3	3
Upfront fee	%	1	1
Commitment fee	%	0,5	0,5

The main results of the calculation of the model worksheets are attached in Annexes 7.1, 7.2, 7.3 and 7.4.

7.2.5 Investment Costs

As mentioned in earlier section, the incremental analysis requires cost estimations to be made for both the "with-project" and a "without-project" scenario. The investment are grouped into two mains components: the utility investment (water, wastewater and solid waste); and the tourism infrastructure investment (local road, storm water and tourism facilities). Costs include investment as well as the respective projections of running costs for their operation, maintenance and administration (OM&Adm).

The main source of information for cost data for investment and OM&Adm is the technical Feasibility Study Chapter 5.

Investment cost has been foreseen only in the "with-project scenario". No investment are considered in the "without-project scenario" which basically assumes a continuation of the status quo, without any large system improvements.

Investment costs include all project infrastructure development measures foreseen for the period 2010 – 2014, divided into pipe works, civil works and electromechanical equipment, with estimated residual values and depreciation rates depending on different useful lifetimes.

Additional components are land purchase, design and works supervision services and other technical assistance services provided to the proposed PIUs to manage the implementation of the project as well as local taxes, fees and permits related to the design and implementation of the works and (technical) contingencies and price adjustments for inflation.

Investments have been phased according to the procurement plan developed in the framework of the technical feasibility study of the chapter 5 and broken down by types of investments (PUC managed: water supply, wastewater management, and solid waste) and LRCD and TO managed: local roads, storm water and tourism facilities) as well as eligibility for EU funding (eligible and ineligible cost). The analysis also distinguishes between local currency (RSD) and foreign currency (EUR) components. The purpose of this differentiation is twofold: firstly to determine price adjustments in the financial analysis as the inflation rates of the two currencies are assumed to be different; Secondly to allow for the application of shadow prices especially for local labor cost in the economic analysis.

The long-term investment plan for the Project in the period 2010 – 2025 is presented in Table 7.6 in constant 2009 prices. The investments are divided into two phases: the Phase 1 ("the project"): 2010 – 2014 and the Phase 2: 2020 – 2025.

Table 7.6: Long Term Investment Plan 2010 - 2025 (in Constant Price, 2009) (1000 EUR)

Year	Total	Phase 1							Phase 2		
		2009	2010	2011	2012	2013	2014	…	2018	2019	…
Water Supply	7 723	0	352	273	1 182	2 365	2 365	…	593	593	…
Wastewater	10 628	0	228	57	1 705	3 411	3 411	…	908	908	…
Solid Waste	237	0	0	0	47	95	95	…	…	…	…
Storm water Drainage	777	0	0	0	121	241	241	…	87	87	…
Local Roads	5 491	0	0	0	491	983	983	…	1 517	1 517	…
Tourism Infrastructure	1 505	0	135	91	277	501	501	…	…	…	…
Total	26 361	0	715	421	3 823	7 596	7 596	…	3 105	3 105	…

The amounts shown in the investment plan are net of technical assistance services (i.e. final design and supervision cost) and contingencies ("net investment").

The specific per capita long-term investment cost in constant 2009 prices amounts to around 15.488,07 EUR/tourist night expected to be served in 2015 for the PUC investment and 4.993,04 EUR/tourist night for the corresponding LRCD and TO managed investment.

The tables 7.7 (PUC) and 7.8 (LRCD and TO) and 7.9 (integrated project) provide the spread of the investment of the project in constant prices and in million EUR.

Table 7.7: PUC Related Project Investment Costs (million EUR, Constant Prices, 2009)

Project Investment Cost	eligible	life-time	Total 2009-2013	2009	2010	2011	2012	2013	2014
Civil works	*yes*	*50*	6,290	0,000	0,000	0,000	1,258	2,516	2,516
Electro-mechanical equipment	*yes*	*15*	2,670	0,000	0,000	0,000	0,534	1,068	1,068
Pipe works	*yes*	*40*	3,810	0,000	0,000	0,000	0,762	1,524	1,524
Sub-total 1 (w/out land)			12,770	0,000	0,000	0,000	2,554	5,108	5,108
thereof Administration Buildings	*no*		0,000	0,000	0,000	0,000	0,000	0,000	0,000
Land acquisition	*no*	-	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Sub-total 2 (including land)			12,770	0,000	0,000	0,000	2,554	5,108	5,108
TA: Support Project Mgmt. To PIU (incl. NetMod & Publ.)	*yes*		0,545	0,000	0,316	0,229	0,000	0,000	0,000
TA: Detailed Design	*yes*		0,544	0,000	0,265	0,101	0,036	0,071	0,071

Project Investment Cost	eligible	life-time	Total 2009-2013	2009	2010	2011	2012	2013	2014
Local Legal Taxes, Fees and Permits	*yes*		0,062	0,000	0,000	0,000	0,012	0,025	0,025
TA: Supervision of construction	*yes*		0,383	0,000	0,000	0,000	0,077	0,153	0,153
Sub-total 3 (w/out contingencies)			14,304	0,000	0,581	0,33	2,678	5,358	5,358
Technical Contingencies (10% of Sub-total 1)	*yes*		1,277	0,000	0,000	0,000	0,255	0,511	0,511
Sub-total 4 (with contingencies)			15,581	0,000	0,581	0,330	2,934	5,868	5,868
Total eligible cost including contingencies			15,581	0,000	0,581	0,330	2,934	5,868	5,868
% of contingencies contained in eligible project cost									
ineligible cost including contingencies									

Table 7.8: LRCD & TO Related Project Investment Costs (million EUR, Constant Prices, 2009)

Project Investment Cost	eligible	life-time	Total 2009-2013	2009	2010	2011	2012	2013	2014
Civil works	*yes*	*50*	4,130	0,000	0,000	0,480	0,730	1,460	1,460
Electro-mechanical equipment	*yes*	*15*	0,082	0,000	0,000	0,082	0,000	0,000	0,000
Pipe works	*yes*	*40*	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Sub-total 1 (w/out land)			4,212	0,000	0,000	0,562	0,730	1,460	1,460
thereof Administration Buildings	*no*		0,000	0,000	0,000	0,000	0,000	0,000	0,000
Land acquisition	*no*	*99*	0,133	0,000	0,026	0,000	0,021	0,043	0,043
Sub-total 2 (including land)			4,345	0,000	0,026	0,562	0,751	1,503	1,503
TA: Support Project Mgmt. To PIU (incl. NetMod & Publ.)	*yes*		0,000	0,000	0,000	0,000	0,000	0,000	0,000
TA: Detailed Design	*yes*		0,158	0,000	0,055	0,011	0,040	0,026	0,026
Local Legal Taxes, Fees and Permits	*yes*		0,098	0,000	0,080	0,000	0,004	0,007	0,007
TA: Supervision of construction	*yes*		0,133	0,000	0,000	0,024	0,021	0,044	0,044
Sub-total 3 (w/out contingencies)			4,734	0,000	0,161	0,597	0,816	1,580	1,580
Technical Contingencies (10% of Sub-total 1)	*yes*		0,422	0,000	0,000	0,056	0,074	0,146	0,146
Sub-total 4 (with contingencies)			5,156	0,000	0,161	0,653	0,890	1,726	1,726
Total eligible cost including contingencies			5,023	0,000	0,135	0,653	0,869	1,683	1,683
% of contingencies contained in eligible project cost									
ineligible cost including contingencies			0,133	0,000	0,026	0,000	0,021	0,043	0,043

Table 7.9: Integrated Project Investment Costs (million EUR, Constant Prices, 2009)

Project Investment Cost	eligible	life-time	Total 2009-2013	2009	2010	2011	2012	2013	2014
Civil works	*yes*	*50*	10,420	0,000	0,000	0,480	1,988	3,976	3,976
Electro-mechanical equipment	*yes*	*15*	2,752	0,000	0,000	0,082	0,534	1,068	1,068
Pipe works	*yes*	*40*	3,809	0,000	0,000	0,000	0,761	1,524	1,524
Sub-total 1 (w/out land)			16,982	0,000	0,000	0,562	3,284	6,568	6,568
thereof Administration Buildings	*no*		0,000	0,000	0,000	0,000	0,000	0,000	0,000
Land acquisition	*no*	*99*	0,133	0,000	0,026	0,000	0,021	0,043	0,043
Sub-total 2 (including land)			17,115	0,000	0,026	0,562	3,305	6,611	6,611
TA: Support Project Mgmt. To PIU (incl. NetMod & Publ.)	*yes*		0,545	0,000	0,316	0,229	0,000	0,000	0,000
TA: Detailed Design	*yes*		0,702	0,000	0,320	0,112	0,076	0,097	0,097
Local Legal Taxes, Fees and Permits	*yes*		0,160	0,000	0,080	0,000	0,016	0,032	0,032
TA: Supervision of construction	*yes*		0,516	0,000	0,000	0,024	0,098	0,197	0,197
Sub-total 3 (w/out contingencies)			19,039	0,000	0,742	0,927	3,494	6,938	6,938
Technical Contingencies (10% of Sub-total 1)	*yes*		1,699	0,000	0,000	0,056	0,329	0,657	0,657
Sub-total 4 (with contingencies)			20,739	0,000	0,742	0,983	3,824	7,595	7,595
Total eligible cost including contingencies			20,606	0,000	0,716	0,330	3,803	7,552	7,552
% of contingencies contained in eligible project cost									
ineligible cost including contingencies			0,133	0,000	0,026	0,000	0,021	0,043	0,043

The total eligible project investment cost (including contingencies) in constant 2009 prices amounts to 20,606 million EUR. There is 0,133 million EUR of ineligible cost in the proposed infrastructure for the project. Based on the total served tourist population in the year 2015, the specific per capita project investment cost amounts to 20.483,10 EUR/night.

For the calculation of the design and supervision services, local taxes, fees and permits and contingencies, the following assumptions have been made:

- Final design: 1.43% calculated on net investment cost of FIDIC Red Book components. Final design for FIDIC Yellow Book components of around 2% to 3% of the cost of the works are already included in the net investment cost, as these are integral services to be provided by the contractors.
- Supervision: in average 3 % of net investment;

- Local Taxes, Fees and Permits as follows (all of them eligible for co-financing): (i) Payments for Approvals and Permits, Feasibility Studies: 0.3% of net investment, (ii) Verification of the designs in accordance with Serbian Law: 0.2% of net investment and (iii) Physical Contingencies: 10% of net investment.

The tables 7.10 to 7.12 show the eligible and ineligible cost breakdown in current prices (including price adjustments), according to the structure required by the EC Service for IPA funding.

Table 7.10: PUC Related Investment Costs (Current Price, million EUR)

Item	Total Project Costs (A)	Ineligible Costs* (B)	Eligible Costs (C)=(A)-(B)
1. Planning/design fees	0,209	0,000	0,209
2. Land purchase	0,000	0,000	0,000
3. Building and construction	12,496	0,000	12,496
4. Plant and machinery	3,066	0,000	3,066
5. Contingencies	1,556	0,000	1,556
6. Price adjustment (if applicable)	0,000	0,000	0,000
7. Technical assistance	0,270	0,000	0,270
8. Support to PIU and publicity	0,524	0,000	0,524
9. Supervision during construction implementation	0,445	0,000	0,445
10. Sub-TOTAL	18,566	0,000	18,566
11. VAT (here: eligible local taxes, permits, fees)**	0,063	0,000	0,063
12. TOTAL	18,629	0,000	18,629

* Ineligible costs comprise (i) expenditure outside the eligibility period, (ii) expenditure ineligible under national rules (Article 56 (4) of Council Regulation 1083/2006), (iii) other expenditure not presented for co-financing. ** VAT is not included under this item; item consists only of eligible local legal taxes, fees and permits (for more details see explanation on previous page)

Table 7.11: LRCD & TO Related Investment Costs (Current Price, million EUR)

Item	Total Project Costs (A)	Ineligible Costs* (B)	Eligible Costs (C)=(A)-(B)
1. Planning/design fees	0,074	0,000	0,074
2. Land purchase	0,159	0,159	0,000
3. Building and construction	5,109	0,000	5,109
4. Plant and machinery	0,093	0,000	0,093
5. Contingencies	0,52	0,000	0,52
6. Price adjustment (if applicable)	0,000	0,000	0,000
7. Technical assistance	0,068	0,000	0,068
8. Support to PIU and publicity	0,000	0,000	0,000
9. Supervision during construction implementation	0,172	0,000	0,172
10. Sub-TOTAL	6,195	0,000	6,195
11. VAT (here: eligible local taxes, permits, fees)**	0,098	0,000	0,098
12. TOTAL	6,293	0,133	6,134

Table 7.12: Integrated LRCD & TO Related Investment Costs (Current Price, million EUR)

Item	Total Project Costs (A)	Ineligible Costs* (B)	Eligible Costs (C)=(A)-(B)
1. Planning/design fees	0,283	0,000	0,283
2. Land purchase	0,159	0,159	0,000
3. Building and construction	17,605	0,000	17,605
4. Plant and machinery	3,159	0,000	3,159
5. Contingencies	2,076	0,000	2,076
6. Price adjustment (if applicable)	0,000	0,000	0,000
7. Technical assistance	0,338	0,000	0,338
8. Support to PIU and publicity	0,524	0,000	0,524
9. Supervision during construction implementation	0,617	0,000	0,617
10. Sub-TOTAL	24,761	0,000	24,761
11. VAT (here: eligible local taxes, permits, fees)**	0,161	0,000	0,161
12. TOTAL	24,922	0,133	24,763

Ineligible cost under EU rules would be for the rehabilitation of administration buildings and workshops of the operators including the respective contingencies.

All cost are expressed in current prices, i.e. price adjustments are already included (therefore, item 6 is shown as “0” in the table 6.). The price adjustments applied to the investment cost were calculated by applying Euro inflation to the cost in foreign currency (EUR) and local inflation to the cost in local currency (RSD). As the investment cost was estimated in constant Euro, the portion of cost in local currency had to be translated in constant RSD by applying the RSD/EUR exchange rate for the base year 2009. After application of the local inflation rate, the investment cost in current RSD was translated to current EUR by applying the RSD/EUR exchange rate for the respective year.

The cost breakdown of eligible cost **by currency** results in 87,11% of total cost in local currency (RSD) and 12,89 % in foreign currency (EUR), as shown in the tables 7.13 to 7.15.

Table 7.13: PUC Related Eligible Cost Breakdown in Local & Foreign Currency, Constant Prices 2009

Cost Item	Unit	Total	2009	2010	2011	2012	2013
Eligible Cost	1000 EUR, 2009	15 581	0	580	329	2 934	5 869
Local Currency	1000 EUR, 2009	13 082	0	289	164	1 217	2 431
Local Currency	% of Total	84%	0%	50%	50%	41%	41%
Local Currency	1000 RSD, 2009	1 447 496	0	23 896	18 965	278 396	560 995

Foreign Currency	1000 EUR, 2009	2 499	0	291	165	1 717	3 438

Table 7.14: LRCD & TO Related Eligible Cost Breakdown in Local & Foreign Currency, Constant Prices 2009

Cost Item	Unit	Total	2009	2010	2011	2012	2013
Eligible Cost	1000 EUR, 2009	5 023	0	135	653	869	1 683
Local Currency	1000 EUR, 2009	4 770	0	67	297	830	1 609
Local Currency	% of Total	94,97%	0,00%	49,63%	45,45%	95,47%	95,58%
Local Currency	1000 RSD, 2009	717 710	0	458 009	474	28 130	78 633
Foreign Currency	1000 EUR, 2009	253	0	68	356	39	74

Table 7.15: Integrated Eligible Cost Breakdown in Local & Foreign Currency, Constant Prices 2009

Cost Item	Unit	Total	2009	2010	2011	2012	2013
Eligible Cost	1000 EUR, 2009	20 604	0	715	982	3 803	7 552
Local Currency	1000 EUR, 2009	17 852	0	356	461	2 047	4 040
Local Currency	% of Total	86,64%	0,00%	49,79%	46,95%	53,83%	53,50%
Local Currency	1000 RSD, 2009	2 165 206	0	481 905	19 439	306 526	639 628
Foreign Currency	1000 EUR, 2009	2 752	0	359	521	1 756	3 512

The cost in local currency represents the cost for final goods and services acquired in the domestic market, while the cost in foreign currency represents the cost for imported final goods and services. A detailed product-path analysis would of course go far beyond the scope of the study. Therefore, the term “import” is equivalent to payment in foreign currency (predominantly EUR) and domestic inputs will be paid in local currency (RSD).

7.2.6 Technical Assistance Services

The Technical Assistance Services are grouped into three packages, for which separate Consultant will be contracted:

One Technical Assistance will deal with assistance to the PIU for Project Management. A second Technical Assistance for Capacity Building will deal with the strengthening of the PUC, LRCD and the TO including the development of a FOPIP programme for the PUC. The third Technical Assistance will be for the construction supervision of the project.

The Technical Assistance for **Project Management** includes the following components:

- Support the PIU established for the Project Management and Implementation
- Support the Beneficiary PUC, LRCD and TO in Final Design and Tendering
- Support the Beneficiary in the procurement of equipment;
- Support training in the field of new technologies, equipment and instruments.
- Support Project Publicity.

The TA for **Capacity Building** will aim at strengthening the institutional capacities of the PUC and will develop a FOPIP program for the project area during the construction of the infrastructure.

The Consultant in charge of the **Construction Supervision** will be responsible for managing and supervising the works contracts and in general will fulfill all duties of the Engineer as defined in the FIDIC Yellow and Red Book Conditions of Contract for Construction.

The cost breakdown and phasing of the Technical Assistance Services are as reflected in the table 7.16.

Table 7.16: Cost Breakdown of Technical Assistance Services (Current Prices, mil EUR)

Technical Assistance	Total 2009-14	2009	2010	2011	2012	2013	2014
Support for Project Mgmt., Design & Publicity	0,270	0,000	0,160	0,110	0,000	0,000	0,000
PUC, LRCD & TO Capacity Building and FOPIP	0,524	0,000	0,311	0,213	0,000	0,000	0,000
Supervision of Construction	0,445	0,000	0,000	0,000	0,085	0,177	0,183
Total	1,239	0,000	0,471	0,323	0,085	0,177	0,183

7.2.7 Investment Cost in the „Without-Project“ Scenario

No significant investment are foreseen in the no project scenario in the project area.

7.2.8 Replacement Cost

In the financial and economic analyses, reinvestment have been considered for the replacement of the assets in line with their estimated economic life-time. The table 7.17 summarizes the asset life and depreciation factor applied in the CBA analysis.

Table 7.17: Summary of Asset Lives and Average Depreciation Charges

Asset category	Economic Life (Years)	Depreciation Charge %
Civil Work	50	2,00%
Mechanical & Electrical	15	6,67%
Piping	40	2,50%
Vehicles	10	10,00%

In the "with-project" scenario, reinvestments have been foreseen for the replacement of the assets built in the framework of the project taking into account the economic life highlighted on table 7.17. In the case of the project investments, the reinvestment cost in constant prices has been assumed to be the same as the original investment cost of the assets.

In the calculation of the Funding Gap which requires the calculation of the Discounted Investment Cost (DIC) and the Discounted Net Revenue (DNR) over the analysis period, replacement costs especially for mechanical and electrical equipments and pipes have been treated as maintenance costs and therefore as an operating cash-flow, mainly because they are most likely to be spread over time and place (for example, replacement of pumps and pipes in projects when necessary).

7.2.9 Financing Sources

The Table 7.18 summarizes the financial sources assumed in first approximation for the capital investment of the project as a basis for discussion with the ministries and the international donor community.

Purposely two groups of investments were considered separately:

Firstly PUC utility investment, which in an economic type of project can essentially be financed out of the revenues generated by the utility charges applied to the tourists visiting the area. Tourists (but not the resident population) are expected to be able to cover the full costs of the utility services being provided. The EC grant funding for these projects components should not exceed the funding gap calculated for the investment based on the EC guidelines (to avoid a distortion of market forces);

Secondly Tourism Infrastructure, which have only a very limited capacity to recover their costs (only the tourism tax) and are therefore expected to have a much higher funding gap.

These figures need final refinement and confirmation after a dialogue during the second half of 2009 with the respective potential sponsors (Ministries and EC services). The feasibility report in its final version will then reflect the outcome of these discussions.

Table 7.18: Project Tentative Financial Sources

Financing Source	PUC Related Investment (current price, EUR)	Percentage %	LRCD & TO Related Investment (current price, EUR)	Percentage %	Integrated Investment (current price, EUR)	Percentage %
Government Grant	6 519 981	35 %	1 574 232	25 %	8 094 213	32 %
IPA Funding	6 519 981	35 %	4 722 696	75 %	11 242 677	45 %
Municipal	-	0 %	-	0 %	-	0 %

Contribution						
Loan	5 588 554	30 %	-	0 %	5 588 554	22 %
Others	-	0 %	-	0 %	-	0 %
Total	18 628 515	100 %	6 296 927	100 %	24 921 524	100 %

For the loan component the following general assumptions already highlighted in the table 7.19 were applied. They are corresponding to conditions applied by an IFI like EBRD for other infrastructural investment in Serbia.

Table 7.19: Tentative Loan Conditions

Loan interest	%, EUR nominal	8
Loan Interest	%, RSD nominal	21
Loan duration	years	12
Grace period	years	3
Upfront fee	%	1
Commitment fee	%	0,5

7.2.10 Service Demand

As a basis for the projections of the OM&Adm costs, projections were made regarding the water, wastewater and solid waste service demand for the "with-project" and "without-project" scenarios.

Tables 7.20 (for PUC related investment) and 7.21 (for LRCD & TO related investment) reflect the incremental projections.

Table 7.20: Incremental PUC Service Demand in the "Realistic" Scenario

	Existing	Projection ……							
Item	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2025**	**2035**
Water Supply									
Total water production 000' m^3	214	229	245	261	277	293	308	438	627
Billed water consumption, residential (000' m^3)	93	98	102	107	112	117	121	126	139
Billed water consumption for tourists (000' m^3)	67	74	82	89	96	103	110	20	331
Non Revenue Water (NRW) (000' m^3)	53	57	61	65	69	73	77	109	156
Non Revenue Water (NRW) (%)	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	21,31%	18,61%
Wastewater									
Total wastewater production 000' m^3	199	229	260	291	322	353	383	540	736
Billed wastewater discharge, Residential (000' m^3)	79	83	87	91	95	99	103	107	118
Billed wastewater discharge from	57	63	69	75	81	87	94	172	281

	Existing	Projection ……							
Item	2009	2010	2011	2012	2013	2014	2015	2025	2035
tourist facilities (000' m^3)									
Infiltration (000' m^3)	62	83	104	124	145	166	187	261	336
Infiltration(%)	31,43%	36,20%	39,89%	42,77%	45,09%	47,06%	48,71%	48,33%	45,69%
Solid Waste									
Collected solid waste (ton)	889	948	1 008	1 070	1 131	1 190	1 248	1 650	2 252
Billed solid waste residential (ton)	620	651	682	715	748	778	808	841	930
Billed solid waste from tourist facilities (ton)	269	298	326	355	383	412	440	809	1 323

Table 7.21: Incremental Tourism Beds Demand in the "Realistic" Scenario

	Existing	Projection ……							
Item	2009	2010	2011	2012	2013	2014	2015	2025	2035
Tourism Development									
Number of tourism beds available	1 969	2 191	2 414	2 636	2 858	3 081	3 303	4 702	6 105
Average Occupancy Rate (%)	31,2%	31,0%	30,9%	30,7%	30,6%	30,5%	30,4%	39,3%	49,5%
Number of Tourism nights per year	614	679	745	810	875	940	1 006	1 848	3 020

7.2.11 Operation, Maintenance and Administration Cost

The PUC OM&Adm cost projections includes fix cost (maintenance, staff and administration cost, capital cost) and variable cost (energy, consumables, sludge disposal, water abstraction fees) components for the three services offered by the PUC. The table 7.22 shows the forecasted development of annual incremental OM&Adm cost in constant 2009 prices for the planning period 2010-2035.

