

ANNEX 3.2:

SITE VISIT REPORTING

19 December 2007



Municipal Infrastructure Agency Support Programme
An EU-funded project managed by the European Agency for Reconstruction
9R5927/CvS/R2006_23/R001
Feasibility Study Toplica District
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Visits

On July 17 & 18 2007 the municipalities of:

- Prokuplje,
- Žitorađa,
- Kuršumljija,
- Blace,

have been visited. Discussions were held with the PUC directors and their staff. Their landfill sites have been inspected.

In addition the site for the new sanitary landfill near Prokuplje has been visited.

Main findings

- All landfill sites are in fact uncontrolled dump sites without any basic environmental protection facility;
- Non of the sites are legal / have permissions;
- Problems do exist regarding fires and smell. The fires were reported to be lit by people living nearby. Leachate problems were not reported due to lack of any measurements or whatsoever. However it can be expected that the groundwater is contaminated. Drinking water wells are nor located near any of the dumpsites;
- Non-compliance with environmental legislation;
- Illegal dumping frequently occurs due to lack of permanent surveillance;
- Many small illegal dumping occurs in the rural areas Current situation with solid waste is that "waste is dumped on the roadside, in the forest, in rivers etc.";
- Blace has developed a plan for closure of its already closed dumpsite as well as Prokuplje for closure and extension of its existing dumpsite near the city centre.. No plans are under development regarding the closure of the others dump sites after the new regional sanitary landfill in Prokuplje will open;
- Separate collection of PET bottles started recently in all three municipalities (except Kuršumljija). USAID donated hydraulic presses and mills for PET compression/granulating. Collection boxes for PET have been placed in the villages in Žitorađa and Blace. No sale contracts have been struck yet. USAID also donated a briquette machine for saw mill waste in Prokuplje;

A valley site of 80 ha (12 ha for landfill and related activities/offices etc., of which almost 6 ha are for actual land filling) for the new landfill has been selected and the land has been acquired by the municipality. The site, a valley, is some 3.5 km from the city centre of Prokuplje. The 2 km access road is poor and hilly. By acquiring a piece of land a shortcut can be realized of some 500m.



Valley to be developed for the new
landfill site

In the following pages detail findings is given of the municipalities, their waste collection system and their landfill.

Prokuplje

General

Population	48,000 (of which 28,000 urban)
PUC's main activity	Waste collection & disposal, cemetery , green market, parks, street cleaning
Population served by PUC	22,000 (80% of urban population)
Waste collection vehicles	4 compactor trucks, 1 open truck, 3 tractors
Containers	320 x 1.1 m ³ containers. At least 80 more are needed.
Waste amount	120 m ³ /day (collected form household), 312 working days/yr.
Separate collection of waste	PET is collected. 40 boxes placed in town (of 1 and 2 m ³). The response is going down. PET is not processed but sold (for 7 Dinar/kg) to a private person who has a press. Paper/cardboard is collected from shops. The response is low. Conclusion of PUC: To increase the response education of the public is needed.

Separate collection at source by Gypsies (mainly ferro).

Plan to support the recycling activities of the Society of Disabled People (URVIS). A non-used industrial building was made available to them.

Recycling	USAID has donated a press (approx. 10,000 USD), a mill (approx. 5,000 USD) and a briquette machine (approx. 15,000 USD) to the Society of Disabled People (URVIS) (see photos).
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The briquette machine will mainly process saw dust from 10 wood mills. The Briquettes are used as biofuel.

The society intends to serve the whole region. The public can bring PET, paper/cardboard, alu. cans and metals to the processing location and will be paid. However most of the recyclables will come through Roma ethnic people and voluntary groups like schools etc.

37 people will work in the recycle centre.

Reported prices:

- PET: 7 dinar/kg non-pressed
- PET: 13 dinar/kg pressed + white
- PET: 9 Dinar/kg pressed + green
- PET: 8 Dinar/kg pressed + brown
- Paper/cardboard: 2-4 Dinar/kg

- Alu. cans: 80 – 120 Dinar/kg

Sale contracts with:

- Foundry in Sevono (alu. cans);
- UMKA ,Belgrade (paper/cardboard)
- Nives in Nis (PET)

Press at recycle centre of
the Society of Disabled
People



Mill (granulator) for PET at
recycle centre of the
Society of Disabled People





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Briquette machine at
recycle centre of the
Society of Disabled People



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Waste tariffs

Household: 2.52 + VAT Din/m²/month (2007 tariff)

**Landfill (dumpsite)
Prokuplje**

Located next to the city centre on an old Toplica river bend that is diverted. Houses of Gypsies next to landfill, some have been broken down (see photo underneath)

View along landfill



On top of landfill, view toward entrance



Opened

1994 (no license)

Closed (or supposed to be)

When opening new regional landfill.

Size (approx.)

Approx. 16.5 ha
height: approx. 5 - 6 m

Waste amount

140 m³ of household waste/day + some 20 m³ from industries

Type of wastes

Household waste + some industrial waste
Recently the dumping of slaughter waste ceased. The local hospital dumps their waste (in containers) on the landfill. It is supposed not to contain hazardous waste.

Compacting of waste

No, only bulldozer

Covering

Daily, layer of soil

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Equipment on site	Bulldozer (permanent), shovel
Reported problems with:	
• Leachate	No drainage. River short distance. Leachate will flow to this river. Groundwater of old Toplica river bend is connected with the new river bend.
• Fires	No.
• Smell	Yes, complaints, depending on wind direction
• Others	Gypsy houses along landfill Sewage from nearby houses in old river bed A water well producing 9 ltr./sec (can not be stopped)
Fenced	Between present and old river bed, Good security and access road exists
Surveillance	During the day
Permanent closure plan present	Yes. Plan has been worked out. Covering with 50 cm soil and re-cultivation/water drainage to river, gas ventilation New part will be develop using a bottom liner (costs: 92 million Dinar)

Žitorađa

General

Population	18,200 (total municipality)
PUC's main activity	waste collection & disposal, Water supply, sewage water, cemetery, parks, green markets The PUC Žitorađa was established 3 years ago.
Population served by PUC	Some 15% of 3,500 (all urban) in Žitorađa village/city is covered. The other 29 settlements are not covered.
Waste collection vehicles / containers	1 tractor (no property of PUC) Containers: 5 concrete + 150 x 120 ltr. bins Need more containers and collections trucks to increase the coverage. Lacking the financial means.
Waste collected	Approx. 4.5 ton/10 days
Separate collection of waste	Started recently with the separate collection of PET. A grant was obtained for buying 50 PET collection boxes (of 1, 1.5 and 2 m ³) that have been placed in Žitorađa village. 50 of 2 m ³ more are ordered for the settlements. A press (value: approx. 5,000 Euro) and mill (value: approx. 7,000 Euro) was donated by USAID for the PET bottle processing. No contract for the PET sale was signed yet. There is contact with the "Alexander" Company from Šabac. Expected selling price PET: <ul style="list-style-type: none"> • 9,000 Dinar/ton (compressed), or • 380 Euro/ton (granulated and separated by color without labels/stoppers). Expected is the collection of 0.7 tonnes/day of PET when all settlements are covered with collection boxes. Roma people will be paid (0. 2 Dinar/bottle) for bringing PET bottles to the processing location in Žitorađa.

Note: 1 ton equals some 15.000 PET bottles of 1.5 litter

Press for PET bottles
compression
(donated by USAID)



Roma ethnic people do collect the metals (mainly ferro) from the waste.

Paper/cardboard: Started recently to collect from shops. There are plans to expand this.

Recycling
Waste tariffs

No other separate collection activities are developed.

No plans.

Households (150 contracts in place):
2.2 (incl. VAT) Dinar/m²/month.

Industry: no tariff as there is no industry in Žitorađa

Landfill (dumpsite)

Near village/ near Toplica river (no flooding danger)

There are many small illegal dump locations in the municipality.

Entrance of Žitorađa landfill



Close view on Žitorađa landfill, road along landfill and river



Opened	Some 10 years ago, no license
Closed (or supposed to be)	As the new regional sanitary landfill in Prokuplje opens
Size (approx.)	2,000 m ² (length: 150 -200 m, width: 4- 12 m, height: 2 m)
Waste amount	Approx. 4,000 m ³
Type of wastes	Only municipal waste. There is no industrial waste Slaughter waste goes into pits elsewhere Medical waste goes to Nis (small hospital waste incinerator)
Compacting of waste	No.
Covering	No.
Equipment on site	None
Reported problems with:	
• Leachate	Will infiltrate the sand bottom / flows to river. No data available.
• Fires	Often, reported to be lit by people. No gas ventilation wells present.
• Smell	Yes

- Rodents Yes (+ birds)
- Fenced No.
- Surveillance No.
- Permanent closure plan present No.



Blace

General

Population	13,760
PUC's main activity	waste collection & disposal, Water supply, sewage water, cemetery , parks, green markets, heating.
Population served by PUC	Some 6,000 people served (urban). Rural areas are not covered (only some PET collection boxes).
Waste collection vehicles	One compactor truck, one truck lifter One tractor.
containers	20 x 5 m ³ containers for buildings/apartments blocks. 6 x 5 m ³ containers for industries.
Waste collected	10,310 m ³ → some 2,990 ton (2006) Assumed composition by weight: 20% PET (+ some other plastics) 10% paper / cardboard 5% metal /glass 65% organics
Separate collection of waste	35 baskets for PET collection placed in Blace + 10 in the rural areas (paid by donations) Started two months ago with PET collection Obtained a press (USAID donation). In June 1 ton of PET was processed. PUC Blace received two offers (GreenTec- Novi Sad & Vlada Pak – Beloljin) for buying the PET. They await more offers. Vlada Pak obtained (USAID donation) a mill and extruder. Offered prices for pressed PET: <ul style="list-style-type: none"> • 13 -18 Dinar/kg (depending on color/cleanness, • 13 Dinar/kg for non-separated.
Recycling	Roma ethnic people do some recycling (metal) Plans for paper/cardboard collection. In need of boxes. Education/awareness raising required.
Waste tariffs	Households: <ul style="list-style-type: none"> • 2.04 + VAT Din/m²/month Industries/ business: <ul style="list-style-type: none"> • Chemical & food: 8.33 + VAT Din/m²/month • Shops & textile: 5.56 + VAT Din/m²/month • Rest: 3.70 + VAT Din/m²/month Public sector: <ul style="list-style-type: none"> • 3.70 + VAT Din/m²/month
Landfill (CLOSED dumpsite)	approx 2 km from city (east of city), good access road. No permit. Closed by the Municipal Environmental Inspection in July 2005.