Table 7.22: Summary OM&Adm Incremental Costs for PUC Related Investments (1000 EUR, Constant Prices, 2009)

	Existing	Projection ……							
Item	2009	2010	2011	2012	2013	2014	2015	2025	2035
Total Water Supply									
Total OM&Adm Cost	0	0	0	0	0	0	234	244	262
- Thereof fix cost	0	0	0	0	0	0	211	211	211
- Thereof variable cost	0	0	0	0	0	0	23	33	51
Total Wastewater									
Total OM&Adm Cost	0	0	0	0	0	0	264	266	263
- Thereof fix cost	0	0	0	0	0	0	259	259	259
- Thereof variable cost	0	0	0	0	0	0	5	7	4
Total Solid Waste									
Total OM&Adm Cost	0	0	0	0	0	0	103	196	374

	Existing	Projection ……							
Item	2009	2010	2011	2012	2013	2014	2015	2025	2035
- Thereof fix cost	0	0	0	0	0	0	46	88	165
- Thereof variable cost	0	0	0	0	0	0	57	108	209
Total PUC Services									
Total OM&Adm Cost	0	0	0	0	0	0	601	706	899
- Thereof fix cost	0	0	0	0	0	0	516	558	635
- Thereof variable cost	0	0	0	0	0	0	85	148	264

Table 7.23: Summary OM&Adm Costs for Tourism Infrastructure (1000 EUR, Constant Prices, 2009)

	Existing	Projection ……							
Item	2009	2010	2011	2012	2013	2014	2015	2025	2035
Local Roads									
Total OM&Adm Cost	166	166	166	166	174	191	207	207	207
Storm water protection									
Total OM&Adm Cost	0	0	0	1	4	9	13	13	13
Tourism Facilities									
Total OM&Adm Cost	0	0	0	2	15	34	49	49	49
Total Tourism Infrastructure									
Total OM&Adm Cost	166	166	166	169	193	234	269	269	269

7.2.12 Average Incremental Financial Cost (AIFC)

The Average Incremental Financial Costs (AIFC, in EUR per m^3) is a good approximation for the long-term marginal cost of a utility service (water supply, wastewater management or solid waste management) to be implemented. The AIFC is obtained by dividing the discounted value (net present value) of the total cost of the service (investment and OM&Adm cost) by the discounted volume of billed service consumption. The following formula describes the mathematical function:

$$AIFC = \sum_{t=0}^{T} \frac{Cost_t}{(1+q)^t} \Big/ \sum_{t=0}^{T} \frac{Q_t}{(1+q)^t}$$

where: Q = billed quantity consumed, q = discount rate, t = years (0, 1, ..., T), T = last year. AIFC is a good reference or proxy for the determination of the future tariffs needed to cover the cost of the services.

The AIFC has been calculated as an incremental figure ("with-project" scenario minus "without-project" scenario) for both the utility services and the tourism infrastructure. In addition the AIFC has been calculated separately for the investment and the OM&Adm cost. The calculations have been carried out in constant 2009 prices, based on a period of 25 years (2010 – 2035) and a discount rate of 5%.

The following cost items and series have been considered in the AIFC calculation:

- Residual value of existing infrastructure (see related assumption below)
- Investment cost for development of the infrastructure
- Reinvestment cost for replacement of assets
- Residual value of all infrastructure at the end of the period of analysis 2035
- OM&Adm cost related to the new infrastructure

The residual value of the project infrastructure is introduce in the last year of the period of analysis. All other cost data is entered in the year in which it occurs.

On the investment cost of the project, the related reinvestment cost have been considered. However the investment costs related to investment phase 2 of the long-term investment plan have not been considered in the AIFC calculations in order to maintain a strictly project-related approach.

Specific assumptions made for the calculation of reinvestment cost and residual values of the assets are as follows:

- **Economic lifetime of assets:** the calculation of the reinvestment cost and residual values has been made on the basis of the useful life-time for the various components:
  - o Pipe works 40 years
  - o Civil works 50 years
  - o Electro-mechanical equipment 15 years
  - o Vehicles 10 years
- **Residual value of existing assets:** all existing infrastructure if existing have been assumed to have a residual value of 0 (due to old age of facilities and advanced state of degradation).
- **Residual value of new investments in 2035:** calculated on the basis of all planned investments and the useful life-times mentioned above.

The tables 7.24 and 7.25 summarizes the AIFC elements relevant for the PUC related investments (in EUR and then in RSD) and the tables 7.26 & 7.27 summarizes the AIFC elements per tourist night for the tourism infrastructure (Local Road; Storm Water & Tourism Facilities).

Table 7.24: Incremental AIFC of Various PUC Project Components (EUR)

Item	NPV	Quantity Consumed (2010 – 2035)		Incremental AIFC Values	
	Million EUR (2010-2035)	Unit	Quantity	Unit	EUR
Total Water Supply	**10,094**	**m^3**	**5 332 432**	**EUR/m^3**	**1,89**
Investment	5,771	m^3	5 332 432	EUR/m^3	1,08
OM&Adm	4,120	m^3	5 332 432	EUR/m^3	0,77
Reinvestment (depreciation)	0,202	m^3	5 332 432	EUR/m^3	0,04
Total Wastewater	**12,956**	**m^3**	**6 305 706**	**EUR/m^3**	**2,05**
Investment	7,805	m^3	6 305 706	EUR/m^3	1,24
OM&Adm	4,645	m^3	6 305 706	EUR/m^3	0,74
Reinvestment (depreciation)	0,506	m^3	6 305 706	EUR/m^3	0,08
Total Water & Wastewater	**23,050**	**WS m^3**	**11 638 137**	**EUR/m^3**	**1,98**
Investment	13,576	WS m^3	11 638 137	EUR/m^3	1,17
OM&Adm	8,765	WS m^3	11 638 137	EUR/m^3	0,75
Reinvestment (depreciation)	0,709	WS m^3	11 638 137	EUR/m^3	0,06

Item	NPV	Quantity Consumed (2010 – 2035)		Incremental AIFC Values	
	Million EUR (2010-2035)	Unit	Quantity	Unit	EUR
Total Solid Waste	**1,809**	**ton**	**20 488**	**EUR/ton**	**88,27**
Investment	0,201	ton	20 488	EUR/ton	9,80
OM&Adm	1,549	ton	20 488	EUR/ton	75,58
Reinvestment (depreciation)	0,059	ton	20 488	EUR/ton	2,90
Total Solid Waste	**1,809**	**m2**	**3 020 239**	**EUR/m2**	**0,60**
Investment	0,201	m2	3 020 239	EUR/m2	0,07
OM&Adm	1,549	m2	3 020 239	EUR/m2	0,51
Reinvestment (depreciation)	0,059	m2	3 020 239	EUR/m2	0,02

Table 7.25: Incremental AIFC of Various PUC Project Components (RSD)

Item	NPV	Quantity Consumed (2010 – 2035)		Incremental AIFC Values	
	Million RSD equiv. (2010-2035)	Unit	Quantity	Unit	RSD
Total Water Supply	958,94	**m^3**	**5 332 432**	**RSD/m^3**	179,83
Investment	548,28	m^3	5 332 432	RSD/m^3	102,82
OM&Adm	391,44	m^3	5 332 432	RSD/m^3	73,41
Reinvestment (depreciation)	19,22	m^3	5 332 432	RSD/m^3	3,61
Total Wastewater	**1 230,83**	**m^3**	**6 305 706**	**RSD/m^3**	195,19
Investment	741,47	m^3	6 305 706	RSD/m^3	117,59
OM&Adm	441,26	m^3	6 305 706	RSD/m^3	69,98
Reinvestment (depreciation)	48,10	m^3	6 305 706	RSD/m^3	7,63
Total Water & Wastewater	**2 189,77**	**WS m^3**	**11 638 137**	**RSD/m^3**	188,15
Investment	1 289,75	WS m^3	11 638 137	RSD/m^3	110,82
OM&Adm	832,70	WS m^3	11 638 137	RSD/m^3	71,55
Reinvestment (depreciation)	67,32	WS m^3	11 638 137	RSD/m^3	5,78
Total Solid Waste	**171,82**	**ton**	**20 488**	**RSD/ton**	8 386,11
Investment	19,07	ton	20 488	RSD/ton	930,69
OM&Adm	147,11	ton	20 488	RSD/ton	7 180,32
Reinvestment (depreciation)	5,64	ton	20 488	RSD/ton	275,10
Total Solid Waste	**171,82**	**m2**	**3 020 239**	**RSD/m2**	**56,89**
Investment	19,07	m2	3 020 239	RSD/m2	6,31
OM&Adm	147,11	m2	3 020 239	RSD/m2	48,71
Reinvestment (depreciation)	5,64	m2	3 020 239	RSD/m2	1,87

Table 7.26: Incremental AIFC of Various Tourism Infrastructure (EUR)

Item	NPV	Tourist-night used (2010 – 2035)		Incremental AIFC Values	
	Million EUR (2010-2035)	Unit	Quantity	Unit	EUR
Total Local Road	**5,713**	**Tourist-night**		**EUR/ Tourist-night**	**0,77**
Investment	2,35	Tourist-night	7 402 088	EUR/Tourist-night	0,32
OM&Adm	2,85	Tourist-night	7 402 088	EUR/Tourist-night	0,39
Reinvestment (depreciation)	0,51	Tourist-night	7 402 088	EUR/Tourist-night	0,07
Total Storm Water	**0,878**	**Tourist-night**		**EUR/ Tourist-night**	**0,12**
Investment	0,58	Tourist-night	7 402 088	EUR/Tourist-night	0,08
OM&Adm	0,17	Tourist-night	7 402 088	EUR/Tourist-night	0,02
Reinvestment (depreciation)	0,13	Tourist-night	7 402 088	EUR/Tourist-night	0,02
Total Tourism Facilities	**2,934**	**Tourist-night**		**EUR/ Tourist-night**	**0,40**
Investment	1,98	Tourist-night	7 402 088	EUR/Tourist-night	0,27
OM&Adm	0,51	Tourist-night	7 402 088	EUR/Tourist-night	0,07

Item	NPV	Tourist-night used (2010 – 2035)		Incremental AIFC Values	
	Million EUR (2010-2035)	Unit	Quantity	Unit	EUR
Reinvestment (depreciation)	0,44	Tourist-night	7 402 088	EUR/Tourist-night	0,06
Total Tourism Infrastructure	**9,52**	**Tourist-night**		**EUR/ Tourist-night**	**1,29**
Investment	4,91	Tourist-night	7 402 088	EUR/Tourist-night	0,66
OM&Adm	3,52	Tourist-night	7 402 088	EUR/Tourist-night	0,48
Reinvestment (depreciation)	1,09	Tourist-night	7 402 088	EUR/Tourist-night	0,15

Table 7.27: Incremental AIFC of Various Tourism Infrastructure (RSD)

Item	NPV	Tourist-night used (2010 – 2035)		Incremental AIFC Values	
	Million RSD (2010-2035)	Unit	Quantity	Unit	RSD
Total Local Road	**542,77**	**Tourist-night**		**RSD/ Tourist-night**	**73,33**
Investment	223,20	Tourist-night	7 402 088	RSD/Tourist-night	30,15
OM&Adm	270,80	Tourist-night	7 402 088	RSD/Tourist-night	36,58
Reinvestment (depreciation)	48,77	Tourist-night	7 402 088	RSD/Tourist-night	6,59
Total Storm Water	**83,20**	**Tourist-night**		**RSD/ Tourist-night**	**11,25**
Investment	54,85	Tourist-night	7 402 088	RSD/Tourist-night	7,41
OM&Adm	15,91	Tourist-night	7 402 088	RSD/Tourist-night	2,15
Reinvestment (depreciation)	12,54	Tourist-night	7 402 088	RSD/Tourist-night	1,69
Total Tourism Facilities	**278,77**	**Tourist-night**		**RSD/ Tourist-night**	**37,66**
Investment	188,46	Tourist-night	7 402 088	RSD/Tourist-night	25,46
OM&Adm	48,14	Tourist-night	7 402 088	RSD/Tourist-night	6,50
Reinvestment (depreciation)	42,17	Tourist-night	7 402 088	RSD/Tourist-night	5,70
Total Tourism Infrastructure	**904,834**	**Tourist-night**		**RSD/ Tourist-night**	**122,24**
Investment	466,51	Tourist-night	7 402 088	RSD/Tourist-night	63,02
OM&Adm	334,85	Tourist-night	7 402 088	RSD/Tourist-night	45,24
Reinvestment (depreciation)	103,48	Tourist-night	7 402 088	RSD/Tourist-night	13,98

7.2.13 Tariff Recommendations for PUC Managed Infrastructure

A key input for the financial analysis of the project is the tariff to be applied for PUC services in the beneficiary municipality. While it is obvious that the tariffs need to ensure cost coverage, their selection have socio-economic implications that need to be carefully weighted.

The affordability analysis addresses the present and future ability-to-pay for utility as well as tourism infrastructure in the project area.

For the PUC related services, a difference was made between the relatively poor residential population (full time residence) and the seasonal and tourist population that are much more wealthy and can afford higher tariff.

For the residential population a maximal affordability threshold fixed as 5% of the averaged household income of the 3 lowest deciles was set as tariff basis for the whole population of resident.

For the tourist and seasonal population, a "utility charge" per night in the project area was estimated. This utility charge was proposed to be based on the full cost recovery of the provided services (investment, OM&Adm and depreciation) taking into account the limited revenue generated from the services delivered to the resident population.

7.2.13.1 Recent Historic Tariff Development

The table 7.28 shows the current tariff for drinking water, wastewater and solid waste in the project area as well as for solid waste in the target municipality. The table 7.29 provides the same existing tariffs as percentage of the AIFC required to cover the PUC cost of the project. The table 7.30 for its part documents the current affordability ratio of the three key PUC utility services for an household representing the average 3 lowest income deciles and consuming 100lcd water and generating 0,8 kgcd waste.

Table 7.28: Recent Utility Tariff in Beneficiary Municipality & Project Area

Year	2006			2007			2008		
Municipality	Water Supply RSD/m^3	Waste water RSD/m^3	Solid Waste RSD/m^2	Water Supply RSD/m^3	Waste water RSD/m^3	Solid Waste RSD/m^2	Water Supply RSD/m^3	Waste water RSD/m^3	Solid Waste RSD/m^2
Surdulica	25,68	7,51	2,70	25,68	7,51	2,70	25,68	7,51	2,70
Vlasina Lake Area	25,68	7,51	2,70	25,68	7,51	2,70	25,68	7,51	2,70

Table 7.29: Recent PUC Tariff as Percentage of AIFC for the Project

Year	2006	2007	2008
Municipality	AIFC Cost Coverage %	AIFC Cost Coverage %	AIFC Cost Coverage %
Water Supply (RSD/m^3)			
AIFC OM&Adm	34,98%	34,98%	34,98%
AIFC Investment	0,00%	0,00%	0,00%
Wastewater (RSD/m^3)			
AIFC OM&Adm	10,73%	10,73%	10,73%
AIFC Investment	0,00%	0,00%	0,00%
Solid Waste (RSD/m2)			
AIFC OM&Adm	5,54%	5,54%	5,54%
AIFC Investment	0,00%	0,00%	0,00%

Table 7.30: Current Utility Services Affordability Ratio

PUC Utility	Unit	2007	2008
Water Supply			
Specific Water Consumption	lcd	75	75
Household size	Cap/HH	3,11	3,10
Billed water consumption	m^3/HH, month	6,99	6.98
Average tariff (incl. VAT)	RSD/m^3	25,68	25,68
Invoiced Amount /HH	RSD/month	179,70	179,19
Average Monthly Income (3 lowest deciles)	RSD/month	12 256	13 980
Current Affordability Ratio	%	1,47%	1,28%
Wastewater			
Specific Water Consumption	l/cap,d	63,75	63,75
Household size	Cap/HH	3,11	3,10

PUC Utility	Unit	2007	2008
Billed water consumption	m^3/HH, month	5,94	5,93
Average tariff (incl. VAT)	RSD/m^3	33,0	33,0
Invoiced Amount /HH	RSD/month	196,28	195,65
Average Monthly Income (3 lowest deciles)	RSD/month	12 256	13 980
Current Affordability Ratio	%	1,67%	1,40%
Solid Waste			
Specific Waste Generated	kgcd	0,7	0,7
Household size	Cap/HH	3,11	3,10
Billed Waste Quantity	kg/HH, month	65,31	65,10
Average tariff (incl. VAT)	RSD/ton	4 810	4 840
Invoiced Amount /HH	RSD/month	314,14	315,08
Average Monthly Income (3 lowest deciles)	RSD/month	12 256	13 980
Affordability Ratio	%	2,56%	2,25%

7.2.13.2 Recommended Tariffs for Population in Project Area

The table 7.31 shows the proposed affordable tariff for the residential population of the project area considered to be around 5,0% of an household income representing the average 3 lowest income deciles (spread into 1,5% for water supply; 2,5% for wastewater and 1,0% for solid waste services) in the municipality of Surdulica and based on a limited consumption of water of 75 l/c/d and generating waste in the range of 0,35 kg/c/d.

Table 7.31: Recommended Tariff (RSD/m3; RSD/m2) for Resident Population (excl. VAT)

Item	Unit	2010	2011	2012	2013	2014	2015	2025	2035
Water Supply									
Current Price	RSD/m^3	35,09	38,42	42,06	46,04	50,40	54,65	110,72	196,17
Yearly increase	%	10,0%	9,5%	9,5%	9,5%	9,5%	8,4%	6,4%	5,4%
Wastewater									
Current Price	RSD/m^3	68,81	75,33	82,46	90,27	98,82	107,16	217,10	384,65
Yearly increase	%	10,0%	9,5%	9,5%	9,5%	9,5%	8,4%	6,4%	5,4%
Solid Waste									
Current Price	RSD/m^2	2,70	2,73	2,98	3,25	3,55	3,83	7,54	12,96
Yearly increase	%	0,0%	1,0%	9,1%	9,1%	9,1%	8,1%	6,1%	5,1%
Solid Waste	**ton**								
Current Price	**RSD/ton**	766,74	804,00	843,76	886,17	937,17	982,65	1 944,55	3 160,18
Yearly increase	**%**	5,3%	4,9%	4,9%	5,0%	5,8%	4,9%	6,1%	4,5%

Table 7.32: Recommended tariff in EUR per Household and month

Item	EUR/HH, month			% Household Income		
	2015	2025	2035	2015	2025	2035
Average Household in Project area (125 l/c/d; 112,5 l/c/d; 0,3 kg/c/d)						
Total Water Supply	6,06	10,43	15,09	1,04%	1,04%	1,04%
Total Wastewater	10,70	18,41	26,63	1,84%	1,84%	1,84%
Total Water & Wastewater	16,76	28,84	41,72	2,88%	2,88%	2,88%
Total Solid Waste	2,33	3,22	4,28	0,40%	0,32%	0,30%
Total three Utilities	19,09	32,06	46,00	3,28%	3,20%	3,18%
Average of Three lowest Income Deciles (75 l/c/d; 67,5 l/c/d; 0,3kg/c/d)						
Total Water Supply	3,64	6,26	9,05	1,50%	1,50%	1,50%
Total Wastewater	6,06	10,43	15,09	2,50%	2,50%	2,50%
Total Water & Wastewater	9,07	16,69	24,14	4,00%	4,00%	4,00%
Total Solid Waste	2,33	3,22	4,28	0,96%	0,77%	0,71%
Total three Utilities	12,03	19,91	28,42	4,96%	4,77%	4,71%

7.2.13.3 Recommended Tariff for Tourists

As highlighted earlier, the project being an economic project, the utility services are expected to be essentially paid by the tourists spending one or several night in the project. The tables 7.33 and 7.34 reflect the proposed tariff per tourist-night spend in the project area (or per unit quantity) based on the assumption that the tariff will cover the full cost of the services (investment, OM&Adm and depreciation) less the cost covered by the revenues collected from the resident population based on the tariff highlighted in paragraph 7.2.13.2. based on an average tourist consumption of 300 l/c/d and the generation of 0,50 kg/c/d of waste.

Table 7.33: Recommended Tariff (RSD/tourist-night) for Tourists (excl. VAT)

Item	Unit	2010	2011	2012	2013	2014	2015	2025	2035
Water Supply									
Current Price	RSD/tourist-night	4,43	7,52	16,35	30,04	51,65	82,85	283,95	468,81
Wastewater									
Current Price	RSD/tourist-night	16,83	17,44	21,81	24,39	27,92	32,31	33,96	35,70
Solid Waste									
Current Price	RSD/tourist-night	26,99	32,50	54,57	84,57	131,40	198,30	602,85	974,95

Table 7.34: Recommended Tariff (RSD/m3; RSD/m2) for Tourists (excl. VAT)

Item	Unit	2010	2011	2012	2013	2014	2015	2025	2035
Water Supply									
Current Price	RSD/m^3	30,82	36,98	73,96	125,73	201,17	301,75	562,91	568,57
Yearly increase	%	20,0%	20,0%	100,0%	70,0%	60,0%	50,0%	0,1%	0,1%
Wastewater									
Current Price	RSD/m^3	27,97	43,35	86,71	147,40	235,84	353,76	659,94	666,57
Yearly increase	%	7,0%	55,0%	100,0%	70,0%	60,0%	50,0%	0,1%	0,1%
Solid Waste									
Current Price	RSD/m2	40,47	40,51	49,04	53,14	59,05	66,38	67,05	67,72
Yearly increase	%	0,1%	0,1%	21,0%	8,4%	11,1%	12,4%	0,1%	0,1%

Table 7.35: Recommended Utility Tariff in EUR per Tourist Night (excl. VAT)

Item	Unit	2015	2025	2035
Tourist-night in Project area (300 l/c/d; 270 l/c/d; 0,5 kg/c/d)				
Total Water Supply	EUR/ tourist-night	0,81	2,43	3,38
Total Wastewater	EUR/ tourist-night	0,81	2,42	3,36
Total Water & Wastewater	EUR/ tourist-night	1,62	4,85	6,74
Total Solid Waste	EUR/ tourist-night	0,32	0,29	0,26
Total three Utilities	EUR/ tourist-night	1,94	5,14	7,00

The table 7.36 expresses these recommended tariffs as percentage of the AIFC of developing the PUC managed infrastructure

Table 7.36: AIFC Cost Coverage of Tariff for Residents and Tourists

Item	2010	2011	2012	2013	2014	2015	2025	2035
For Resident Population								
Water Supply								

Cost OM&Adm	47,80%	52,34%	57,29%	62,72%	68,66%	74,44%	100,00%	100,00%
Cost Depreciation	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	7,68%	90,79%
Cost Capital Charge	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Wastewater								
Cost OM&Adm	98,33%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
Cost Depreciation	0,00%	7,65%	17,83%	28,99%	41,21%	53,13%	25,11%	100,00%
Cost Capital Charge	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	167,60%
Solid Waste								
Cost OM&Adm	5,54%	5,60%	6,12%	6,67%	7,29%	7,86%	15,48%	26,61%
Cost Depreciation	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Cost Capital Charge	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
For Tourist								
Water Supply								
Cost OM&Adm	41,98%	50,37%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
Cost Depreciation	0,00%	0,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
Cost Capital Charge	0,00%	0,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
Wastewater								
Cost OM&Adm	39,97%	61,95%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
Cost Depreciation	0,00%	0,00%	54,51%	100,00%	100,00%	100,00%	100,00%	100,00%
Cost Capital Charge	0,00%	0,00%	0,00%	100,00%	100,00%	100,00%	100,00%	100,00%
Solid Waste								
Cost OM&Adm	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
Cost Depreciation	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
Cost Capital Charge	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

7.2.14 Charge for Tourism Infrastructure

Part of the tourism infrastructure cost is expected to be covered by the “tourism tax” already applied in Touristic areas in Serbia and recently legally strengthened by the new 2009 law on tourism development.

According to the new law, the Ministry of Economy and Regional Development (MoERD) set a range for the tourism tax depending on the tourism potential, quality and intensity in the area. This is currently (2009) 100 RSD/night in the Zlatibor and Kopaonik tourist area, 80 RSD/night in Belgrade and 60 RSD/night in the Vlasina lake area.

Starting January 2009 according to the new law, the “tourism tax” revenue is expected to be split with 80 % going to the local government to enhance its tourism infrastructure and 20 % going to a national fund for tourism development managed at the central level.

For the purpose of this study, it was assumed that the Vlasina lake area will be able to reach an higher category of tourism attractiveness and therefore be able to command a higher tourism tax in the future.

The table 7.37 reflects the inflated tourism tax expected to be collected in the project area and the .

Table 7.37: Programmed “Tourism Tax” in Project Area

Planned Tourism Tax	Unit	2010	2011	2012	2013	2014	2015	2025	2035
Constant price	RSD/night	60,00	60,00	60,00	60,00	60,00	80,00	90,00	90,00

(2009)									
Current price (inflated)	RSD/night	64,20	68,69	73,50	77,91	82,59	116,72	221,12	360,19
Collection rate	%	70%	72%	75%	76%	77%	78%	88%	98%
Expected Revenue	'000 RSD/year	11 145	13 444	16 297	18 915	21 828	33 419	131 226	389 108
Expected Revenue for the Municipality[1)]	'000 RSD/year	8 916	10 755	13 037	15 132	17 462	26 735	104 981	311 286

1)based on 80 % of the "tourism tax" revenue remaining for the municipality

7.2.15 Funding Gap Estimation

In the guidance from the EC working document No 4 on CBA for the Programming Period 2007-2013, it is highlighted that "*The determination of the level of Community assistance is based on the "funding gap" rate of the project, i.e. the share of the discounted cost of the initial investment not covered by the discounted net revenue of the project".*

According to the guidance from the EC working document No 4, the Funding Gap R is defined by the ratio R = Max EE/DIC with Max EE defined as the maximum eligible expenditure = DIC-DNR. DIC is the discounted investment cost and DNR is the discounted net revenue = discounted revenues – discounted operating costs + discounted residual value

As mentioned in section 7.2.1 above, the financial analysis for the funding gap calculation is carried out based on the incremental approach. Thus, the financing gap is calculated based on incremental cost and revenues, obtained by subtracting cost and revenues of the "without-project" scenario from those of the "with-project" scenario. In accordance with the requirements of the working document No 4 on CBA , the financing gap calculation is carried out without considering contingencies. Thus, contingencies are not included in the DIC nor in the discounted residual value of investments.

The term "initial investment" highlighted in the definition of the funding gap of a project according to the working document 4 above, implies that the „Working Capital" and the „Replacement Cost" are not considered part of the DIC in the financing gap calculation.

Furthermore, the residual value of the investment at the end of the analysis period is treated as revenue in the calculation of the DNR. This allows the interpretation that other „project investment related" cost which are not part of the DIC can be considered in the cash-flow of the DNR.

Based on the above interpretation of the guidelines, the following approach has been applied:

- Change of working capital has been treated as operating cash flow and not as investment cash flow to be consistent with the Working Document 4 in point 2.2.2 ("...*Only cash flows* to be considered...").

- Replacement costs for assets have been treated as maintenance costs which appear as operating cash flow in the calculation of the DNR; this mainly because they are most likely to be spread over time and place (for example, replacement of pumps and ancillary equipment in projects when necessary).

In general, the calculation of the financing gap is carried out in real terms, using Euros in constant prices of 2009. In accordance with this methodology, a real discount rate of 5% (nominal 7,10%) has been applied.

Two funding gaps were calculated for the project. A funding gap for the utility investment to be managed by the PUC and for which a high capacity for cost recovery should be assumed because of the financial strength of the visiting tourists (table 7.38); as well as a funding gap for the Tourism Infrastructure for which a much lower capacity for internal cost recovery can be assumed linked to the "tourism tax" highlighted earlier (table 7.39).

Table 7.38: EC Funding Gap Calculation of the Utility Investment

	Parameter		Values Not Discounted (000' EUR)	Values Discounted (000' EUR)
1	**Reference period (years)**	20		
2	**Financial discount rate (%)**	5		
3	**Total Investment Cost**		18 640	
4	**DIC**			14 097
5	**Residual Value**		8 377	
6	**Residual Value Discounted**			1 408
7	**Revenues**		46 136	15 329
8	**Operating Costs**		29 871	9 672
9	**DNR (7-8+6)**			7 065
10	**Eligible Expenditures (4-9)**			7 032
11	**Funding gap (5)**			49,88%

All Cost excluding VAT

Table 7.39: EC Funding Gap Calculation of the Tourism Infrastructure

	Parameter		Values Not Discounted (000' EUR)	Values Discounted (000' EUR)
1	**Reference period (years)**	20		
2	**Financial discount rate (%)**	5		
3	**Total Investment Cost**		6 297	
4	**DIC**			4 751
5	**Residual Value**		2 971	
6	**Residual Value Discounted**			499
7	**Revenues**		11 134	3 655
8	**Operating Costs**		9 959	3 643
9	**DNR (7-8+6)**			511
10	**Eligible Expenditures (4-9)**			4 240
11	**Funding gap (5)**			89,23%

All Cost excluding VAT

The result of the funding gap calculation confirms that different financing strategies are required to finance the project. The PUC infrastructures have a leaner funding gap which according to EU rules cannot be exceeded in terms of EU grant support. The Tourism Infrastructures on the other hand, have a significantly higher funding gap and deserve therefore an appreciably larger EC grant support in percentage

terms. The recommendation of the feasibility study is to apply for the two main types of investments an EU grant that in percentage corresponds to the EU funding gap calculation.

Annex 7.2 provides a detail overview of the worksheet used for the calculations.

7.2.16 Financial Performance Indicators of PUC

The main purpose of the financial analysis is to use the project cash flow forecasts to calculate suitable net return indicators. The EU Guidelines on CBA places emphasis on two financial indicators: the Financial Net Present Value (FNPV) and the Financial Internal Rate of Return (FRR). To take into account the fact that the investment is to be financed with financial support of the EU, two series of indicators are considered. One set presents the financial performance in terms of return on the total investment cost, FNPV(C) and FRR(C), and another set documents the return based on the national capital invested FNPV(K) and FRR(K) which means that the EU grant element is not included in the estimation of the investment capital.

The financial performance indicators (FRR and FNPV) for the two main component of the project are presented in the table 7.40 and 7.41 below.

Table 7.40: Financial Performance indicators before EU assistance

Return on Investment	Unit	Value
PUC Utility Infrastructure		
Water Supply +Wastewater + Solid Waste		
FNPV / C before EU assistance	000' EUR	-7 032
FRR / C before EU assistance	%	1,82%
LRCD & TO managed Infrastructure		
Water Supply +Wastewater + Solid Waste		
FNPV / C before EU assistance	000' EUR	-4 240
FRR / C before EU assistance	%	-1,77%

Table 7.41: Financial Performance indicators after EU assistance

Return on Investment	Unit	Value
PUC Utility Infrastructure		
Water Supply +Wastewater + Solid Waste		
FNPV / K before EU assistance	000' EUR	-2 516
FRR / K before EU assistance	%	4,17%
LRCD & TO managed Infrastructure		
Water Supply +Wastewater + Solid Waste		
FNPV / K before EU assistance	000' EUR	-676
FRR / K before EU assistance	%	4,14%

For the two types of investment and for both, the status before or after the EU assistance (/C & /K values), the financial net present value (FNPV/C) is negative and the financial return of the investment (FRR/C) is below the discount rate confirming the justification for external financial support for the project.

7.2.17 Financial Sustainability Analysis

The Guidance on the Methodology for carrying out Cost-Benefit Analysis requires an assessment of the financial sustainability of the project, which needs to prove that the cumulated (undiscounted) net cash flows of the proposed operator are positive over the entire period considered. The net cash flows considered for this analysis include:

- Total investments costs, including re-investments for the replacement of assets
- Revenues of the operator for the services provided including fees for connection
- OM&Adm cost of the operator for the services provided
- Changes in working capital generated by the project
- Capital resources applied for investment (EU and national budget grants)
- Debt service of contracted loans

As only the PUC managed infrastructure investment (water, wastewater and solid waste) is embedded in a revenue-generating system, the financial sustainability analysis is assessed only for the PUC.

The financial sustainability of the PUC is based on the cash-flow statement of the PUC, which includes all operating cash-flows (revenues and OM&Adm cost) as well as the cash-flows for investment and financing generated by the planned infrastructure, by the project and by the other investment programs executed in the service area managed by the RBWC. It relies on the performance indicators highlighted in table

The table 7.42 documents for each main system elements the main components of the cash flow statement and the expected results over the analysis period

The table 7.43 documents then for the entire system the financial performance against the financial objectives defined in table 7.2.3

Table 7.42: Financial Sustainability of the PUC Components of the Project (000' EUR)

	Projection ……							
Item	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2025**	**2035**
PUC Entire System								
Total Financial Resources	483	323	3 371	7 063	7 400	-	-	-
Total Operating Revenues	134	166	258	387	581	846	2 324	3 348
Total Inflows	**617**	**489**	**3 629**	**7 451**	**7 981**	**846**	**2 324**	**3 348**
Total Operating Cost	24	26	63	136	214	747	1 211	1 888
Total Investment Costs	483	323	3 371	7 063	7 400	-	-	-

	Projection ……							
Item	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2025**	**2035**
Interest Payments	88	39	74	189	327	372	-	-
Loan Reimbursements	-	-	-	466	466	466	-	-
Taxes	-	-	-	-	-	-	-	-
Total Outflows	**594**	**387**	**3 508**	**7 854**	**8 406**	**1 586**	**1 211**	**1 888**
Total Cash-flow	22	101	122	(403)	(426)	(740)	1 112	1 460
Total Cumulated Cash-flow	111	212	334	(69)	(495)	(1 235)	1 620	13 591

The figure 7.1 reflects the projected yearly cash flow situation at year end for the whole system and throughout the whole period of analysis of the PUC infrastructure project component.

Figure 7.1: Yearly Cash Flow Situation of PUC Components

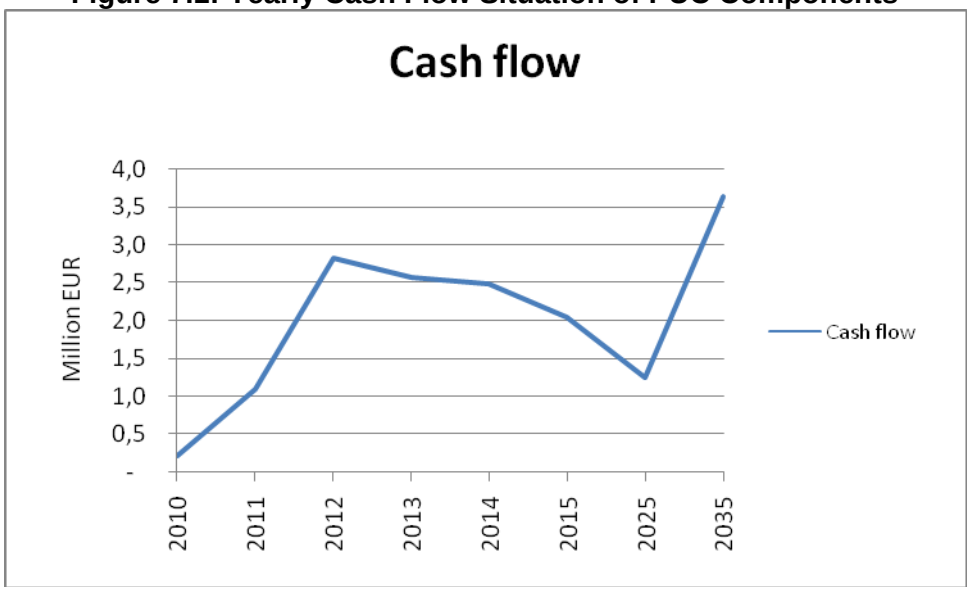


Table 7.43: Financial Performance Indicators of the PUC (million EUR)

	Target	Projection ……							
Item		**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2025**	**2035**
Total System									
EBITDA	**+ each year**	0,11	0,14	0,20	0,25	0,37	0,10	1,11	1,46
EBIT	**+ each year**	0,11	0,14	0,20	0,16	0,09	(0,38)	0,63	0,98
CRR	**>1**	3,9	4,8	3,5	1,5	1,2	0,7	1,3	1,3
Operating Cash flow	**+ each year**	0,14	0,10	0,08	0,18	0,39	0,12	1,11	1,46
Cash year end	**+ each year**	0,2	1,1	2,8	2,6	2,5	2,0	1,3	3,6
DSR	**>1,3**	4,0	2,2	0,4	0,5	0,7	0,2		
SFR	**> 20%**		328%	210%	187%	99%	0	0	0

The figure 7.2 (for EBITDA, EBIT) and figure 7.3 (for CRR and DSR) reflects the projected yearly main financial results of the operation of the PUC system during the period of analysis of the project.

Figure 7.2: EBITDA & EBIT of system over assessment period

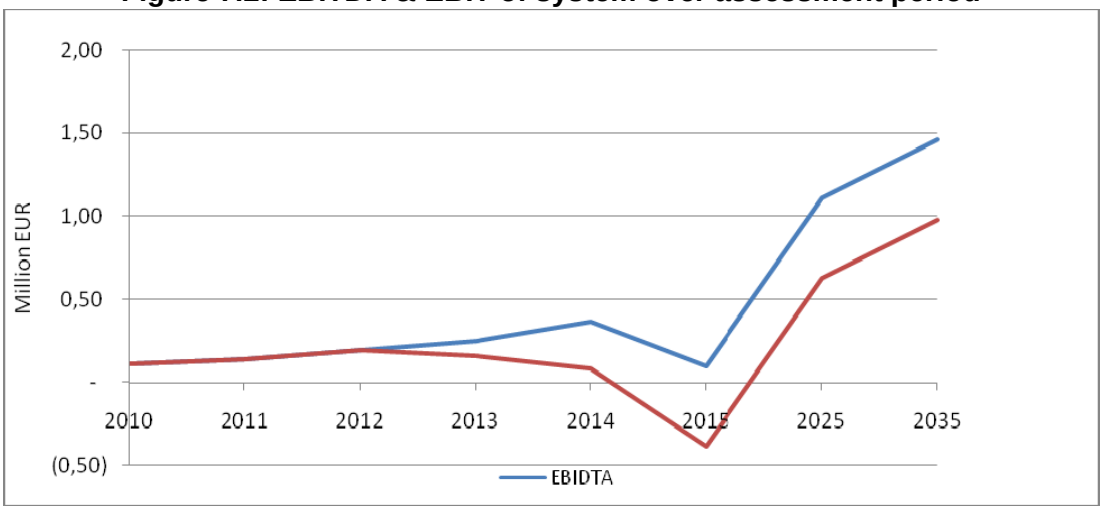
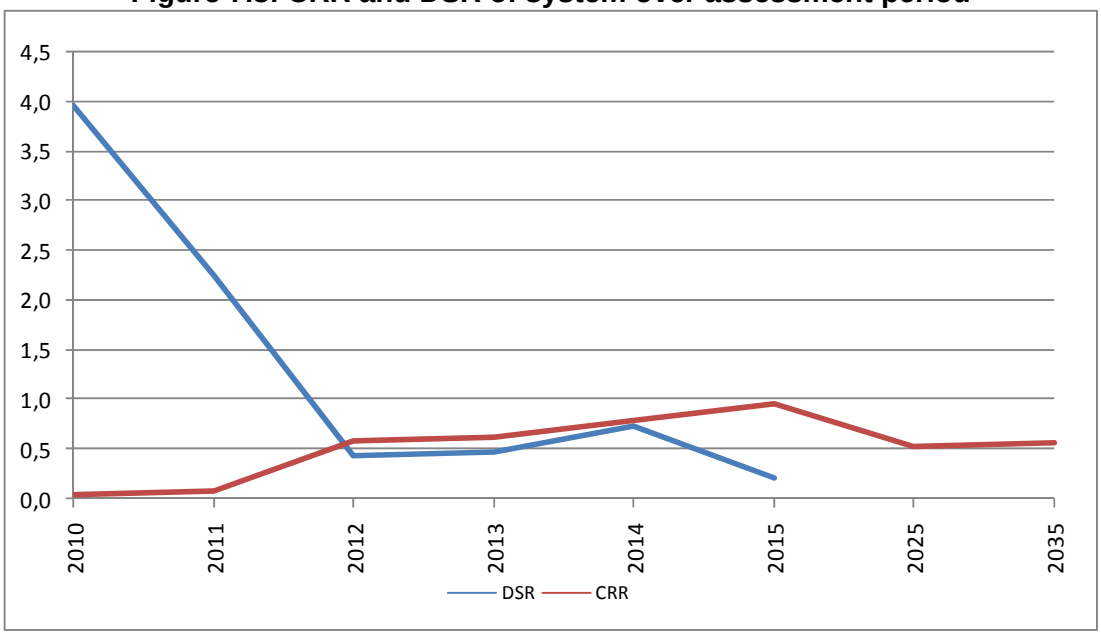


Figure 7.3: CRR and DSR of system over assessment period



Annexes 7.3 and 7.4 provide an overview of the underlying calculation worksheets used to generate the tables and the graphics.

Main findings are:

1. EBITDA remains positive over the analysis period,

2. Operating cash-flow and overall cash-flow at year end remain essentially positive over the years.
3. The debt service ratio (DSR) defined as EBITDA/debt service remains mostly over the 1,3 threshold (often prescribed by IFIs and lenders) during the period of repayment of the loan.

7.3 Economic Analysis

The economic CBA addresses the question to which extend the project is worth co-financing. For the EC, a project is worth investing in, if the economic benefits for the concerned area is superior to benefits expected from other alternative projects (if it is not the case it would be better to invest in those alternative projects that have higher economic return.

According to the EC services, a project worth investing in economic terms is a project that has a positive socio-Economic Net Present Value (ENPV). This appears when the Economic Rate of Return (ERR) of the project is above the social discount rate in the project area generally defined by the EC services as being 5,5 % for an environmental project.

7.3.1 Framework for Economic CBA

The economic analysis aims at showing the economic impact of the project in quantitative (as far as possible) as well as qualitative terms. The economic CBA described the impact of the project in the regional economy as a whole. The emphasis is then on the effects of the project with regards to major objectives of economic policy such as economic growth, reduction of structural imbalances, social and regional income distribution).

For the purpose of the Economic CBA , each cost and benefit should be expressed in monetary units, which normally differs or come o top of the financial cost and benefit values of the project.

In order to determine the economic cost and benefits of the project, three types of corrections need to be taken into account compared to the financial flows. These include:

- Fiscal corrections for cost streams that do really use up economic resources (subsidies, indirect taxes, social security payments and other transfer payments).
- Correction for externalities (external benefits and costs): some impacts may be generated that spill over from the project to other economic agents without any compensation. These effects can either be negative (a new road increasing pollution levels) or positive (a new railway reducing traffic congestion on an alternative road link). As by definition, externalities occur without monetary compensation, these are not included in the financial

analysis. They need to be estimated, valued and added to the financial flows of the project to document the economic value addition of the project.

- Conversion from market to accounting prices (consideration of social costs and benefits): besides fiscal distortions and externalities, other factors can drive prices away from a competitive market (i.e. efficient) equilibrium: monopoly regimes, trade barriers, labor regulation, incomplete information, etc. In all such cases, observed market (i.e. financial) prices are misleading; accounting (shadow) prices need to be used instead, reflecting inputs' opportunity costs and consumers' willingness to pay for outputs. Accounting prices are computed by applying *conversion factors* to the financial prices.

7.3.2 Determination of economic cost and benefits

7.3.2.1 Economic Costs

Key cost components of the project include the following:

- Investment cost
- Replacement cost
- OM&Adm cost

Fiscal corrections are essentially applied to the labor cost elements of these costs in order to account for market distorting social security payments (see shadow wage, below).

Regarding the cost side of externalities, it has been considered in first approximation that there are no external costs for the investment measures proposed in the investment of the project.

Two main conversion factors were considered to correct market price into cross border neutral accounting prices.

- Standard Conversion Factor (SCF) were applied to help revalue local non traded goods at their world market price value (Shadow Price) to account for distorting indirect taxes and subsidies with SCF defined as SCF Border Price /Domestic Price.

  The following formula recommended by the EC CBA guidelines applies:
  SCF= (M+X) / ((M+TM)+(X-TX))
  with SCF = Standard Conversion Factor; M= value of imports; X= value of exports; TM = taxes on imports; TX = taxes on exports .

  SCFs were applied to local and foreign materials used in the investment and operation of the project.

- Standard Wage Conversion Factor (SWCF) were used to take into account distorted labor prices due to unemployment and underemployment.

The following formula recommended by the EC CBA guidelines applies:
SWCF = SW/FW= (1-u) x (1-t)
with SW the shadow wage; FW the financial (market) wage, u is the regional unemployment rate and t the rate of social security payments and relevant taxes

In the model the conversion factors as shown in the table 7.44 were applied.