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Sanitation design prepared (closure + sanitation). Trying to get ECO funding. Hope to be able to proceed with land filling after the sanitation till opening of the new regional sanitary landfill in Prokuplje

View from access road



View along road



Opened	1975. No license.
Closed (or supposed to be)	July 2005
Size (approx.)	0.8 ha (20 x 400 m)
Waste amount	
Type of wastes	Household waste, very limited medical waste. No industrial nor slaughter waste
Compacting of waste	No.
Covering	Once a month, (soil provided by PUC)
Equipment on site	only shovel, trencher
Reported problems with:	
• Leachate	Infiltrates into bottom. No groundwater data available. Recently 2 piezometers installed
• Fires	Occasionally, recently there was a large fire (see photos)
• Smell	No, closest residents at 200 m (covering applied)

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Fenced	No.
Surveillance	No.
Permanent closure plan present	Yes (leveling, covering with clay, gravel/drainage layer, channel for leachate → evaporation & re-injection, fence/gate etc.). Estimated closure costs: 8.3 million Dinars.

Blace – temporary site -

Landfill (dumpsite), temporary site

View from road / entrance
to site

Near Botasnica river, 2 km from city (to west) near road to
Krusevac



Near entrance



Opened	July 2005 (on former sludge drying beds), no license
Closed (or supposed to be)	2005, as the old closed dump is sanitized or as the new regional sanitary landfill in Prokuplje opens
Size (approx.)	20 acres (now 80% filled), height: 1.5 m
Waste amount	2,990 ton (2006)
Type of wastes	Household waste, very limited medical waste. No industrial nor slaughter waste
Compacting of waste	No.
Equipment on site	only shovel and trencher present
Covering	Daily covering with soil
Reported problems with:	
• Leachate	Will go into river Botasnica
• Fires	Very rare (due to covering). Only occasionally In winter months due to hot ash.

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- Smell Not anymore (closest resident at 200 m).
- Fenced Yes.
- Surveillance No.
- Permanent closure plan present No.



Kuršumlija

General

Population	21,600 (urban and rural)
PUC's main activity	Water supply, waste water/sewage, waste collection & disposal, cemetery , parks, green market, street cleaning, parks
Population served by PUC	Some 12,000 urban inhabitants (plus two small villages). Lack of collection vehicles and bad condition of present vehicles is preventing 100% coverage. Plan: to go to 100% coverage of urban population, no plans for rural areas
Waste collection vehicles	3 compactor trucks 1 open truck 1 tractor 76 x 1.1 containers present for apartment blocks, households have their own bins.
Waste amount	Some 30 t/day (265 days/yr)
Separate collection of waste	Only plans for PET collection Roma ethnic people do some metal collection and sell in Prokuplje
Recycling	7 years ago there was an initiative of separate paper/cardboard collection at shops. This failed. Not present, no plans in development
Waste tariffs	Households: • 2.5 + VAT Din/m ² /month (build area) Business premises/industries: • 10.0 + VAT Din/m ² /month (build area) Public sector: • 10.0 + VAT Din/m ² /month (build area) Bill payment is low (only 30% collected).
Landfill (dumpsite)	7 km from city to west in mountain area in a valley

Entrance



View to site



On top of landfill
(fire on-going)



Opened

Since 2001

Closed (or supposed to be)

Most likely as soon as the new regional landfill comes into operation

Size (approx.)

21,000 m²

Length: approx. 160m

Width: approx. 130m

Capacity (volume): approx 125,000 m³

Waste amount

Not known

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Type of wastes	Household waste + a little waste from a fruit processing facility No slaughter waste, no harzardous medical waste.
Compacting of waste	No.
Covering	Once per 1 – 2 weeks.
Equipment on site	Municipal bulldozer was out of order, a bulldozer is rented
Reported problems with:	
• Leachate	Reported not to be a problem, will infiltrate the bottom (no river nearby). No drinking water wells nearby.
• Fires	Yes, occasionally (in winter month due to ash) No gas ventilation wells present
• Smell	Yes, esp. when there is a fire.
Fenced	Partly (most of the fence was stolen) Sign and gate present
Surveillance	Yes, during working hours
Permanent closure plan present	No. The ECO fund has been approached for a sanitation design. 60% (700,000 Dinar) of required budget was allocated, however the municipality is not able to finance the remainder 40% (500,000 Dinar+ VAT).