Table 7.44: Conversion factors for the model

Item	CF Value	Conversion Factor Rationale
Skilled Labor	1,0	The labor market is assumed to be competitive
Unskilled Labor	0,36	Shadow wage for not-competitive labor market
Land	-	Not relevant for this project
Material for Civil Works	0,97	55% machinery and manufactured goods, 45% building materials
Project studies, works management, trials and other general expenses	1,0	100% skilled labor
Civil works	0,74	10% skilled labor, 30% unskilled labor, 40% machinery, 20% materials
Equipment, machinery, manufactured goods	0,99	40% local production (SCF), 60% imported goods (CF = 1), 10% profits (CF=0)
Piping	0,88	80% local production (SCF), 15% unskilled labor, 5% skilled labor
Building materials	0,88	75 % local materials (SCF), 15% imported goods (CF = 1), 10% profits (CF = 0)
Electricity, fuels, other energy prices	0,97	SCF
Maintenance	0,58	15% skilled personnel, 65% unskilled personnel, 20% materials
Administrative, financial and economic services	1,0	100% skilled personnel
Resulting value of investment costs	0,97	Weighted by the types of project costs
Replacement costs	1,0	100% equipment, machinery, manufactured goods, carpentry, etc.

7.3.2.2 Economic benefits

The most significant benefits of the project are two-fold:

(i) Revenues generated by the hotels and guest houses expected to be developed in the project area.

It is expected that the project will generate incremental expenditures by tourists for accommodation and other services (restaurants, souvenirs, recreation, local transport, etc.). The main structure of tourists' expenditures which create economic benefits for Vlasina lake area includes

1. Hotels and lodging services;

2. Different land transport services;

3.Water transport services;

4. Post & telecoms services;

5. Financial and Insurance Services;

6. Different rental services;

7. Market Health services;

8. Recreation, cultural and other;

9. Tourism Connected Products;

10. Restaurant, bar and catering services;

11. Travel agency and tour operator services.

(ii) Revenues generated as income from new employment in the tourism sector in the project area set

Second assumptions in the model is that the project will generate new employment in the tourism sector. It represents very huge potential for economic development of this area, improving living standard (which now is very poor) and overall welfare of existing households. Particularly for small and rural communities, the ability to offer tourism employment to encourage younger members of this community to stay is an important benefit. The development of tourism in Vlasina Lake also can provide a range of new business opportunities in addition to existing industries. This makes the community less reliant on a single industry and may also reduce seasonal fluctuations by bringing income in over traditionally slow periods. Tourism can diversify existing businesses by adding a visitor component on, but there are also opportunities for local manufacturing and production industries.

In order to quantify the economic benefits, a comparison of the situation with and without project has been carried out for the pertinent aspects. The comparison of "without project" and "with project" scenarios differs from the comparison of the situations "before" and "after" the project, as the latter does not describe the situation which would prevail if the project was not undertaken.

Economic benefits have been grouped as follows:

Benefit 01: Revenues from Hotels and guest houses

In the model is assumed that each tourist will pay in average for accommodation next amount depending on type of tourist object:

1) guest house – 20 euro/night;

2) small hotel – 40 euro/night,

3) big hotel – 60 euro/night,

4) camp – 10 euro/night.

For other services such as recreation, souvenirs, local transports, restaurants etc. each tourist will spend minimum 10 euro/day.

Benefit 02: New employment in the tourism sector

It is expected that the number of new employees will grow at the rate of one new employee per 10 incremental beds in the tourist object. In such way projected there will be 330 persons employed in tourist sector in 2015. The maximum expected salary per one employee is 550 euro/month (constant 2009. prices) for each projected year. That means that the economic benefits from new employment in tourism sector in 2015. will achieve amount of 181.500 euro/month (constant 2009. prices) or 265.058 euro/night (current prices).

The table 7.45 summarizes the economic performance indicators of the whole project.

Table 7.45: Results of Economic CBA

Component	Unit	Values
ERR	%	19,6%
PV Benefits	000' EUR	1 168 853
PV Costs	000' EUR	559 402
ENPV	000' EUR	22 634
B/C	#	1,02

The main findings are:

1. The economic return (approx. 19 %) is of a high level which can compare well with other types of public investment opportunities in the country.
2. The project is well worth investing in, regarding Serbia's limited financial resources perspective.

7.4 Sensitivity and Risk Analysis

7.4.1 General Aspects

All assumptions made regarding the basic variables used in the financial model are subject to uncertainties. Variations both positive or negative of certain variables are possible and may occurs. The sensitivity and risk analysis deals with the evaluation of the likely impact of given changes and the risk associated to these change to assess the likely hood that the project may become endangered in terms of financial viability or sustainability.

The assessment performed in the sensitivity analysis includes the following elements:

- Identification of the "critical variables": This assessment documents the impact of assumed changes in variables and parameters used in the model to identify critical variables which have significant impact on key output financial indicators (FRR/C&/K, FNPV/C&/K, ERR, ENPV) as well as to the cash flow situation of the RBWC operator. Under EU guidelines a variable is considered critical if one 1% point of change in the variable is leading to 5% change or more in one or more of the above financial indicators.

- Identification of "switching values": According to EC CBA guidelines this assessment identify the values of tested input variables that leads to a financial and/or economic NPV0. This is intended to provide additional information to clarify what input variables have the most critical influence on the project's financial parameters

- Risk probability analysis: The purpose is in large part to provide a rational basis for a contingency allocation. It involves determining the probability distribution for each critical variable and calculates the cumulative probability for different scenarios, both optimistic and pessimistic, by combining the probabilities of the individual variables.

7.4.2 Financial CBA

7.4.2.1 Identification of "Critical Variables"

A "critical variable" is a parameter which with 1% change lead to more than 5% change in one or more of the above key outputs financial indicators. The applied methodology was to modify variables in the "with-project" scenario while leaving them in "without-project" scenario unchanged.

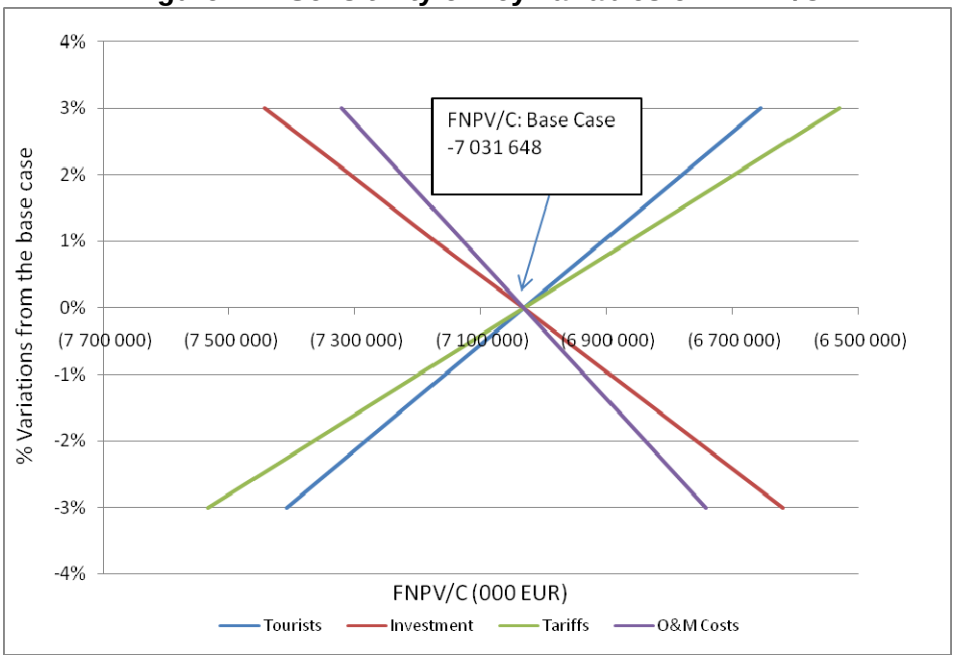
The following variables were assessed:

- Tourists visiting the area
- Investment cost
- OM&A cost (operation, maintenance and administration costs)
- Tariffs for utility services; this variable is proportional to total revenues
- Loan size and loan interest rate

The limits within which the model variables were modified were set at -15% to +15% below and above their base case estimate while leaving all other model variables unchanged

The figures 7.4 and 7.5 summarize the sensitivity of the above variables on the FNPV/C (before EU assistance) and FNPV/K (after EU assistance).

Figure 7.4: Sensitivity of key variables on FNPV/C



The Tables 7.46 and 7.47 documents the variation ratios of the project Key financial Indicators for a +/- 1% variation of the selected variable.

Table 7.46: Sensitivity of Key Project Financial Performance Indicators

Positive Variation of Variable	FNPV/C	FRR/C	FNPV/K	FRR/K
Tourism Development (+1%)	+1,76%	+6,44%	+4,22%	+3,60%
Investment (-1%)	+2,00%	+3,85%	+4,12%	+2,40%
OM&Adm (-1%)	+1,39%	+4,95%	+3,53%	+2,64%
Tariff (+1%)	+2,44%	+8,24%	+6,09%	+4,32%
Loan Size (-1%)	0,00%	0,00%	+0,83%	+0,48%
Loan Interest Rate (-1%)	0,00%	0,00%	+7,43%	+4,08%

Table 7.47: Sensitivity of Key Project Financial Performance Indicators

Negative Variation of Variable	FNPV/C	FRR/C	FNPV/K	FRR/K
Tourism Development (-1%)	-1,76%	-6,44%	-4,22%	-3,60%
Investment (+1%)	-1,97%	-3,85%	-4,12%	-2,40%
OM&Adm (+1%)	-1,36%	-4,95%	-3,53%	-2,64%
Tariff (-1%)	-2,32%	-8,79%	-6,09%	-4,32%
Loan Size (+1%)	0,00%	0,00%	-0,83%	-0,48%
Loan Interest Rate (+1%)	0,00%	0,00%	-7,43%	-4,08%

The Table 7.48 documents the variation ratios of the PUC cash flow for a 1% variation of the selected variable.

Table 7.48: Sensitivity of the PUC Cash flow

Variation Variable	Period 2010-2015	Period 2020-2025
Investment (-1%)	4,46%	7,69%
Investment (+1%)	-4,46%	-7,69%
OM&Adm (-1%)	0,05%	1,40%
OM&Adm (+1%)	-0,05%	-1,40%
Tariff (-1%)	-0,16%	-2,67%
Tariff (+1%)	0,16%	2,67%
Tourists (-1%)	-0,08%	-2,13%
Tourists (+1%)	0,08%	2,13%
Loan Size (-1%)	0,00%	0,02%
Loan Size (+1%)	-0,00%	-0,01%
Loan Interest Rate (-1%)	3,81%	4,92%
Loan Interest Rate (+1%)	-3,81%	-4,92%

According to the results of preceding tables, critical variables which are defined as variables for which a change of 1 % in value generate more than a 5 % change in terms of financial performance (NPV & IRR) include (i) OM&Adm costs, (ii) the tariff, (iii) number of tourists and (iv) the loan interest rate.

7.4.2.2 Identification of "Switching Values".

The Table 7.49 documents the switching values which represent the change of value in percentage of key variables for which the FNPV turn to 0 and "switch" from positive to negative. It requires significant change of value to switch the FNPV, which proves the financial robustness of the proposed investment.

Table 7.49: Switching Values for Key Project Financial Variables

Variable	%
Tourism development	-15,97%
Investment	+32,35%
OM&Adm	+20,47%
Tariff	-13,02%

7.4.2.3 Risk Probability Analysis

In this assessment, variations in the key variables investment cost, OM&Adm cost and revenues have been used to conduct a risk probability analysis based on the FNPV/K and the cash-flow of the PUC. This was done by assuming base scenarios.

The tables 7.50 to 7.52 document the probability of occurrence of given variation.

Table 7.50: Probability of Various Scenarios of Investment Cost Variations

Scenario	Variation of Values	Probability in %
Base Case Scenario	0%	80%
Optimistic Scenario	-10% < ΔInv ≤ 0%	3,0 %
Negative Scenario	0% < ΔInv ≤ + 10%	3,0 %

Table 7.51: Probability of Various Scenarios of OM&Adm Cost Variations

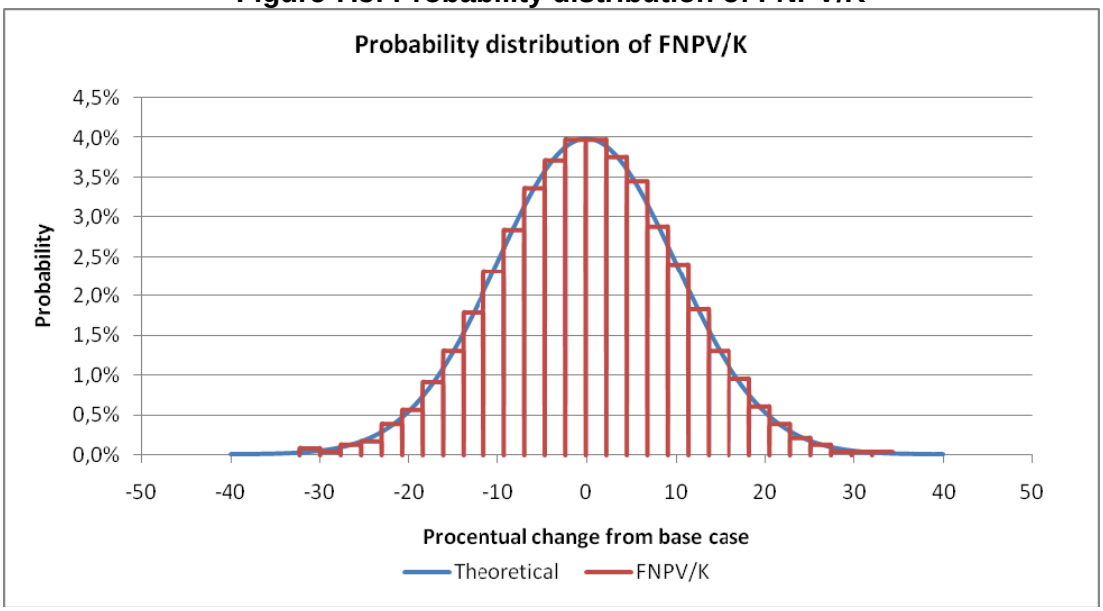
Scenario	Variation of Values	Probability in %
Base Case Scenario	0%	80%
Optimistic Scenario	-10% < ΔOM ≤ 0%	2,0 %
Negative Scenario	0% < ΔOM ≤ + 10%	3,0 %

Table 7.52: Probability of Various Scenarios of Revenues Variations

Scenario	Variation of Values	Probability in %
Base Case Scenario	0%	70%
Optimistic Scenario	0% < ΔRev ≤ + 10%	3,0 %
Negative Scenario	-10% < ΔRev ≤ 0%	5,0 %

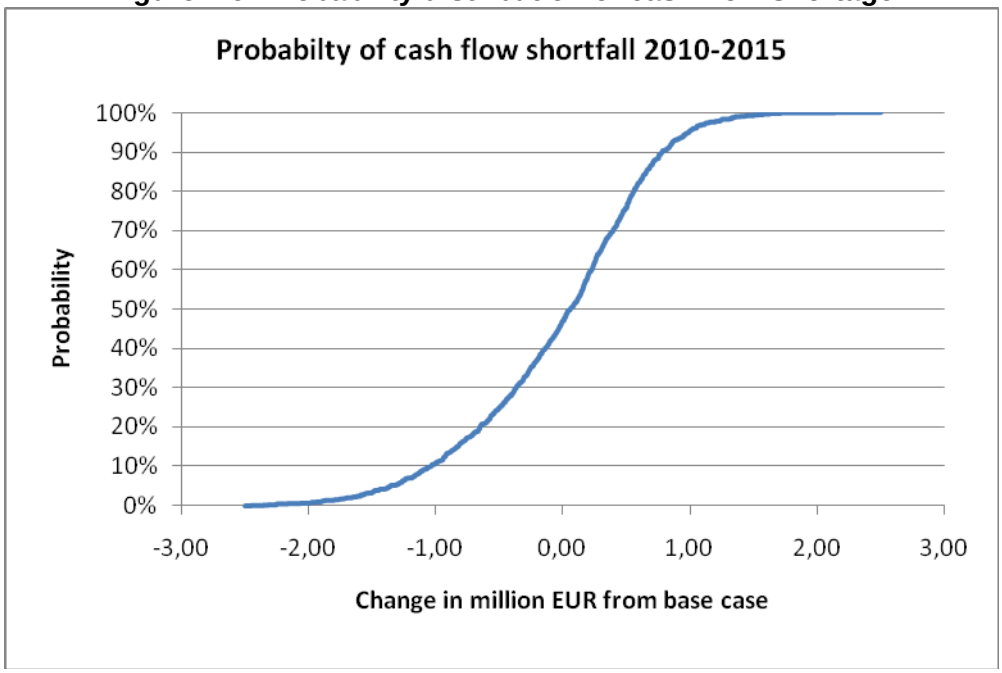
The Figures 7.5 and 7.6 reflect the probability distribution of occurrence of percentage change from base case for FNPV/K (figure 7.5) and risk of cash flow shortage during the period 2010-2015 (figure 7.6) as function of costs and revenues.

Figure 7.5: Probability distribution of FNPV/K



The figure 7.6 documents the probability distribution of Cash-flow shortage during the period 2010-2015 as a function of costs and revenues. Probability that cash flow is negative with pessimistic scenario (revenues -10%, OM&Adm +10%) is 47%.

Figure 7.6: Probability distribution of cash flow shortage



According to the self-explanatory graphs, the likelihood of significant change of FNPV/K remain limited and the probability that the cash flow is becoming negative in case of a pessimistic scenario (revenues -10%, OM&Adm Costs +10%) remains very low (less than 0,1%).

7.4.3 Economic CBA

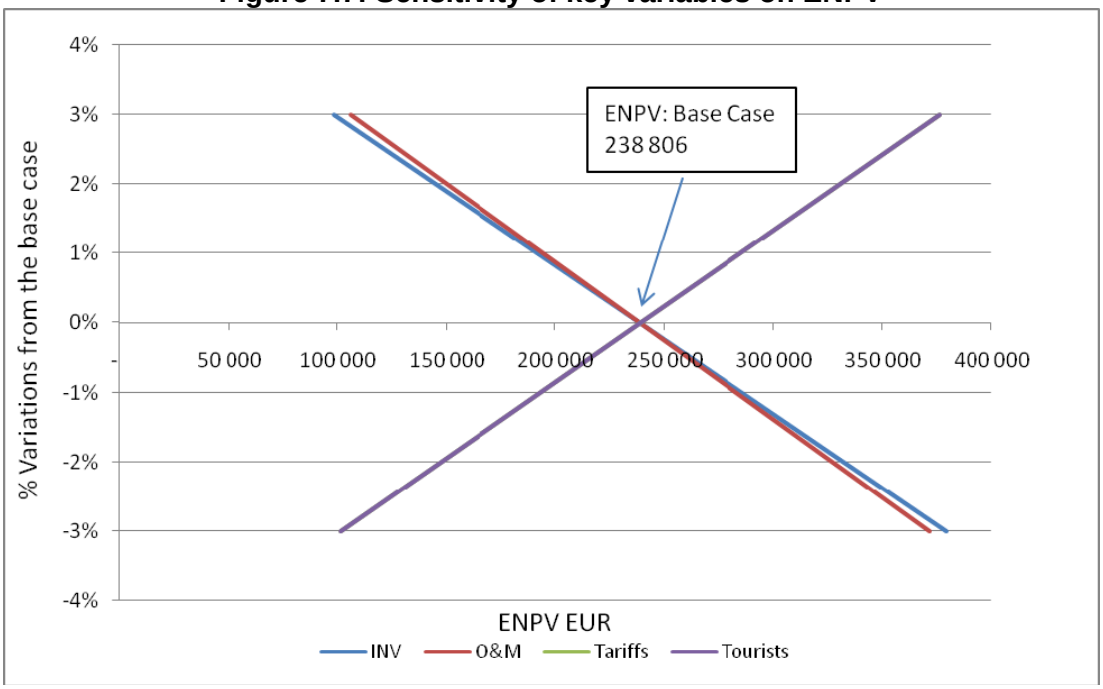
7.4.3.1 Identification of "Critical Values".

The applied methodology was to modify variables in the "with-project" scenario while leaving them in "without-project" scenario unchanged.

The following variables were assessed:

- Investment cost
- OM&A cost (operation, maintenance and administration costs)
- Economic Benefits
- Social Discount Rate

Figure 7.7: Sensitivity of key variables on ENPV



The Table 7.53 documents the variation ratios of the project Key financial Indicators for a 1% variation of the selected variable.

Table 7.53: Sensitivity of Economic Indicators

Variable	Variation ENPV	Variation 'ERR
Investment (-1%)	19,59%	1,53%
Investment (+1%)	-19,59%	-1,53%
OM&Adm (-1%)	18,52%	1,12%
OM&Adm (+1%)	-18,52%	-1,12%
Economic Benefits (+1%)	32,50%	0,92%
Economic Benefits (-1%)	-32,50%	-0,92%
Social Discount Rate (+1%)	-292,56%	0,00%
Social Discount Rate (-1%)	292,56%	0,00%

7.4.3.2 Identification of "Switching Values".

The Table 7.54 documents the switching values expressed as percentage variation of the tested variable for which the ENPV turns to 0.

Table 7.54: Switching Values for Economic NPV

Variable	Switching Value
Investment	19 546 001
OM&Adm	10 480 515
Economic Benefits	18 566 587

7.4.3.3 Economic Risk Analysis

The assessment of economic risk was carried out by comparing an optimistic (Scenario 1) and a pessimistic (Scenario 2) scenario to the base case. In a first step (variant "A" of the scenarios), all three key variables have been considered for the analysis. In the pessimistic scenario, the effect of unfavorable developments in all three key variables show less performance than in the base case, while in the optimistic scenario the opposite is assumed.

In a second step (variant "B" of the scenarios), the analysis is limited to two of the three key variables leaving economic benefits unchanged. The rationale is there that the economic benefits will be difficult to document quantitatively in an ex-post evaluation because of the lack of data.

The table 7.55 summarizes the assumptions for the scenarios.

Table 7.55: Assumptions of Variation for the Scenarios

Variable	Scenario 1A	Scenario 2A	Scenario1B	Scenario2B
Investment	-10 %	+10%	-10%	+10%
OM&Adm Costs	-10%	+10%	-10%	+10%
Economic Benefits	+10%	-10%	0 %	0 %

The results of the assessment yield the results shown on table 7.56.

Table 7.56: Results of Economic Risk Analysis

Variable	Variation ENPV	Variation 'ERR
Base Scenario	0,00%	0,00%
Scenario 1A (optimistic, 3 variables)	66,11%	1,31%
Scenario 1B (optimistic, 2 variables)	66,11%	1,31%
Scenario 2A (pessimistic, 3 variables)	-66,12%	-1,29%
Scenario 2B (pessimistic, 2 variables)	-66,12%	-1,29%

7.5 Financial assessment Public Utility Company

The Municipality of Surdulica, have founded PUC "Vodovod" for the purpose of performing activities dealing with water supply, waste water management, district heating, solid waste and all other communal services defined within their scope of activities.

The public utility company provides a variety of services and this analysis will deal with operating of the PUCs as a whole, but where required, will zoom in specifically on water and solid waste related activities. This paragraph sets out an analysis of PUC "Vodovod" of the Municipality of Surdulica. This is done with a view to provide proper data for the financial modeling of the future tourist infrastructure development on Vlasina Lake.

This analysis will monitor operating of the PUC in the Municipality of Surdulica that within their activities include water supply, waste water and solid waste management on the project area.

7.5.1 PUC Vodovod Surdulica Financial Assessment

7.5.1.1 Profit and Loss statements

In financial reporting, the PUC record and disclose data on operating activities of all their departments in single financial reports, not showing separate business activities for each of their departments. This is the case with almost all of the PUCs operating in Serbia, and creates problem of submitting accurate data when their operating results are asked to be divided by different operational units.

The analysis is based on official data that were submitted by the PUC to the Central Bank in accordance with the current Law on Accounting, and respecting the IAS and the IFRS.

The Profit & loss plan of the PUC for 2008 was not submitted and the analyzed period is, the period 2005 to 2007.

Table 7.57: Profit & Loss statement PUC Vodovod – Surdulica (RSD '000)

No	Description	2005		2006		2007	
		RSD	%	RSD	%	RSD	%
1.	**Operating revenues**	**61.640**	**100%**	**61.181**	**100%**	**76.611**	**100%**
1.1.	**Revenues from the business**	54.739	89%	48.617	79%	70.182	92%
1.2.	**Other revenues**	6.901	11%	12.564	21%	6.429	8%
2.	**Operating Expenditures**	**67.709**	**110%**	**70.089**	**115%**	**83.416**	**109%**
2.1.1	**Material costs**	8.646	14%	10.126	17%	11.279	15%
2.1.2	**Salaries**	37.176	60%	42.238	69%	50.882	66%
2.1.3	**Depreciation**	8.779	14%	8.046	13%	7.942	10%
2.1.4	**Other**	13.108	21%	9.679	16%	13.313	17%
3.	**GROSS PROFIT**	**(6.069)**	**-10%**	**(8.908)**	**-15%**	**(6.805)**	**-9%**
3.1.	**Net Interest payment**	352	1%	142	0%	264	0%
3.2.	**Net extraordinary items**	(8.212)	-13%	2.834	5%	491	1%
3.3.	**Taxes and contributions**	-	0%	-	0%	-	0%
4.	**NET PROFIT**	**(13.929)**	**-23%**	**(5.932)**	**-9,7%**	**(6.050)**	**-7,9%**

*Source: the PUC Vodovod Surdulica financial statements

Below are some of the most important findings of the financial performance analysis of the PUC "Vodovod" - Surdulica:

Profitability and revenues

- Main feature of the profit & loss statement of the PUC "Vodovod": is the consistent **operational loss** for each year of -10% in 2005 to -9% in 2007 of operating revenues.
- **Operating revenues** range from RSD 61 million in 2005 to RSD 77 million in 2007. And these are mainly comprised of invoiced revenues for solid waste, water/waste water, graveyards services, green markets and other communal services of the PUC. In total, revenues have increased average by 24% in analyzed period. The significant increase of **Revenues from business**

activities was in 2007 of 44% increase, as a result of better sales of their services. Revenues from business activities are dominant throughout the observed period with 87% average of operating revenues. **Other revenues**, according to the PUC financial statements relay to premiums, donations and other operating income like rent of buildings or equipment.

- **Operating expenditures** of the PUC "Vodovod" ranged from RSD 67 million in 2005, to RSD 83 million in 2007. Operating expenditures exceeded operating revenues by 11% average in a period 2005 to 2007.
- Each year by 31st December, during the acceptation of operation performance report, the proposition for write – off is being made. Managing board is deciding on the write-off proposal. Usually the write-off is allowed for religious institutions, political parties, and sport clubs.
- The PUC charge their consumers on a monthly basis in the Municipality Surdulica and on yearly basis for Vlasina lake area. It's a combine bill for water and sewerage.
- Legal actions for not paying consumers are law suits and switching of the water supply network. Default interest is not being calculated.
- **Gross profit** was negative in observing period and ranged from -9% to -15% of operating revenues.
- **Net profit** was negative too in analyzed period and range from -23% in 2005 to -8% in 2007 of operating revenues.
- The financial performance below 0% profit is more or less general practice of Serbian PUCs, and this rule applies to the PUC "Vodovod" Surdulica too, which operates with **losses from their operating activities**.

The financial departments of the PUCs make their annual activity plans based on the operational plans from the previous year. The 2008 year plans were made prior to final financial reports were presented to the National Bank of Serbia. The PUCs cannot entirely plan their operating activities due to the fact, that the PUCs are owned by the municipalities, and have to relay partly on the funding (subventions from the municipalities) from the municipal budget. The municipal budget, on the other hand, has to be approved by the Municipal Assembly, and upon approval the share apportioned for the PUCs can be incorporated in the operational plan of the PUC. (Municipalities usually have their end of the year session and approve on the budget for the next year in March of that current year).

However, the PUC in Surdulica, did not present their 2008 year plan but generally, the PUCs in Serbia are obliged to respect legally prescribed directions which relate to officially allowed tariff and salary increase. The limits for the current year (2008) for the **tariffs increase** were maximized at **6%**, and for the **salaries** at **10%**. The tariff increase is also very much subject to decisions of the political party that won the elections in the Municipality in question. This increase is not applied automatically, and the decision is within the discretion of the Municipal Assembly. Very often the Municipal policy is directed towards securing social peace, by not increasing these legally allowed tariffs, rather than allow the PUC to go on with the increase and cover their operational costs.

Table 7.58: Total Expenditures PUC Vodovod – Surdulica (RSD 000)

No	Description	2005		2006		2007	
		RSD	%	RSD	%	RSD	%
2.	**Expenditures**	**67.709**	**100%**	**70.089**	**100%**	**83.416**	**100%**
2.1	Material costs	8.646	13%	10.126	14%	11.279	14%
2.2	Salaries	37.176	55%	42.238	60%	50.882	61%
2.3	Depreciation	8.779	13%	8.046	11%	7.942	10%
2.4	Other	13.108	19%	9.679	14%	13.313	16%

*Source: the PUC Vodovod Surdulica financial statements

- The **expenditures structure** shows that in the observing years the share of more than 70% goes to Material costs and Salaries. Operating Expenditures, ranged from RSD 68 million (€ 846.000) in 2005 to RSD 83 million (€ 1 million) in 2007.

Expenditures

- Most significant items on the expenditure side of the PUC are **salaries**. In the observing years, salaries in the PUC ranged from 55% to 61% of operating expenditures. This reflects the typical situation of state owned companies, in which labor costs overtime become almost fixed costs. Increase in salaries is strictly prescribed by the Government, through the Ministry of Finance. Another large share of operating expenditure can be attributed to **material costs**; they were at in the range of 14% average. Large expenditures on fuel, electricity and maintenance, are typical for this type of companies.
- **Depreciation costs** as a share of operating costs are generally very limited at only 11% in observing years. This reflects the fact that the equipment and other assets are almost completely depreciated.
- The position of **other expenditures** in the PUC Vodovod, Surdulica relates mainly to operation and management costs at the average of RSD 12 million (or € 150.000) in observing years was appointed.

All these indicators in the period 2005 to 2007 outline a very low financial performance of the PUC Vodovod Surdulica. The PUCs in Serbia are usually non-profit generating organizations, which makes the PUC Vodovod a typical Serbian PUC.

7.5.1.2 Cash flow statements

As is common practice for the PUCs in Serbia, most of the investment activities are financed directly by the Municipality.

The common situation for PUCs in Serbia is that they typically manage to cover their direct operational costs only, without building up a reserve for replacement and/or capital maintenance of their assets.

The Cash Flow plan of the PUC Vodovod Surdulica for 2008 was not submitted and the analyzed period is, again, for the period 2005 to 2007.

The table below summarizes the cash flow of the PUC Vodovod Surdulica.

Table 7.59: Cash flow statement PUC Vodovod Surdulica (RSD 000)

Description	2005	2006	2007
A. CASH FLOWS FROM OPERATING ACTIVITIES			
I. Cash inflows from operating activities	67.488	80.126	102.023
II. Cash outflows from operating activities	68.090	80.009	100.514
III. Net cash inflow from operating activities (I-II)	**-602**	**117**	**1.509**
B. CASH FLOW FROM INVESTING ACTIVITIES			
I. Cash inflow from investing activities	722	0	0
II. Cash outflow from investing activities	940	1.780	818
III. Net cash inflow from investing activity (I-II)	**-218**	**-1.780**	**-818**
C. CASH FLOW FROM FINANCING ACTIVITIES			
I. Cash inflow from financing activities	0	0	0
II. Cash outflow from financing activities	0	0	0
III. Net cash inflow from financing activities (I-II)	**0**	**0**	**0**
D. GROSS INCREASE IN CASH (A1+B1+C1)	68.210	80.126	102.023
E. GROSS DECREASE IN CASH (A2+B2+C2)	69.030	81.789	101.332
F. NET INCREASE IN CASH (D-E)	**-820**	**-1.663**	**691**
G. CASH AT THE BEGINNING OF PERIOD	2.856	2.036	373
H. CASH AT THE END OF PERIOD (F+G)	**2.036**	**373**	**1.064**

- In 2007 in the PUC **cash inflow from operating activities** increased for 27% compared to 2006 and it was highest from sales of services and prepayments RSD 82 million the PUC's core activity. However, **cash outflow from operating activities** in 2007 also increased for 26%, and this was due to settling salaries for the employees' 21% increase and payments to suppliers and prepayments 27% increase in 2007.
- On **balance**, the **operational cash** record an **operational gain in all years except in 2005.** Operational cash improved considerably in 2007, in comparison with 2006 as a result of increase of inflows from operating activities.
- **Cash outflow from investing activities** is recorded in observing years on the position purchase of intangible assets, property plant, equipment and biological assets, and represent very limited invested activities of PUC**.**

The PUC records a **net increase in cash** only in 2007. **Cash at the end of the period** records a decrease in all years, except in 2007.

7.5.1.3 Balance sheet review

The table below summarizes the balance sheet of PUC Vodovod Surdulica during the period 2005 to 2007:

Table 7.60: Balance Sheet PUC Vodovod Surdulica (RSD 000)

Description	2005		2006		2007	
	RSD	%	RSD	%	RSD	%
ASSETS	**116.143**	**100%**	**115.228**	**100%**	**119.121**	**100%**
Fixed assets	87.365	75%	88.234	77%	87.695	74%
Current assets	28.778	25%	26.994	23%	31.426	26%
Inventories	6.655	6%	7.327	6%	7.221	6%
Account receivables & placement	19.717	17%	18.740	16%	22.577	19%
Cash and cash equivalent	2.036	2%	373	0%	1.064	1%
Accrued	370	0%	554	0%	564	0%
LIABILITIES	**116.143**	**100%**	**115.228**	**100%**	**119.121**	**100%**
Equity	90.092	78%	84.160	73%	78.110	66%
Losses	13.929	12%	19.861	17%	25.911	22%
Long term reserves	0	0%	0	0%	0	0%
Liabilities	26.051	22%	31.068	27%	41.011	34%
Long term liabilities	0	0%	0	0%	0	0%
Long term loans	0	0%	0	0%	0	0%
Short term liabilities & Accrued	26.051	22%	31.068	27%	41.011	34%
Short term loans	0	0%	0	0%	0	0%
Accounts payable	8.846	8%	9.933	9%	9.049	8%
Accruals	17.205	15%	21.135	18%	31.962	27%

*Source: the JP Vodovod Surdulica financial statements

- In 2007 **fixed assets** decreased by 1% compared to 2006.
- **Current assets** in 2007 have increased by 16%, within current assets **account receivables** in 2007 increased by 20% and their share in total assets ranged from 17% in 2005 to 19% in 2007. **Cash and cash equivalent** recorded an increase by 185% in 2007. In 2006 operating cash was on the very low basis and PUC recorded a **significant loss** of (RSD 8,9 million) in 2006.
- The **Equity** of the Company decreased in 2006 for -7% comparing with the 2006 and decreased for -13% compare with 2005 as a result of correction for **operating losses** from previous years.
- **Accounts payable** for the 2007 show the decrease of -9% comparing with 2006 and 2% increase comparing with 2005. The PUC did not succeed in lowering their debts. Their share in total liabilities ranges 8% average in the observing period.
- According to the PUC Vodovod Surdulica financial report, **Accruals** relate to other short term liabilities like: (accrued salaries, taxes and contributions, interest and financial liabilities, accrued expenses). Accruals increased in 2007

for 51% comparing with 2006 and their share in total liabilities ranged from 15% in 2005 to 27% in 2007.
- In observing years PUC Vodovod Surdulica did not have a record of long term and short term interest bearing loans.

The PUC Vodovod Surdulica like others PUCs operating in the Pcinja region are actively working on settling their past due obligations.

For the purposes of analyzing the balance sheets of the PUCs and specifically the level of indebtedness and liquidity, the following indicators are used:

- **Net Current Fund (NCF)**: the relation between long term assets (fixed assets plus long term financial investments) and long term funds (own capital plus long term debts/financial obligations). A positive value of NCF is a simple and relatively reliable indicator of soundness of the financial situation of the company;
- **Relation between NCF and stocks**: this is an additional test of company's financial position of liquidity and general indebtedness. Again, a positive value of this indicator reflects a good financial position;
- **Relation between total revenues and net debt**: calculated as the share of fixed assets, other long term investments and stocks, which are financed with borrowed funds. This includes loans, but also receivables and other non-paid financial liabilities. A common benchmark is that borrowed funds expressed as a share of total revenues should not exceed 10% of total revenues.

Table 7.61: Balance sheet indicators PUC Vodovod Surdulica (RSD 000)

No.	Indicator	2005	2006	2007
1.	**Long term sources (own capital and other long term sources)**	90.092	84.160	78.110
2.	**Long term assets (fixed assets and long-term investments)**	87.365	88.234	87.695
3.	**Net current fund - NCF (1-2)**	2.727	(4.074)	(9.585)
4.	**NCF minus Stocks**	(3.928)	(11.401)	(16.806)
5.	**Borrowed sources/Total revenues (general indebtedness)**	13,8%	15,4%	11,8%
6.	**Total Revenues/Total Expenditures Ratio**	81,8%	91,8%	93,1%
7.	**Operating Revenues/Operating Expenditures Ratio**	91,0%	87,3%	91,8%
8.	**LIQUIDITY RATIO I, II and III**			
9.	**Rigorous Liquidity Ratio (Cash/Short term liabilities)**	0,08	0,01	0,03
10.	**Current Liquidity Ratio (Short term receivables and cash/Short Term Liabilities)**	0.84	0,62	0,58
11.	**General Liquidity Ratio (Short term receivables and cash and stocks/Short Term Liabilities)**	1,10	0,87	0,77

The main findings regarding the balance sheet review of the PUC Vodovod Surdulica are:

A common benchmark is that **General Liquidity** ratio should be 2, and **Current liquidity ratio** and **Rigorous liquidity** ratio should be 1.

- ***General liquidity ratio & Current liquidity ratio,*** over the observed period shows that PUC was unable to meet common benchmark ratios.
- ***Rigorous liquidity ratio*** shows actually that the PUC had serious problems in covering short term liabilities, since this ratio is dramatically less than **1**. There is a significant lack of cash for current operating activities.
- ***Net current fund*** was negative in observing years, except in 2005, showing a pure financial situation in this company.
- The indicator of ***indebtedness*** in analyzed period was in a range of 12% to 15%. (However, a common benchmark is that borrowed funds expressed as a share of total revenues should not exceed 10% of total revenues). It is clear that the PUC in observing years exceed these criteria.
- PUC operating with significant losses in observing years.

7.5.1.4 Water, waste water and solid waste tariffs

Tariffs for utility companies are regulated and capped by the Ministry of Finance since the year 2006. The current general policy is that tariffs are not allowed to be increased beyond the year's estimated inflation. For the year 2008, the maximum tariff increase has been set at **6%**. For this reason, the PUCs are currently severely constrained in applying a full cost based tariff setting approach. In general, water and waste water tariffs are already at below cost recovery levels, whereas considerable investments will be required to rehabilitate existing infrastructure, let alone extension of service coverage or introduction of new services like waste water treatment.

Tariffs are differentiated by customer groups, with the highest tariff set for the business category and lowest for households. This differentiation is not based on actual cost of service, but rather on the perceived ability to pay. In the municipality Surdulica both water, waste water and solid waste tariffs for businesses are more than double the tariffs charged to domestic clients. The tariffs for Vlasina Lake in the Municipality Surdulica are charged at the same level as tariffs for households and businesses in Surdulica town. The separate category specified like "waste water treatment" relates to the business consumers and this tariff introduced and applied from October 2006.

Finally, there is a category of subsidized consumers, which receive discounts on their utility bills, because of their social situation and low ability to pay utility charges. However these subventions are given in the Municipality Surdulica only to the social categories of the users that bring the approval from the Social work center, social categories are obliged to pay bills for water only and amount of money for solid waste is being written off.

Each municipality in Serbia has its own policy of deciding on the moment of tariff increase, often using its power as the PUC owner, and holding the increase for the

political or other reasons. Tariffs are often not increased before political elections to maintain social peace.

The tables below set out tariffs for respectively water, waste water and solid waste services, charged to different groups of users in a period 2004 to 2008.

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Table 7.62: Water tariffs RSD/m3 (without VAT)

Consumers / Date of tariff increase	2004	2005	2006
Households	8	12	12
Business / Institutional	28	36	39,35
Water tariff for Vlasina lake			
Business / Institutional	28	36	39,35
Households	8	12	12

*Source: the Municipality Surdulica tariffs decisions

Table 7.63: Wastewater tariffs RSD/m3 (without VAT)

Consumers / Date of tariff increase	2004	2005	2006
Households	2	3	3
Business / Institutional	8	11	12,02
Water tariff for Vlasina lake			
Business / Institutional		11	12,02
Households		3	3
Waste Water treatment RSD/m^3			
Business / Institutional			5

*Source: the Municipality Surdulica tariffs decisions

Table 7.64: Solid waste tariffs RSD/m2 (without VAT)

Consumers / Date of tariff increase	2004	2005	2006
Households	1,2	1,8	1,8
Business / Institutional	2,5	3,3	3,6
Solid waste tariff for Vlasina lake			
Business / Institutional	2,5	5	3,6
Households	1,2	2,5	1,8

*Source: the Municipality Surdulica tariffs decisions

As can be concluded from the tables, the Municipal Assembly in Surdulica, approved a steep of **water tariff increase** in 2005 for 50% for households and 29% for industry. The water tariffs for households were not increased during the year 2006 and for industry the tariff was increase for 9%. During the 2007 and 2008 Municipality did not approve the steep in tariffs increase. It must be mentioned that as from 2005, 8% VAT is applicable to utility invoices.

Waste water tariffs are set at different rates of the drinking water tariffs in the Municipality Surdullica, ranging 25 % for households to 31% for industry.

Solid waste tariff increase 50% in 2005 for households and 32% for industry. The tariffs were not increased for households in 2006 and for industry the tariff was increase for 9%. **Solid waste tariffs for Vlasina Lake** increase 100% in 2005 for households and 108% increase for industry. In 2006 the Municipality Surdulica approved a steep of **solid waste tariff decrease** for the Territory of Vlasina Lake for -28% for businesses and households.

7.5.1.5 Cost structure water and wastewater services

Cost structure

The PUCs in small Municipalities in Serbia are usually organized to serve their citizens through only one local PUC. The PUC Vodovod Surdulica operates rendering multi purpose services and records all its costs at company level. No breakdown is available for costs by service or place of origin. Therefore, for the purposes of estimating costs incurred for water, waste water, solid waste and to arrive at an estimate of direct costs, data had to be extracted manually from the companies' financial accounts.

Certain costs vary directly with each increase or decrease of production units. For example, electricity consumption will increase if more water is produced from the PUCs drinking water wells. These costs are called variable costs. For this study, the following variable costs are identified:

- Electricity consumption
- Fuel consumption
- Chemical consumption

Other costs do not directly fluctuate in the short run when production is increased. These costs are known as fixed costs. The following costs belong to this category:

- Wages & salaries
- Repair & Maintenance
- Taxes and fees
- Depreciation

For the purpose of the financial analysis, the PUC in Surdulica has divided the company into three departments, subdividing direct costs for each department:

- Drinking water supply;
- Wastewater/sewerage;
- Solid waste.

The costs for the financial & accounting unit, sales department, customer service, billing & collection and other overheads like (costs for general management, as well as human resources and legal affairs department) are included in these three departments.

An organization chart of the PUC organization is included in institutional chapter. The PUC often shifts people and equipment between departments, in case of urgent repairs, leakages, lack of staff for interventions etc. Therefore, it should be kept in mind that costs cannot be divided strictly between the various identified departments.

Despite this, it is believed that the tables below provide the best available estimate of direct costs incurred by service.

Table 7.65: Cost breakdown water supply in 2007 (RSD '000)

	Water	RSD(000)	%
1	**Wages and Salaries**	27.739	55%
2	**Materials**	4.467	9%
3	**Electricity**	1.465	3%
4	**Maintenance**	5.810	12%
5	**Depreciation**	4.936	10%
6	**Financial cost**	1.092	2%
7	**Overhead costs**	227	0%
8	**Other cost**	4.754	9%
9	**TOTAL**	**50.490**	100%
10	**Invoiced water - (m^3 yearly 000)**	1.157	
11	**Cost of water delivery (m^3/yearly) (9/10)**	**43,65**	
12	**Average tariff in 2007**	26,00	

*Source: the JKP Vodovod Surdulica estimation

Table 7.66: Cost breakdown waste water supply in 2007 (RSD '000)

	Waste Water	RSD(000)	%
1	**Wages and Salaries**	11.888	55%
2	**Materials**	1.914	9%
3	**Electricity**	628	3%
4	**Maintenance**	2.489	12%
5	**Depreciation**	2.116	10%
6	**Financial cost**	468	2%
7	**Overhead costs**	98	0%
8	**Other cost**	2.038	9%
9	**TOTAL**	**21.639**	**100%**
10	**Invoiced waste water - (m^3 yearly 000)**	828	
11	**Cost of waste water collection (m^3/yearly) (9/10)**	**26,14**	
12	**Average tariff in 2007**	7,51	

*Source: the JKP Vodovod Surdulica estimation

Table 7.67: Cost breakdown solid waste services in 2007 (RSD '000)

	Solid waste	RSD(000)	%
1	**Direct labor**	7.365	65%
2	**Material Costs**	242	2%

3	**Maintenance**	1.022	9%
4	**Depreciation**	890	8%
5	**Financial costs**	58	1%
6	**Overheads**	1.276	11%
7	**Other**	432	4%
8	**TOTAL**	**11.285**	**100%**
9	**Quantity of solid waste collected (m^3/year or ton/year)**	8.424	
10	**-Costs of solid waste collection per m^3 or ton (in 000 din)**	**1,34**	

*Source: the JKP Vodovod Surdulica estimation

Wages and Salaries and materials (chemicals, fuel, electricity, etc) and maintenance account for by far the largest share of operating costs with more than 75%. Depreciation costs are small at 9%.

Conclusion would be that the 2007 average water, waste water and solid waste tariffs in the Municipality Surdulica are not sufficient to cover the total operating costs.

The main problem is that the PUC Vodovod Surdulica has a very low estimated average collection rate. Also it should be emphasized that most likely depreciation costs are underestimated, since part of the assets in operation are not recognized in the balance sheet of the PUC, but remain with the PUC.

If properly recognized and depreciated, the losses of PUC Vodovod Surdulica will be even bigger.

As a general rule, in the analysis of this PUC and in the PUC's alike, full cost recovery can only be achieved through economically set tariffs. From the profit & loss of the PUC Vodovod Surdulica in observing years it can be concluded that for the PUC as whole, tariffs are not sufficient to cover the operating costs.

7.5.1.6 Billing and collection system

For those PUCs in the region that operate rendering combined services, billing of the customers is done through a combined invoice covering district heating, solid waste collection and water & waste water services. This is the operating set up for the PUC in Surdulica.

Depending on the PUCs, in Serbia invoices are issued at different time spans, and different methods of addressing non paying clients.

The PUC Vodovod Surdulica delivers invoices monthly to all categories and there is one combined bill for water, sewerage and solid waste. For the Territory of Vlasina Lake, PUC issue bills on the yearly basis.

The PUC delivers invoices through the post office for the residents in residential buildings and businesses. There is also a direct delivery of invoices by the PUC employees - to the consumers living in houses.

The PUC gives its clients different options when it comes to paying for the services. The bills can be paid through commercial banks; directly at the PUC head office counters, and through the Post office, with commission for prompt payments. The PUC has bill collectors in the head office and in the field in charge of water meter reading and collection.

On the issue of complaints, the PUC Vodovod Surdulica has establish a commission for complains, in charge for all kind of communal problems like, break down on home installation and etc. Legal actions for not paying consumers are law suits and switching of the water supply network. Default interest is not being calculated (interest on delayed payments is set out by the NBS at 33% annually).

The PUC gives subventions to social categories of the users that bring the approval from the Social work center. The social categories are obliged to pay bills for water only and amount of money for solid waste is being written off.

According to the current Law on privatization, large companies in the process of privatization, with extensive obligations towards their local PUCs, are allowed to have their debts written off, under the condition that, when they are sold out (privatized). The PUC does not have a record of these claims.

At the year end, during the acceptation of operation performance report the PUC also forms a committee that decides on writing off of the doubtful debts. Managing board is deciding on the write-off proposal. Usually the write-off is allowed for religious institutions, political parties, and sports clubs. None of the PUCs in Serbia makes provisions for doubtful debts, which is a common practice. This can also be attributed to the fact that they are generally operating without making any profit, and there is practically no possibility for the PUCs to make any provisions.

7.5.1.7 Revenues and collection rate by customer groups

Before we begin analyzing the above findings, it should be mentioned that for the PUC Vodovod Surdulica, it was not possible to entirely separate revenues collected for different services, and some of the data supplied by the PUC are their own estimates relying on their operational practice. These PUC are conducting combined services, and are neither technologically equipped, nor professionally skilled to clearly separate their costs and revenues. Therefore, the below findings are only related to the invoiced and collected revenues for water, waste water and solid waste while revenues for other services are not included.

In this paragraph, a breakdown of customers, revenues and collection rates just for the services charged for water supply, waste water and solid waste are provided for

the PUC Vodovod Surdulica included in this Project, and the same will be further analyzed. The following customer groups are distinguished:

- Domestic users
- Industries and small businesses
- Institutions/budget organizations

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Assessment of Collected Revenues relaying on their operational practice from the rendered services base on the accounting department estimation summarize the average collection rate per customer group for in 2007.

Table 7.68: PUC Vodovod Surdulica Revenue and Collection rate - water supply 2007

No	Consumers/categories	Tariff/m3 (no VAT)	Consumption in m3	Annual revenue RSD '000	Average collection rate%	Revenue collected RSD '000
1	2	3	4	5(3x4)	6	7(5x6)
1	Households	12,00	890.979	10.692	80%	8.553
2	Public institution & industry	39,35	265.779	10.458	50%	5.229
	Total		1.156.758	21.150	65%	13.783

Table 7.69: PUC Vodovod Surdulica Revenue and Collection rate – waste water 2007

No	Consumers/categories	Tariff/m3 (no VAT)	Quantity in m3	Annual revenue RSD '000	Average collection rate%	Revenue collected RSD '000
1	2	3	4	5(3x4)	6	7(5x6)
1	Households	3,00	567.632	1.703	80%	1.362
2	Public institution & industry	12,02	260.328	3.129	50%	1.565
	Total		827.960	4.832	61%	2.927

Table 7.70: PUC Vodovod Surdulica Revenue and Collection rate-solid waste 2007

No	Consumers/categories	RSD/m²/month/without VAT	Surface '000 m²	Revenue/ annually RSD '000	Average collection rate%	Revenue collected RSD '000
1	2	3	4	5 (3x4)	6	7 (5x6)
1	Housing surfaces	1,8	323	6.977	80%	5.603
2	Public institution & industry	3,6	109	4.727	50%	2.363
	Total		432	11.686	68%	7.966

It could be observed that in the Municipality Surdulica the lowest collection rate was achieved with the industry and institutional consumers at **50%**, which is relatively low, while categories of households had the average collection of **80%**.

Out of the total of RSD 21 million (€ 264.000) which the PUC Vodovod Surdulica invoiced for **water services** in 2007, the amount collected from various groups of consumers was little over RSD 13,7 million (€ 172.000). On the average collection rate in the Municipality of Surdulica was **65%**.

Out of the total of RSD 4,8 million (€ 60.000) which the PUC Vodovod Surdulica invoiced for **waste water services** in 2007, the amount collected from various groups of consumers was little over RSD 2,9 million (€ 36.000). On the average collection rate in the Municipality of Surdulica was **61%**.

The PUC Vodovod Surdulica for **solid waste** related activities invoiced in 2007 RSD 11,6 million or (€146.000). The amount collected from various groups of consumers was little over RSD 7,9 million (€ 99.000). On the average collection rate in the Municipality of Surdulica was **68%**.

Conclusions

This collection rate of **68%** achieved in the Municipality Surdulica, was the highest achieved average collection rate for the solid waste related activities. The average collection rate achieved for the water related activities was **65%** and **61%** for the waste water services. In total the average collection rate for the water, waste water and solid waste services in the Municipality of Surdulica was **66%**.

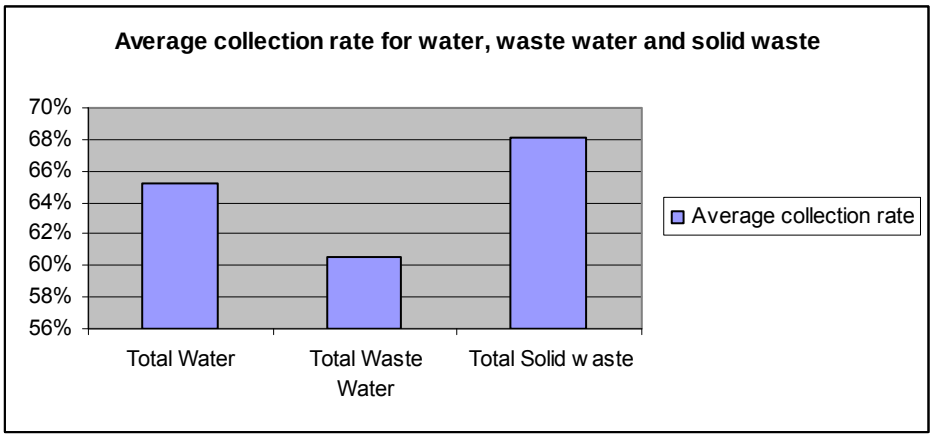
The table and Chart below clearly illustrates and confirms the conclusions of this paragraph.

Table 7.71: PUC Vodovod Surdulica Revenue and Collection rate, water, waste water, solid waste 2007

No	Categories	Annual revenue RSD	Average collection rate %	Revenue collected RSD
1	**Total Water**	21.150	65%	13.783
2	**Total Waste Water**	4.832	61%	2.927
3	**Total Solid waste**	11.686	68%	7.966
	Total	**37.668**	**66%**	**24.675**

This poor performance of the PUCs could be attributed to the traditional picture that reflects the situation of the majority of Municipalities in Serbia. There are the industries that are inefficient or non - performing, high unemployment rate, and the PUCs are also facing organizational and performance problems, centralized tariff system (government controlled).

Figure 7.8: The Average collection rate for water, waste water and solid waste related activities in the Municipality Surdulica in 2007



The explanation for such low collection rates is within the fact that the economy of the region is facing extensive transition problems. Almost all of the municipalities in Pcinja region are classified by the Ministry of Economy and the Government of Serbia as underdeveloped municipalities (with the 35% lower net salary in 2007 than the Serbia average).

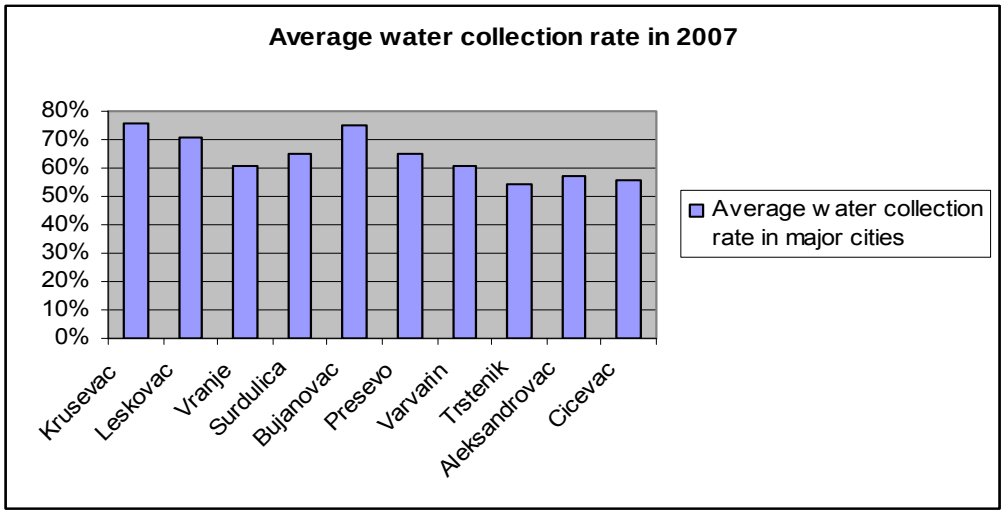
Tables and Chart below represent the Summary of consumption, annual revenues, average collection rate and revenue collected in major cities in a neighbourhood for water services.

Table 7.72: Summary consumption, annual revenues, collection rates and revenue collected in major cities, water services 2007

No	Municipality	Consumption in '000/m3	Annual revenue RSD '000	Average collection rate %	Revenue collected RSD '000
1	2	3	4	5	6
1	**Krusevac**	8.963	226.450	76%	172.080
2	**Leskovac**	6.859	160.231	71%	113.492
3	**Vranje**	4.478	116.996	61%	71.856
4	**Surdulica**	1.157	21.150	65%	13.783
5	**Bujanovac**	1.353	39.419	75%	29.618
6	**Presevo**	518	7.770	65%	5.051
7	**Varvarin**	217	4.926	61%	3.017
8	**Trstenik**	1.760	36.276	54%	19.699
9	**Aleksandrovac**	1.224	32.993	57%	18.819
10	**Cicevac**	463	7.308	56%	4.089

*Source: MIASP-Royal Haskoning water & wastewater feasibility studies 2007

Figure 7.9: Summary collection rates in major cities, water services 2007



Our recommendation is that the PUC Vodovod Surdulica has to introduce separate record of invoices of communal services (water, waste water and solid waste) per customer group/tariff during one fiscal year. Thus, the PUC will have accurate information on invoiced and collected revenue during the year in question.

7.5.1.8 Capital structure of PUC Vodovod Surdulica

The PUC Vodovod Surdulica was founded in 1965. The PUCs, as majority of public utility companies in Serbia is organized as a 100% state owned companies. Therefore the Municipalities of Surdulica have majority rights of management. Ever since founding of the PUC in the Municipality Surdulica, there was no change in the capital structure.

However with the Government plans on privatizing public companies, there will definitely be some change in the capital structure of public utility companies in the near future.

The tables below represent the ownership structure of PUC Vodovod Surdulica.

Table 7.73: Ownership structure PUC Vodovod Surdulica 2007

No	Capital	'000 RSD	Structure (%)
1	**Shareholders capital**	-	-
2	**Public capital**	93.276	100%
3	**Other capital**	-	-
	Total Capital	**93.276**	**100%**

7.5.2 Working Capital of PUC

7.5.2.1 Accounts receivable and bad debts

Accounts receivable
The tables below show a list of major debtors of the PUC Vodovod Surdulica, for the year 2007. In 2007, five major debtors owed to the PUC Vodovod Surdulica 14% out of the total accounts receivable.

- In 2007, only one company owed to the PUC Vodovod Surdulica 5% of the total accounts receivable. This was the "Minerva", factory producing textile products. The other major debtor was "Dunav" osiguranje, Belgrade, insurance company with 4% debt of the total accounts receivable. Households owed to the PUC 25% in 2007of total account receivable.

Table 7.74: Major debtors 2007 RSD ('000)

No	Debtor	Place	RSD ('000)	% of Total A/R
1	**Minerva**	Surdulica	1.206	5%
2	**Dunav osiguranje**	Beograd	937	4%
3	**Aca R Autoprevoz**	Surdulica	480	2%
4	**Zavod za javno zdravlje**	Vranje	336	1%
5	**Toncev gradnja**	Surdulica	308	1%
6	**Households-citizens**	Surdulica	5.634	25%
	TOTAL		**8.900**	**39%**
	Account receivables		**22.577**	**100%**

*Source: the JKP Vodovod Surdulica accounting department 2007

Total accounts receivable amounted to RSD 22 million (€ 282.000) in 2007.

Bad debts
In respect to bad debts, the PUC Vodovod Surdulica has up to an extent developed a consistent policy of writing off bad debts after a certain period of time, or after a certain event.

At the year end, during the acceptation of operation performance report the PUC also forms a committee that decides on writing off of the doubtful debts. Managing board is deciding on the write-off proposal. Usually the write-off is allowed for religious institutions, political parties, and sports clubs.

None of the PUCs in Serbia makes provisions for doubtful debts, which is a common practice.

7.5.2.2 Accounts payable

For the year 2007, the PUC Vodovod Surdulica owed to their creditors RSD 9 million. Out of this, the 4 largest creditors in 2007 had claims totaling RSD 7,3 million (81%).

Table 7.75: Major creditors 2007 RSD ('000)

No	Creditor	Place	RSD ('000)	% of Total A/P
1	**Mackatica**	Surdulica	5.490	61%
2	**Zdrastveni centar**	Surdulica	785	9%
3	**HUP Europa**	Surdulica	683	8%
4	**Knauf**	Surdulica	364	4%
	TOTAL		**7.322**	**81%**
	Accounts payable		**9.049**	**100%**

*Source: the JKP Vodovod Surdulica accounting department

In the above tables are some of the most important findings of the major creditor's of the PUC Vodovod Surdulica in 2007. The total outstanding debt, accounts only to the total outstanding debt for the 4 major observed creditors in 2007. Therefore the ratios are given in accordance to major creditors.

- In 2007, one major creditor was "Mackatica", with 61%, of total account payable followed by the "Zdrastveni centar" with 9%, HUP Europe with 8%, and Knauf Surdulica - construction factory with 4% of the total account payable.

Until now, the creditors have not imposed any legal measures against PUC. The existing debts toward creditors are settled by means of negotiations and good business practice. Creditors are ready to wait for the PUC and the only measure imposed, is usually an interest and/or penalty fee.

7.5.2.3 Tax settlements

Main taxes payable by the PUC are value added tax (VAT) and payroll related taxes and statutory contributions. Corporate tax is also applicable however in the absence of profits this is usually negligible.

The PUC Vodovod Surdulica follows the regulations prescribed by the Law on Value Added Tax which states that VAT has to be paid on the 10th of the current month for the previous month. Regulations for taxes on salaries and all other taxes payable to the tax authorities are also prescribed by law for settling each category of taxes.

All of these taxes are paid in cash. No evidence was found on any in kind tax settlements.

7.5.3 Assets

Except for land, capital assets are depreciated each year and the total accumulated depreciation is deducted from the original cost. With the exception of land, capital assets wear out in time or otherwise lose their economic usefulness. Between the time when a given asset is acquired and when it is no longer economically useful, a decrease in its value takes place. This loss in value over a period of years is known as depreciation. Depletion is a term applied to tangible fixed assets, whereas amortization is a term sometimes used to describe the writing off of intangible assets such as patents and trademarks.

All the purchases during the observed years 2005 to 2007 are valued at historical cost.

Depreciation is calculated based on the historical value of the real estates, installations and equipment, and intangible assets applying the linear method.

Table below represent the Summary of PUC Vodovod Surdulica assets.

Table 7.76: PUC Vodovod Surdulica Assets at 31.12.2007 (RSD '000)

No.	Item	Land	Buildings	Equipment	Plants/ equipment in preparation	Total
1	**Purchase value (01/01/07)**		89.344	101.696	14.789	205.829
2	**Additions**			821	6.683	7.504
3	**Disposals**			1.947		1.947
4	**At end of year (31/12/07)**		**89.344**	**100.570**	**21.472**	**211.386**
5	**Accumulated**		47.260	70.371		117.631
6	**Additions**		2.309	5.633		7.942
7	**Depreciation**		2.309	5.633		7.942
8	**Disposals**			1.846		1.846
9	**At the end of year (31/12/07)**		**49.569**	**74.158**	**0**	**123.727**
10	**Net book value 31/12/07**		**39.775**	**26.412**	**21.472**	**87.659**
11	**Net book value 31/12/06**		**42.084**	**31.325**	**14.789**	**88.198**

*Source: the JP Vodovod Surdulica 2007 financial statement

The PUC Vodovod Surdulica in accounting policies has chosen the historical value model so that, upon initial recognition, assets (land, buildings, equipment, etc.) are expressed by purchasing value reduced by total value correction justified by depreciation and loss due to value underestimation.

Changes having occurred on assets (land, buildings, equipment, etc.) during the year are new purchases, depreciation calculation, and fixed assets disposal.

By applying the proportional calculation method, depreciation calculation for construction facilities is as follows: RSD 2.309.000, plus RSD 5.633.000 for the equipment, in total RSD 7.942.000.

Total net asset value for land equipment and buildings as at 31 December 2007 is RSD 87. 659 million (€ 1,09 million). Plants and equipment in preparation were not depreciated in 2007.

As we have seen earlier through the analysis of the Profit and Loss statement, depreciation costs are generally very limited at only 13% of total costs during the period 2005-2007. This proves the fact that the equipment and other assets are almost entirely depreciated.

The major categories of assets are depreciated annually at the following rates:

- Buildings (and civil objects) 1,3% - 2%
- Equipment 4% - 18%

These rates are in accordance with the government regulation, and are applied respecting the instructions from the Treasury department. By these instructions, fixed assets are depreciated annually, at the end of the fiscal year.

In respect to revaluation the PUC does not regularly revaluate their fixed assets. In an inflationary environment, this might lead to the understatement of the real valued of the fixed assets if this is valued at historical cost.

7.5.4 Conclusions about PUC financial performance

The PUC Vodovod Surdulica, operating with losses from the core activities in the analyzed period.

In general, the PUCs in Serbia do not incur any long term interest bearing debt. The PUC Vodovod Surdulica facing the significant liquidity problems throughout the years and it's a common picture for the PUC's in Serbia that they have cash problems and have to rely on short term loans in order to maintain their liquidity. In PUCs in Serbia invoiced services are rarely collected 100%. Commercial bank loans are not used as a source of financing investments or operations.

The indicator of indebtedness exceeds the common benchmark of 10% which is borrowed funds expressed as a share of total revenues and should not exceed 10% of total revenues.

Based on the results of this analysis, it is safe to conclude that if the PUC from Surdulica want to attract finance from the capital market to fund part of the investment it will need to be done through the local government.

7.5.5 Financial self sufficiency and the current use of profits

In our analysis of the PUC Vodovod Surdulica, and through the practice in analyzing other PUC's in Serbia, it is evident that none of these companies is capable of functioning on its own. At best, tariffs are sufficient to cover the direct operating costs. Investments usually are funded directly by the municipality, since these cannot be funded by the PUC from internally generated cash flow. As a result of near zero profits and a low capital base/low depreciation charge, the generated cash flow is only slightly positive.

The PUCs are limited in setting their own tariffs. Any tariff adjustments need to be approved by the municipal council, and since 2006 are regulated by the Ministry of Finance.

Any profits made are added to the internal reserves of the company, rather than paid out as dividend.

7.5.6 Financial management, budgeting practices systems and investment planning

Budgeting system & investment planning

Once per year, a consolidated annual plan and budget is submitted to the Municipal Council for approval. This budget contains:

- A review of last year's operations, including financial overview (budget/realized);
- A descriptive part setting out the plan for the next year;
- A cost/spending budget for the next year;
- An investment plan for the next year, including financing plan;
- A proposed tariff structure for the next year;
- A proposal for operational subsidies from the Municipality.

If approved, this annual plan forms the basis of the operations for the PUC. Problems with this system are:

- Only a 1 year investment and financing plan is prepared. Investments in water/waste water infrastructure are long term in nature, necessitating long term planning and its financing as well;
- Management of the budget is centralized. Monthly management reports compare (cumulative) actual expenditure against the approved budget at the level of the PUC only. No budgets are made available by service line, managed by department heads, nor are costs reordered by service line. Such a hierarchical management system prevents flexibility of operations and actually might lead to higher cost.
- Limited information is available on the actual costs by service; setting of cost based tariffs is therefore next to impossible.

7.5.6.1 Short term and Long term financing

Short term financing

In order to maintain uninterrupted functioning of its company, the PUC has two ways of providing necessary financial means. It is either through borrowing from commercial banks, or through municipal subventions. There is also the third way, and this is that the PUC "acts" as any other company on the market, by participating in tenders, performing other than core activities they are registered for and earning additional revenue. But this is the activity still not widely used by the PUCs (either due to the lack of interest or knowledge how to approach the market)

In respect to subventions from the Municipality of Surdulica, the PUC Vodovod has to follow a rather strict procedure in order to obtain any funding. The PUC has to provide a list of documents that is often more extensive than the list of documents required by a bank for a commercial loan. However, the Municipality, by their decisions, also apportions some minor subventions to the PUC. According to the P&L statement PUC Vodovod Surdulica has a record of minor subventions from the Municipality in 2007 of RSD 1,7million.

Long term financing
The PUC Vodovod Surdulica in analyzing period does not have a record of long term loans.

It is a general rule that every PUC in Serbia has to rely on the Municipality for any long term borrowing. This is mainly because the commercial banks have strict rules as to granting loans, and these requirements could hardly be met by the PUCs.

7.5.7 Summary and conclusions

Main findings for the observed Municipalities:

- The PUC Vodovod Surdulica operates below 0% net profit.
- Substantial operational subsidies were received from municipalities to fund non revenue generating activities (street cleaning and etc.);
- Labor costs form the largest share of total costs, reaching 66% in 2007. The share of labor costs in total costs is increasing over time;
- Depreciation costs are relatively low and range from 10% to 14% of total costs.
- The PUC facing the significant liquidity problems throughout the years.
- The PUC operates at a cash flow that is below expectations for one utility company. The generated cash flow is insufficient to finance investments; most investments are funded directly by the Municipality or are provided for with capital subsidies;
- Collection rate is low at 66% during 2007, collection rate average is lowered by both industries and institutional;
- For PUC in Surdulica current tariffs is not sufficient to cover operating costs although for PUC the level of operational subsidies and the costs which they are supposed to cover is difficult to assess in the absence of a cost centre based financial management system;
- Fixed assets are not revaluated regularly. In an inflationary environment, as has been the case in Serbia, this leads to the understatement of the asset base in the balance sheet, but also to the understatement of the depreciation charge and might lead to tariffs being set at below cost recovery levels.
- PUC do not make provisions for doubtful debts
- The PUC prepare annual plans and budgets, in conformity with guidelines provided by the Ministry of Finance. There is no multi year planning, integrated with this annual planning & budgeting cycle;
- Management of the budget is centralized at director level;
- There is no tariff setting formula or procedure, since it is currently national policy to cap tariff increase with the estimated inflation for the next year;
- The top 5 of large debtors of the PUC account for 14% of total accounts receivable during the year 2007.
- The top 4 of largest creditors of the PUC account for 81% of total accounts payable during the year 2007.

Main recommendations:

- Review and improve current collection system with the aim to increase the collection rate, revenues and cash flow. Both billing hardware/software and collection procedures can be improved (train the employees to use computers, to speed up the data entering process)
- Introduce adequate computer programs to ensure adequate and correct report generating,
- Senior management should not be involved in direct operational execution of the subordinate employee's assignments. Very often this leads to miss- presentation of data, instead the management should be more focused on the organizational issues, defining better the origin of costs for their numerous services and improve their planning.
- Establish a bad debt policy, including provisioning for bad debt, and make a one time clean up of the debtor database/accounts payables;
- Improve current financial management system by establishing a cost centre based financial management system. In relation to this, establish a more decentralized budgeting and financial management system;
- Based on the improved financial management system, agree on a cost based tariff setting formula or procedure. This is also useful if tariffs continue to be capped, since it serves as facts based information on the required level of tariff;
- Establish a long term financial planning system and integrate this with the annual planning & budgeting cycle;

In general, the PUC's in Serbia do not incur any long term interest bearing debt. Commercial bank loans are not used as a source to finance investments or operations. These loans are used only to cover cash shortage to maintain their daily liquidity.

Also, a common picture for the PUC's in Serbia that they have cash problems and have to rely on short term loans in order to maintain their liquidity. Invoiced services are rarely collected 100%, and this is the major reason for cash shortage, and together with low tariffs the reason why the PUC's cannot reach full cost recovery.

Since PUC's are non profit generating companies, and as a general rule operate at 0% profit, due to this fact, it is quite difficult for the PUC's to draw investment loans at the capital market. This is a common feature of PUC's in Serbia and in most cases PUC's are approaching capital markets only with the support of their local governments. In these cases, PUC's get the proceeds of a loan, but the local government carries the liability and only sometimes on-lends this to their PUC's.

The PUC's in Serbia rely on their founders, the Municipalities, for capital borrowing for any major investments.

7.6 Municipal budget analyses and creditworthiness assessment

7.6.1 Introduction

The PUC of Surdulica geographically belongs to the Pcinja region. Like every other PUC in Serbia it is founded and owned by the local government, and their functioning is directly influenced by the local government. This influence is reflected in all segments of their operations especially in relation to financial matters (tariff and salaries increase, investment planning, etc). Local government representatives form the majority in the managing boards of the PUCs, which are entitled to propose tariffs for the services the PUCs deliver to the public. Moreover, the proposed tariffs only become effective if the municipal assembly approves upon them.

In order to support low income households, tariffs are usually set at a minimum level, that is, at a level at which the PUCs can recover their operating costs without making any profit. As for depreciation costs, which are supposed to recover investments in long-term assets, the PUCs include them in their costing schemes in accordance with accounting laws and other laws and regulations. However, the problem with this cost scheme is that the assets of the PUCs were worn out during the nineties while re-investments or capital replacements hardly took place. This means that the PUCs were effectively financing their operations - and very often some other social needs - on the expense of their capital asset base. As a result of this policy, most of today's PUCs have a low capital base with corresponding low tariffs. Consequently, they are in a bad position to finance large investments through internally generated cash flow.

Currently, most investments made in assets of the PUCs are financed out of the municipal budget. Municipalities are the source of direct investments and/or the provider of guarantees to the banks for commercial loans. After completion of the investment, the acquired assets are transferred to the PUCs and become part of their balance sheet. The PUCs usually do not have any financial obligation towards the Municipality for these assets. Moreover, if PUCs cannot meet their debts, the local government is legally obliged to assume all liabilities and cover the financial obligations. Therefore, when considering investing in the PUCs, it is important to analyse the financial position and development of the Municipality, as well as the financial position of the PUCs.

The analysis of the budgets of Surdulica Municipality presented below is based on data from official reports, submitted by municipal budget offices to the Ministry of Finance at the end of every budget year, in accordance with the current budget law.

7.6.2 Analysis of the national and local context

The current legal basis for local budget revenues is governed by the Law on Local Self-Government from 2002. Since then, the financing of local governments went through some changes:

- In 2004, the local governments' share of revenues based on salary fund tax was discontinued. In order to compensate this decrease in revenues to local budgets, the share of local governments in income taxes was increased from 5% to 30%. In addition, the share in sales tax was increased in favour of a number of selected poorer Municipalities.

- From January 2005 and onwards, sales tax has been replaced with Value Added Tax (VAT). This change affects the way in which local government budgets acquire their revenues. Instead of sharing the sales tax with the National government, the VAT goes directly to the central fund, from which local governments get their share.

- In 2006, a new Law on local government finance has been adopted. The Law became effective on June 23rd, 2007. The main change is the decentralization of property tax. Property tax used to be collected by local offices of the National Government and than distributed to local governments. Now, property tax is directly collected by local governments, enabling them to broaden their own tax base. Consequently, a unit for collecting property tax is established at the local level and the related expenditure is to be borne by the local government.

According to the new Law, the local government budgets obtain revenues from three main sources:
- original revenues: the local government can set taxes and collect revenues at local level;
- shared revenues: allocating or sharing the revenues with the National government; and
- transfers from National government. This source is defined separately, but since it is coming from central funds it might be considered as a specific type of shared revenues.

Original revenues
The original revenues of local government budgets comprise:
- local fees – administrative, communal and tourist fees;
- charges on construction land – charges for utilization and development of the city construction land;
- other revenues – different revenues (e.g. charges for natural resources, charges on sales of assets, interest on deposited budget funds). Generally, these revenues are small compared to the above two sources, although in particular cases these can provide substantial revenues;
- self-contribution – this revenue can be introduced through local referendum. By definition, it is used for development of local capital infrastructure;

- donations – donations can come from different sources such as central level, international organizations and other. In this case, they are going directly to the local government;
- property taxes – according to the new Law on local government financing, taxes on property of the private and legal entities are becoming original revenues. However during the initial phase, the Republic will for a certain period control the spending of money from property taxes;
- tax on passing the absolute rights – from (June 23rd, 2007) reduced from 5% to 2.5%.

Shared (allocated) revenues

The second large group of local budget revenues consists of revenues that are allocated by national level to the local level. According to the legal terminology, these are called allocated revenues. These revenues consist of:

- income taxes – a number of taxes on different personal incomes generated from different sources (agriculture and forestry, private business activities, immovable property, leased movable property), prices in games of chance, personal insurance, part of the salary tax and others. This tax was lowered from 18% to 12% by the Law on income tax in 2006;
- property related taxes – taxes on inheritance and gift tax, taxes on transfer of absolute rights and on goods and services;
- different charges on assets of public interest – charges for the utilization of different assets of public interest like mineral raw materials, river material, forest land, agricultural land, public roads, environmental protection and environment, and investments;
- privatization revenues – part of the funds (5%) collected through the sale of capital in the privatization process that is taking place within the municipal territory;
- transfers – transfers from National government. The new Law on local government finance introduces a wide array of transfers: categorical and non-categorical transfers (which include equalization transfers), compensation, transitional, general and block transfers.

Revenues for funding capital expenditure

The investment capacity and creditworthiness of local budgets depends on the efficiency of the overall local financial management, which includes the capacity for generating revenues as well as the way in which these revenues are spent. Certain revenues are especially important for funding capital expenditure. These are:

- land use development charge – revenue directly related to local investments, paid by investors who are planning to invest in construction on land within municipal boundaries. The investor is obliged to pay this charge when he is the owner of the specific construction site, but also when he has the right for using it or the right to erect objects on it. The charge is set in accordance with the costs of developing the site, the purpose of the object and the city zone. Setting the base and rate of this charge is under the jurisdiction of local government;

- land use charge – used to cover the costs of maintenance of local infrastructure and set in accordance with the costs of maintenance. This charge is also under the jurisdiction of local government;
- revenue from renting the city assets – revenues from renting immobile and mobile assets of the local governments are original revenues. They are supposed to be used exclusively for capital investments, but since this is not strictly prescribed by law, in certain cases they are used for covering costs of current operations;
- self-contribution – a traditional revenue source of local government that is to be used for capital investment of special local communities needs such as water supply, roads etc. The contribution is raised and set by local referendum;
- privatization revenues – according to the Law on Privatization, 5% of the proceeds received from selling state or socially owned companies on the territory of the Municipality is going to the local government budget;
- National Investment Plan (NIP) funds – by end of the year 2006 the Government of Serbia had adopted the NIP for the Serbian economy for the first time, covering the period 2006 – 2011. The NIP covers all vital economic sectors, employing and allocating on a national level the surplus of the funds from the process of privatization. Due to the increase in citizens' savings and the implementation of a number of economic reforms, the budget of the State of Serbia showed a significant surplus, thus making favourable conditions for developing a concise plan on financing public investments. Municipalities were invited to apply for investment funding;
- Donations – from the year 2000, donations, especially from international funds, became an important source of funding capital investments at local government level. In the near future, local government is still planning certain financial inflow from this source, but in the mid and longer period, it is expected that this will decrease. It is expected that accession towards the EU will enable further funding through the EU's new Instrument for Pre-Accession (IPA);
- transfers – a relatively new type of revenue for Serbian local government. Until 2005 these transfers were relatively small. It is expected that after the introduction of the new Law on local government finance there will be a considerable increase in transfers and that transfers will become very important for local governments;
- property tax – from June 23rd, 2007, local government has taken over the control of property tax from the Republican level. Effective from the same date, the taxation rate for tax on passing the absolute rights is reduced from 5% to 2.5%. However, lowering of the tax rate on passing the absolute rights does not mean that the local government will be less motivated to collect this revenue. Establishment of the local tax administration is considered to be a big change as such and it is expected that this might generally increase fiscal capacity of local government in Serbia.

7.6.3 Municipalities financial operations

7.6.3.1 Municipal Budget Revenues

As elaborated upon above, the revenues of the Serbian Municipalities consist of two main groups of revenues: own or, so called, original revenues (the revenues that local governments control, both in defining its level, as well as in collecting it) and the allocated or, so called, shared revenues that are collected by and than distributed from the central level. The new law on local government finance introduces new types of revenues like transfers, which in general could be treated as allocated revenues. Transfers for capital investments are apportioned through the National Investment Plan. This means that the Municipality has to present a well thought-out plan to the relevant Ministry, for the investment they wish to be financed.

In the last few years, Municipalities in Serbia did not have legal possibilities to make use of capital markets as a funding source for capital investments, until the new law on budget system was introduced in 2002. Reforms of public finance, especially at the local level, are developed to increase general autonomy of local government, including financing and ability to borrow funds for investments.

The budget of Municipalities is prepared on the basis of a unified budget classification system, which is a functional, economic and organizational classification in accordance with the Budget System Law. All the revenues are planned based on the budget realization from previous years and the plan for current year, which is in accordance with the Memorandum on the budget for that year (2008).

At the moment of writing, the Municipality of Surdulica have submitted Budget realization for the analysis of 2007 and rebalance of plan for 2008, since the annual budget reports are to be submitted for approval to the Ministry of Finance on March 31st. Therefore actual findings for the year 2008 will be somewhat different than presented in this study after budget approval.

Budget revenues Municipality of Surdulica
The data in the table below shows the limited improvement of the financial autonomy of the Municipality of Surdulica, which is the result of the policy of the Ministry of Finance during the last 4-5 years as it was explained above, which is showed in

Table 7.. The same trend can be seen in other Serbian local governments too.

Table 7.77: Budget revenues of Surdulica Municipality

Type of revenues	2005 a		2006 a		2007 a		2008 plan	
	RSDm	%	RSDm	%	RSDm	%	RSDm	%
Original revenues	**31**	**18%**	**42**	**20%**	**65**	**28%**	**77**	**22%**
Fees (administrative, communal, tourist)	16	9%	27	13%	33	14%	35	10%
Land development charge	9	5%	7	3%	9	4%	15	4%
Property tax				0%	12	5%	15	4%
Other	6	3%	8	4%	11	5%	12	3%
Allocated revenues	**139**	**79%**	**165**	**80%**	**171**	**72%**	**230**	**67%**
Sales tax		0%		0%		0%		0%
Income tax	88	50%	96	46%	84	36%	96	28%
Property tax	12	7%	12	6%		0%		0%
Property tax & tax on passing the absolute rights	4	2%	7	3%	5	2%	6	2%
Transfers	32	18%	46	22%	80	34%	125	36%
Other	3	2%	4	**2%**	2	1%	3	1%
Privatization revenues	5	3%	1	0%	-	0%	1	0%
Credits		0%		0%		0%	20	6%
Revenue from previous year		0%		0%		0%	17	5%
International donations		0%		0%		0%		0%
TOTAL REVENUES	**175**	**100%**	**208**	**100%**	**236**	**100%**	**345**	**100%**

*Source: The Municipality of Surdulica budgets

- Original revenues

The most important source of original revenues is the different fees that local governments are entitled to introduce and collect. The share of the Municipality's own (original) revenues in total revenues in the budget ranged between 18% and 28% in the period 2005 to 2007. The plan for 2008 shows a decrease in the share of original revenues to 22%, which will be mainly caused by the decrease in the share of fees, property tax and the other original revenues like: (revenues from renting real estate owned by the state for the usage of municipal bodies, revenues from municipality management bodies, etc).

In addition, due to the change in Law on local government finance in 2007, the local government has taken over the control of property tax from the Republic level. This was 5% of the total original revenues in 2007 and is likely to increase comparing with 2007 for almost 25% in 2008.

- Allocated revenues

For allocated revenues, the most significant source is income tax, which ranged from 50% in 2005 to 36% in 2007 of total revenues, and plans for 2008 record a further decrease of share to 28% of total revenues. However, lowering this tax from 18% to 12% by the Law on income tax will not have a positive effect on this revenue in later years, although this might be compensated by an increase in income.

The share of allocated revenues changed from 79% in 2005 to 72% in 2007. The decrease is likely to be caused by the gradual introduction of property tax collection. The plan for 2008 shows a decrease in share of allocated revenues to 67%, which is mainly cause by a decrease of share in income tax.

The sales tax being replaced by VAT and the introduction of transfers from the Republican level had an influence on the budgets, although this change came into place before 2005. However, the share of transfers was not as high as the revenue collected through the sales tax. It was only at the start of 2007 as a result of the new Law on public financing that changed this situation. The transfers apportioned for the Municipality of Surdulica were then set at RSD 80 million (€1 million), which is a 74% increase compared to 2006. Transfers will further increase in 2008, likely by 56% compared to 2007. This does not necessarily represent the final amount; due to the fact that additional revenues can also be approved in the Budget rebalance.

- Privatization revenues

Revenues from privatization are recorded in 2005 of RSD 5 million, because many companies in the Municipality had already been privatized. From those companies that are still in line to be privatised, the Municipality of Surdulica plans to generate an additional RSD 1 million in 2008.

- Credits

In to respect to loans, the Municipality of Surdulica does not have a records of credits during the last few years. The plan for 2008 records a RSD 20 million loan. During 2008 the Municipality did not realize this loan.

- Revenues from previous years

The surplus of budget revenues in relation to expenditures in the previous year is advanced to the next budget year as budget revenue. For 2008 the Municipality plans to have a surplus of budget revenues of RSD 17 million (€ 212.500).

- International donations

In the observing years the Municipality of Surdulica did not record any international donations.

7.6.3.2 Municipal Budget Expenditures

All Serbian Municipalities spend their budget predominantly within the following three areas:

- Financing work of local government administration and governmental bodies, i.e. the municipal council and Mayor Office.
- Financing social functions that are under local government competency, like education, sport and culture. These institutions are financed by means of transfer of funds.

- Investments, mostly in local infrastructure.

According to Serbian budget laws, there are no legal restrictions to use allocated revenues, as these revenues have a general nature. However, Serbian Municipalities are obliged to fund certain social functions, like communal services, material cost of educational institutions, provision of cultural and sport activities, etc. The level of funding of these services and functions is to be decided by the Municipality. So, formally local budget expenditures are discretionary, i.e. local governments can independently decide the level of funding for each function.

Having this in mind, it is understandable that the relative share of certain expenditures vary between different Serbian Municipalities. Still, a general standard is that Municipalities are spending around 1/3 of the total budget to each of the three groups of expenditures listed above. The Municipality of Surdulica also follow this 1/3 budget spending pattern.

Budget expenditure of the Municipality Surdulica
The following table elaborates on the budget expenditure of the Municipality of Surdulica.

Table 7.78: Budget expenditure Surdulica Municipality

Type of expenditure	2005 a		2006 a		2007 a		2008 plan	
	RSDm	%	RSDm	%	RSDm	%	RSDm	%
Municipal bodies and administration	57	32%	69	35%	84	35%	119	34%
Social functions (education, sport, culture, welfare)	40	22%	39	20%	49	20%	40	12%
Reserves	-	0%	-	0%	-	0%	14	4%
Funds-residential & others	4	2%	3	1%	2	1%	5	1%
Subsidies	4	2%	20	10%	25	10%	67	20%
Current subsidies	4	2%	20	10%	25	10%	67	20%
Capital subsidies	-	0%	-	0%	-	0%	-	0%
Other budget expenditure	73	41%	65	33%	81	34%	99	29%
Total Repayment of Principal	0	0%	0	0%	0	0%	0	0%
TOTAL EXPENDITURE	**179**	**100%**	**195**	**100%**	**240**	**100%**	**345**	**100%**

*Source: The Municipality Surdulica budgets

The spending of the municipal bodies in the Municipality of Surdulica, amounted to an average 34% in the observed period 2005 – 2008. Social functions amounted to an average of 19% in the period 2005 to 2008. Finally, the funds for capital investments are allocated through the capital subventions or directly to the budget beneficiaries.

Although municipal accounts do separate between capital and current accounts, little attention is paid to a strict separation of the two types of expenditure.

Frequently, current and investment expenditures are mixed up. Actual expenditures of subventions given to public utility companies are not reflected in the municipal accounts. Subventions for the capital projects are accounted for as current expenditure, although the bulk of the funds provided are spent on capital projects. The plans for 2008 show an increase of subsidies to 174% compare with 2007 and 20% share of total expenditures in 2008.

Other budget expenditures amounted to an average of 34% share in observing years and mainly comprise of: donations to non-government organizations, fines and penalties imposed by courts of law or judicial bodies.

Expenditures review of Public companies Tourist Organization and Directorate for construction land and roads in the Municipality of Surdulica

This paragraph and tables below provides more detail overview about the total expenditures and source of revenues of Budget beneficiaries: PC Tourist Organization and PC Directorate for construction in the Municipality of Surdulica according to the budget plan for 2008.

Table 7.79: Total expenditures and source of revenue of PC Tourist organization 2008

Econom clasific	Description	M. Budget 2008 plan	Own revenue	Total RSD (000)	%
411	Salaries, allowances and compensations for employees	2.050		2.050	**20%**
412	Social contribution (by employer)	367		367	3%
414	Employee social benefits	20		20	0%
416	Awards, bonuses and special payments	50	180	230	2%
421	Continues cost	150	624	774	7%
422	Travel cost	50	540	590	6%
423	Contract Services	50	556	606	6%
424	Specialized Services	100	406	506	5%
425	Current repair and maintenance	100	156	256	2%
426	Supplies	100	1.004	1.104	**11%**
482	Taxes, compulsory fees, and fines	20	100	120	1%
483	Fines and penalties imposed by courts of law		117	117	1%
511	Buildings and structures		636	636	6%
512	**Machinery and equipment**	1.000	424	**1.424**	**14%**
515	**Intangible assets**		106	**106**	**1%**
523	**Goods for resale**		500	**500**	**5%**

Econom clasific	Description	M. Budget 2008 plan	Own revenue	Total RSD (000)	%
	Residence fee				
423	Contract Services	500		500	5%
424	Specialized Services	50		50	0%
426	Supplies	550		550	5%
	TOTAL	**5.157**	**5.349**	**10.506**	**100%**

*Source: The Municipality Surdulica budgets
*Total Expenditures for PC equal to the sum of the Municipal Budget expenditures and own revenues

In the structure of PC Tourist organization, the plan for 2008 is to spend on salaries 20% of total expenditures. Supplies of material participated with 11% and capital expenditures (*economic classification 512, 515 and 523*) participated with RSD 2 million or (20%) of total expenditures.

Table 7.80: Total expenditures and source of revenues of PC Directorate for Construction land and roads; 2008

Econom clasific.	Description	M. Budget 2008 plan	Own revenue	Total RSD (000)	%
411	Salaries, allowances and compensations for employees	7.184		7.184	**13%**
412	Social contribution (by employer)	1.098		1.098	2%
413	Compensation in kind	20	40	60	0%
414	Employee social benefits	30	40	70	0%
415	Compensations for employees	30	40	70	0%
416	Awards, bonuses and special payments	250		250	0%
421	Continues cost	700		700	1%
422	Travel cost	20		20	0%
423	Contract Services	450		450	1%
424	Specialized Services	33.500		33.500	**61%**
424a	**Management of Vlasina area**	**4.500**	**1.800**	**6.300**	**11%**
425	Current repair and maintenance	150		150	0%
426	Supplies	1.700	156	1.856	3%
451	**Capital subsidies to public non-financial enterprises and organizations**	**2.400**		**2.400**	**4%**
482	Taxes, compulsory fees, and fines	100		100	0%
483	Fines and penalties imposed by courts of law		200	200	0%
512	**Buildings and structures**		**800**	**800**	**1%**

Econom clasific.	Description	M. Budget 2008 plan	Own revenue	Total RSD (000)	%
	TOTAL	**52.132**	**3.076**	**55.208**	**100%**

*Source: The Municipality Surdulica budgets
*Total Expenditures for PC equal to the sum of the Municipal Budget expenditures and own revenues

In the structure of PC Directorate for construction, the plan for 2008 is to spend on salaries 13% of total expenditures. Specialized Services participated with RSD 33 million (€ 418.000) or (61%) of total expenditures. The PC Directorate for the purpose of management of **Vlasina lake area** received from the Municipal budget RSD 4,5 million and provide RSD 1,8 million from the own sources. The total available amount is RSD 6,3 million (€ 78.750) or (11%) of total expenditures.

Capital investments *(capital subventions economic classification 451 and capital expenditures economic classification 512)* participated with RSD 2,4 million or (4%) and RSD 800.000 or (1%) of total expenditures.

These expenditures have been financed from the Municipal budget revenues transferred to the PC and the PC own revenues.

The financial departments of the PCs in Serbia make their annual activity plans based on the operational plans from the previous year. The 2008 year plans were made prior to presenting final financial reports to the National Bank of Serbia. The PCs cannot entirely plan their operating activities due to the fact that PCs are owned by the municipalities, and have to relay partly on the funding (subventions from the municipalities) from the municipal budget. On the other hand, the municipal budget has to be approved by the Municipal Assembly, and upon approval the share apportioned for the PCs can be incorporated in the operational plan of the PC. Municipalities usually have their session at the end of the year and approve on the budget for the next year in March (current year).

7.6.3.3 Municipal Investment Expenditures

The above presented data specify budget revenues and spending in relation to different purposes and/or budget beneficiaries at a rather general level. This paragraph provides more detail about the capital investment expenditure budget of the Municipality Surdulica.

In Serbian Municipalities, four main mechanisms of financing investments can be distinguished:

1. Capital subventions to the municipal entity specifically established to deal with municipal investments and development. Most Serbian Municipalities have this kind of entity, usually called the Agency for Construction and/or Development. This entity used to be a separate public company, but after the local public finance reform from 2002, quite a few were transformed into a budget beneficiary. The scope of work of these departments usually includes spatial

planning and development, and designing and implementation or monitoring of different municipal investment projects.

2. Capital transfers to budget beneficiaries/institutions. In accordance with the Law on Local Self Government, local governments are legally obliged to provide their citizens with certain services like children welfare, culture, sport, cover of the material costs of primary and secondary education institutions, etc. Local government is financing the entities that are providing these services. Both operational as well as capital costs are financed.
3. Capital subventions to the public companies. These include direct transfers of operational and/or capital funds to public companies.
4. Direct investments. In this case, Municipalities are investing directly into certain projects, so that officially the investor is the municipal administration as a whole. De facto, the investor is usually some of the specific municipal administration departments.

Strictly speaking, the first two mechanisms are the same: the transfers are made to entities or institutions founded by local government and they have the status of budget beneficiaries, since their legal framework is defined by the Law of Budget System. The practical consequence of this is that from the financial point of view all of these institutions are part of the local public finance system, meaning that they are financially operating within the local treasury system. The only difference is that in the first case Municipalities are transferring capital funds to one specialized entity, which is then dealing with different investments, while in the second case, each of the entities is supposed to carry out its own investments.

The third mechanism, subventions to public utility companies, is basically different because the transfers are made to the public companies that do not have a status of budget beneficiaries, although they are users of budget funds. Their legal framework is defined by the Law on Companies/Enterprises, which means that they are not operating within the system of public finance. After the transfer of subventions, the further financial flow to and from the public utility companies is out of the local treasury. In other words, their actual expenditure is not reflected in the local government accounts.

The Municipality of Surdulica disburse funds from the local budget to finance capital investments through different channels and institutions. The table below visualise this disbursement.

Capital expenditures Municipality of Surdulica

Table 7.81: Budget capital expenditure – Surdulica Municipality

No	Type of revenues	2005a		2006a		2007a		2008 plan	
		RSDm	%	RSDm	%	RSDm	%	RSDm	%
I	**Capital subventions**	**15**	**39%**	**11**	**32%**	**3**	**10%**	**8**	**15%**
1	**Directorate for construction**	**1**	**2%**	**-**	**0%**	**-**	**0%**	**2**	**4%**
2	Vodovod Water supply	9	**23%**	10	**28%**	-	0%	-	0%
3	Water fund	2	5%	0	1%	-	0%	1	2%

No	Type of revenues	2005a		2006a		2007a		2008 plan	
		RSDm	%	RSDm	%	RSDm	%	RSDm	%
4	Communal infrastructure fund	1	2%	-	0%	-	0%	-	0%
5	Agriculture	-	-	-	0%	1	2%	1	2%
6	Health fund	1	2%	1	4%	1	5%	2	4%
7	Development projects	2	5%	-	0%	1	4%	2	3%
II	**Capital Transfer to other levels**	**23**	**58%**	**21**	**61%**	**27**	**84%**	**32**	**59%**
1	Primary education	15	39%	14	41%	18	57%	22	41%
2	Secondary education	8	20%	7	19%	9	28%	10	18%
III	**Capital expenditures of budget beneficiaries**	**1**	**3%**	**2**	**7%**	**2**	**5%**	**14**	**26%**
1	Public administration	0	1%	1	3%	0	0%	12	22%
2	Public information	1	2%	1	3%	0	1%	0	1%
3	Library	0	0%	0	0%	1	2%	0	1%
4	Tourism	-	0%	-	0%	1	3%	1	2%
IV	**Total I+II+III**	**39**	**100%**	**35**	**100%**	**32**	**100%**	**55**	**100%**

*Source: The Municipality Surdulica budgets

The Municipality of Surdulica established the Directorate for construction which has a status of a budget beneficiary. In the period 2005 to 2007 the funds from the local budget were transferred directly to the Directorate. During 2005 the amount of RSD 1 million or (2%) of total capital expenditure was invested through the Directorate for construction for capital investments. In the 2006 and 2007 municipality did not transferred any found to the Directorate for capital investments. The plan for 2008 is to support the Directorate with RSD 2 million or (4%) of total capital expenditures.

A larger share of total capital expenditures in 2005 and 2006 was recorded in direct investments in the water supply system. In 2005 the Municipality invested RSD 9 million or (23%) in the water system improvement and RSD 10 million or (28%) of the total budget expenditures in 2006.

In 2008 the Municipality according to the rebalance of budget, does not plan to invest in the water supply system and communal infrastructure.

Capital transfers to the other levels in 2008 is to support primary education with RSD 22 million (41%), and secondary education with RSD 10 million (18%).

The plan for 2008 is to switch from capital subventions to capital expenditures of budget beneficiaries. In the structure of budgetary beneficiaries, the plan for 2008 is to support public administration with RSD 12 million (22%), tourism activities with RSD 1 million or (2%). These expenditures have been financed from budget revenues. It should be noted that this Municipality does not always make a clear distinction between the capital and current subsidies, often recording capital subsidies as current.

Another source of finance is the National Investment Plan. The Municipality of Surdulica in 2008 has applied for funding from the NIP and a total of € 1,3 million was appointed to finance a number of projects. Some of them are:

- RSD 18,7 million (€234.000) for Infrastructure development on Vlasina lake;
- RSD 25 million (€ 316.000) for water supply extension;
- RSD 15,5 million (€ 194.000) for sewerage collector main;
- RSD 17 million (€ 217.000) for modernization of communal equipment;
- RSD 25 million (€ 313.000) Sport hall constructions.

In 2009 the Municipality has applied for funding a total € 3,7 million and some of them are:

- RSD 53 million (€ 666.000) for water supply extension;
- RSD 34,2 million (€ 428.000) for sewerage collector in a villages;
- RSD 154 million (€ 1,9 million) for reconstruction of local roads;
- RSD 36 million (€ 450.000) for green market construction;
- RSD 19 million (€ 240.000) Sport court constructions.

It should be noted that these funds are directly paid by the organisation managing the fund at national level and are thus not included in the Surdulica municipal budget.

Table 7.82: Summary capital expenditures of the Municipality Surdulica

No	Municipality	2005 RSD m	2006 RSD m	2007 RSD m	2008 plan RSD m
1	Surdulica	39	35	32	55

During 2007, the Municipality of Surdulica incurred capital expenditures amounting to RSD 32 million, equivalent to € 400,000. The planned capital expenditure budget for the year 2008 increased to RSD 55 million or € 687.500 (Table 7.82). It can be concluded that the Municipality of Surdulica have some but limited investment capacity. The total investment capacity of the Municipality could be increased by attracting external finance from international donors and international banks through loans.

According to the current Budget System Law, Municipalities could borrow up to 50% of current revenues from the previous year's realized budget revenues. The Ministry of Finance regularly publishes these limits and they are applied very strictly. According to the last official release from the Ministry of Finance, valid for the year 2007, the Municipalities can borrow up to the following limits:

Table 7.83: Borrowing limits for the Municipality Surdulica (2007/€ 1=RSD 80)

No	Municipality	Realized revenues 2007		Borrowing limit 2008	
		RSD m	€ 000	RSD m	€ 000
1	Surdulica	234	2.928	117	1.464

Source: Ministry of Finance Serbia

The Municipality of Surdulica did not take any loans in 2007. Therefore for the Municipality of Surdulica the borrowing limit is RSD 117 million or **€ 1,5 million**.

7.6.3.4 Municipal balance sheets

The balance sheets of Serbian Municipalities are burdened with a number of limitations and deficiencies. One of the biggest deficiencies is the fact that during the nineties, the Republic government took over most of the local government property. This has made a tremendous impact on Local Government balance sheets. Some of the Local governments continued to keep record of the assets in their balance sheets. Others stopped doing that, only to restart recording these assets again around the year 2000. Yet another group transferred the bookkeeping of their assets to some of their entities, like the Agency for development. Because of this, balance sheets of Serbian local governments cannot be compared in a meaningful way. Therefore, the analysis of local governments' balance sheets and the possible conclusions should be taken into account more as an illustration of the present situation than as a solid fact.

The Municipality of Surdulica did not continue to keep their balance sheets, but recorded all their operations through the municipal budgets, which is a common practice among the Serbian Municipalities. The Municipalities are, however, not legally obliged to keep their records in the typical financial reports as required by the International Financial Reporting Standards. They submit their Budget plans, Revaluations and Budget Realization to the Municipal Assembly for approval.

Concerning the main assets of the Municipalities in Serbia, it should be taken into consideration that they are the property of the State of Serbia. Consequently, also the main assets of the PUCs are owned by the Municipalities. This is an important issue when Municipalities enter into loan agreements with commercial banks, since this property cannot be placed under mortgage.

7.6.4 Credit history and financial management capacity

In general, Serbian Municipalities do not have a long credit history. The legal framework has enabled Municipalities to borrow funds for investments purposes. Major changes were initiated starting from 2002 with the new Budget System Law, which introduced the possibility for Serbian Municipalities to make use of capital markets, draw loans and issue municipal bonds. However, the practice of taking long term credits to finance large investment projects did not become significant until 2003.

Municipalities in Serbia are now changing the practice of applying conservative financial policies of avoiding loans and keeping a relatively high surplus of cash in order to avoid liquidity problems. They are more interested in improving the function of their regions, and are assisted in this by a number of international grants being awarded to improve communal services.

Being given legal rights to borrow money from commercial banks, Municipalities are entering into these agreements respecting various conditions under which banks are

ready to lend money to local communities. Municipalities have equal borrowing rights as any other company in the trade market. The difference lies in providing collaterals. Each Municipality has an account with the State Treasury, through which all the transfers from the State budget to the Municipality are directed. In case of borrowing, the bank usually requires signing a letter of authorisation with the Municipality to debit their account with the Treasury for any outstanding loan repayment. This proves to be rather firm collateral since the Municipalities have regular transfers from the State and loans practically bear very little risk of being repaid.

When taking loans from commercial banks, the Municipalities are also obliged to sign Agreements on Authorisation by which the Bank can claim any outstanding debt with the local Treasury department (where the Municipality has its business account). Under the provisions of this contract the beneficiary is obliged to enable the Bank insight into allocation of the borrowed money. (The bank shall decide on the time and monitoring method).

- Long term loans

In to respect to loans, the Municipality of Surdulica does not have a record of credits during the last few years.

The Municipality of Surdulica is eager to build well organized communities, and as many other Municipalities in Serbia it is striving to introduce relatively efficiently all of the reforms introduced by the Serbian public finance at local level, such as new a accounting system (in accordance with international standards), local treasury system and new budget procedures.

7.6.5 Creditworthiness assessment of the Municipality of Surdulica

7.6.5.1 Creditworthiness during the period 2005 – 2008

The tables below and the creditworthiness analyses summarize the trends regarding the financial position of the Municipality of Surdulica:

Table 7.84: The Municipality of Surdulica

No	Item	2005	2006	2007	2008 plan
		RSDm	RSDm	RSDm	RSDm
I	**Current Revenues (1+2+3+4)**	**161**	**200**	**227**	**292**
1	Own Current Revenues	22	35	56	62
2	Share of State Taxes	107	119	91	105
3	Other State Transfers	32	46	80	125
4	Donations	-	-	-	-
II	**Current Expenditures**	**140**	**161**	**208**	**274**
A	**Current Surplus/Deficit (I-II)**	**21**	**39**	**18**	**18**
5	Capital Revenues	14	8	9	16
6	Capital Expenditures	39	35	32	55
B	**Capital Surplus/Deficit (5-6)**	**(25)**	**(27)**	**(22)**	**(38)**

No	Item	2005	2006	2007	2008 plan
		RSDm	RSDm	RSDm	RSDm
C	**Net Surplus/Deficit Before Financing (A+B)**	**(4)**	**12**	**(4)**	**(21)**
7	Borrowing	-	-	-	20
8	Cash brought from previous year	-	-	-	17
9	Debt Service	-	-	-	-
10	Reserves	-	-	-	16
D	**Net Debt Increase/Decrease (7+8-9-10)**	**-**	**-**	**-**	**21**
E	**Net Surplus/Deficit (C+D)**	**(4)**	**12**	**(4)**	**-**

The Municipal **current revenues** have increased during the period 2005 to 2007 from by 41% to RSD 227 million. In 2008 the Municipality plans to increase its current revenues for 29%. In the same period, **current expenditures** in 2007 grew for 49%. In 2008 the Municipality plans to increase current expenditures to RSD 274 million (€ 3,4 million) or by 32%. **Capital expenditures** during the period 2005 to 2007 have decreased from RSD 39 million to RSD 32 million. In 2008 the Municipality plans to increase capital expenditures to RSD 55 million. **Capital revenues** for the period 2005 to 2007 decreased from RSD 14 million in 2005 to RSD 9 million in 2007. The Municipality plans to increase the capital revenues for 2008 by 74%.

The **current surplus** of the Municipality of Surdulica, reach the peak in 2006, to drop significantly in 2007. According to the plans for 2008 the Municipality planned to record a **current surplus** of RSD 18 million or (€ 222.000). Over the observing period current surplus was insufficient to cover the capital deficit in observing period except in 2006.

On the other hand, the **capital cash flow** (capital revenues minus capital expenditures) during these years was consistently negative: **capital revenues** can only finance a small part of the investment expenditures. The reason for this is the intensive investment program that has been initiated from the year 2000, but also the characteristic of the local public finance system in Serbia, which does not differentiate strictly between current/operational and capital revenues. However, although not legally prescribed, some taxes and fees are levied with the purpose to improve infrastructure in a Municipality. For example, the land development charge is usually defined as revenue of the local agency for development, which in turn uses it to upgrade or fund new infrastructure. Revenues from renting municipal assets are used as a general source to fund the Municipalities' capital investment program.

The findings of the budget analysis of the Municipality of Surdulica, show that the **Net surplus before financing** was only sufficient in 2006 to fund the **capital deficit**, for other observed year, it was insufficient. The Municipality Surdulica recorded **Net deficit** in 2005 and 2007. In order to finance its investment program, this Municipality has to reach for additional funds, borrowing from commercial banks or other financing means. The municipality during 2008 did not realize RSD 20

million loans and financed the investment program with the **cash brought from previous year** and **reserves**.

Table 7.85: Municipal financial indicators – Municipality of Surdulica

	Benchmark	2005 a	2006 a	2007 a	2008 plan
Indicators of revenues					
Current revenues / Total revenues		92%	96%	96%	95%
Shared revenues / Total revenues		61%	57%	39%	34%
Original (local) revenues / Total revenues		18%	20%	28%	25%
Revenues from sale of property / Total revenues	2 - 5%	0%	0%	0%	0%
Capital revenues / Total revenues		8%	4%	4%	5%
Operating result / Current revenues		13%	20%	8%	6%
Indicators of expenditures					
Current expenditures / Total expenditures		78%	82%	87%	83%
Operating result / Current expenditures		15%	24%	9%	6%
Capital revenues / Capital expenditures		36%	22%	29%	30%
Capital investments / Total expenditures		22%	17%	13%	18%
Indicators of financial state					
Total expenditures / Total revenues	95% - 100%	102%	94%	102%	107%
Total expenditures / Current revenues		111%	98%	106%	113%
Indicators of indebtedness					
Debt / Total revenues from previous year		0%	0%	0%	8%
Debt service / Total revenues from previous year		0%	0%	0%	0%

- Revenue indicators
  - The share of current in total revenues is in the range of 92% to 96% throughout the years. The plan for the year 2008 is to continue with this practice.
  - The share of allocated revenues (shared revenues) in total revenues decreased from 61% in 2005 to 39% in 2007. According to the 2008 plan, these revenues will decrease to 34%.
  - Original revenues share increase from 18% in 2005 to 28% in 2007. The plan for 2008 is to decrease these revenues to 25%.
  - The ratio between operating result and current revenues increased from 13% in 2005 to 20% in 2006 and again decreased to 8% in 2007. The plan for the year 2008 is to further decrease this ratio to the 6%.

- Expenditure indicators
  - The share of current in total expenditures during the period 2005 to 2007 increased from 78% to 87%. The plan for the year 2008 is to decrease current spending at 83%.
  - Capital revenues coverage of capital expenditures ranged from 22% to 36% throughout the years. The plan for 2008 is to keep capital revenues coverage to 30%.
  - Capital investments as percentage of total expenditures decreased from 22% in 2005 to 13% in 2007. The plan for 2008 is to increase of capital investments to 18%.

- Indicators of financial state
  - Total expenditures were lower than total revenues in 2006, while in all other years' total expenditures exceeded total revenues by 2%. The plan for 2008 shows that the expenditures will exceed the total revenues by 7%. The gap in the 2008 will be mainly financed by cash brought from previous year.

- Indicators of Indebtedness
  - During the analyzed period, Debt to Total revenues from previous years was zero. The plan for 2008 record 8% ratio of debt to total revenue from previous year.

Conclusions

With the planned borrowing in 2008, the Municipalities of Surdulica can fund of their capital investment plans. In 2007, the Municipality had not used their entire legally prescribed borrowing limit, which enables municipality to take more loans. For the Municipality of Surdulica this amounts to almost **€ 1,5 million**.

Municipalities in Serbia are generally pro forma owners of their property, which is given to them by the Republic of Serbia. This means that the Municipalities are legally limited as to the issue of disposing of their property. They can only use them as "tenants" (occupying their premises indefinitely without paying any "rents"), whereas the State of Serbia decides upon changes in property ownership. Therefore, the Municipalities cannot use "their property" as collaterals if commercial banks granting loans require them to do so. However, there are other, equally firm, means that the Municipalities can use as collaterals.

Funding of municipal investment plans by issuance of municipal bonds could be an appealing alternative compared to commercial bank loans. So far, however, this has not been initiated in Serbia. Neighbouring countries, including former FRY republics, are preparing (Republic of Srpska), or started (Croatia) projects on municipal bonds issuance. Many organizational changes will, however, have to be made in Serbia, prior to addressing the bond issuance, such as instituting a body that will be in charge of controlling the municipal bond market, and the issue of ownership of assets.

In order to pool more funds, the Municipalities could improve collection of land development and use charge for financing their capital investments. Municipal budgets will grow with the new revenue collected from property tax charges, which became efficient as of June 2007. The Municipalities have a discretionary right to set the property tax charge within the legally prescribed limits. Another source of funding is the Government that apportions funds to the Municipalities through the budget transfers. The share apportioned for capital investments is to be planned carefully by every Municipality.

The Municipalities are legally obliged to present the annual budget plan for the year following their approved budgets from the previous year to the municipal assembly. There are no obstacles for the Municipalities to introduce multiyear planning, using economic forecasts, at least in those sections controlled by them (within the original revenues).

7.6.6 Risks & Weaknesses

The risk of default on credits and other financial obligations of municipalities in Serbia are generally not very high, because of the strict application of the law on public finance by the Central Government/Ministry of Finance. This law regulates the municipal debt market by setting the limit to accumulated municipal debt to maximum 50% of the previous' year realized budget revenues. In addition, debt

service is not to exceed 15% of the previous' year realized budget revenues. Municipalities have to apply for a permit to the Ministry of Finance for any debt they wish to take. The Ministry of Finance controls whether the municipalities adhere to the stipulations of the law on public finance and especially these debt limits, before issuing the permit.

The other factor that is decreasing risk in servicing debts of local governments is the still relatively slow procedure in creating debts. According to the new law on public procurement and new treasury procedures, the process of initiating project implementation is very slow. It could be said that Serbian municipalities still did not develop management capacity to spend efficiently funds available on viable projects. This is one of the reasons for not having spent funds as planned during the budget year.

The Municipality of Surdulica in the recent past has not actively used the instrument of borrowing from commercial banks. Although municipality will be exposed to debt service liabilities, its financial position is not considered to be very risky.

Certain risks could be related to the coming reform of the local governmental system which includes considerable changes in the financial operational system:

- The new law on local governments financing envisages the establishment of a tax administration at the local level and take over much bigger responsibility for collecting larger original (own) revenues;
- Introduction of the new elaborated treasury system that will integrate the system of public finance in Serbia;
- Introduction of public procurement law;
- Starting with the accounts of the 2006 financial year, municipalities and public companies are obliged to have their accounts audited and certified by an external auditor.

The risk is related to the reforms not being implemented successfully or creating excessive bureaucracy. On the other hand, a successful implementation will enhance the local government financial management system and increase the creditworthiness of the municipalities.

There is a political risk. Change of either the mayor or the constitution of the assembly can change political priorities. Frequently, (senior) managers in both the city administration as well as related public companies are changed as a result of a newly elected mayor from a different political party or a change of the assembly.

Although municipal accounts do separate between capital and current accounts, little attention is paid to a strict separation of the two types of expenditure. Frequently, current and investment expenditures are mixed up. Actual expenditures of subventions given to public utility companies are not reflected in the municipal accounts. The accounts of Surdulica municipality are a clear example of this: subventions for the capital projects are accounted for as current expenditure,

although the bulk of the funds provided are spent on capital projects. This all makes it difficult to track planned investment versus actual expenditure.

Conclusion is that many local government reforms are recently introduced which, if implemented successfully, will contribute to enhance the creditworthiness of municipalities. A potential item for a creditworthiness enhancement program could be strengthening the municipalities' capacity to plan and track long term capital investment.