7.6 Enhancement of On-going Project and Expansion for Sewerage System

The consulting services for Greater Tirana Sewerage Improvement Project commenced in February 2010 based on the contract made in October 2009 between MOPWT and the Consultant. Their work includes the following nine components.

- Review of Basic Design, Existing Studies and Preparation of Necessary Materials;
- Detailed Design (D/D) for First Stage project;
- Assistance of Tender and Contract Procedures;
- Construction Supervision;
- Development and Implementation of Environmental Management and Monitoring Plan;
- Training for Sewerage Sectors' O&M and Other Technical and Institutional Training;
- Awareness Raising and Education Campaign to promote house connections;
- Feasibility Study for Second Stage project; and
- Institutional Capacity Building of DPUK (and/or Project Implementation Unit: PIU).

Through the review of Consultants' design report and discussion with them, the following 11 points are notably described to enhance the on-going project and also the next stage plan.

(1) Development of Self-financed Construction of the Sewer Pipes

The branch sewer in the on-going loan project was shortened from the original 27.6 km in 2007 JICA Report to 8.85 km in pre-qualification public notice following discussions with DPUK and UKT. To secure the inflow volume at the first stage, it is required that UKT self-finance construction of the branch sewer defined as out of scope of the loan project within priority project area.

(2) Assistance to Phase II of the Kashar SD

Japanese ODA loan consultant is required to prepare the Feasibility Study Report of Phase II of Kashar SD before the end of Phase I construction work so that a series of processes from financial arrangements to the contract will be smoothly executed. Kashar SD Phase II project is included in the action plan of the sewerage sector, and some proposals, technically or institutionally, issued in this report are much attributed to the Phase II projects.

(3) Institutional Capacity Building of UKT

The terms of reference of the consulting service for the loan project includes institutional capacity building of DPUK and PIU established within DPUK. Since facilities to be constructed in this project are transferred to UKT, who will operate and maintain them, a more aggressive participation of UKT as an organization from the construction stage of the project is absolutely necessary.

Required organizational structure is different at the construction stage and at the O&M stage.

A special project management unit shall be set up under an engineering division manager.

O&M stage requires more drastic organizational changes within the sewerage sector as is described in the next section.

(4) House Connections

House connections are not included in the detailed design. Albania side has to complete the installation of house connection pipe based on the Albanian design standard to ensure the flow of the sewage of the planning area, stressing the importance of the sewerage system development.

(5) Demarcation of Drainage Pipe and Sewer Pipe in Area A

Due to the unguaranteed quality of the existing pipe and the connections, new sewer pipes shall be constructed in Area A using an existing pipeline that is exclusively for stormwater drainage. A clear demarcation of the sewer pipe and drainage pipe is desirable in Area A after the pipe laying works. Migration from the existing connection to the new pipe is also observed for completion of separate sewerage system in the area.

(6) Clear Specification of Interceptor Location

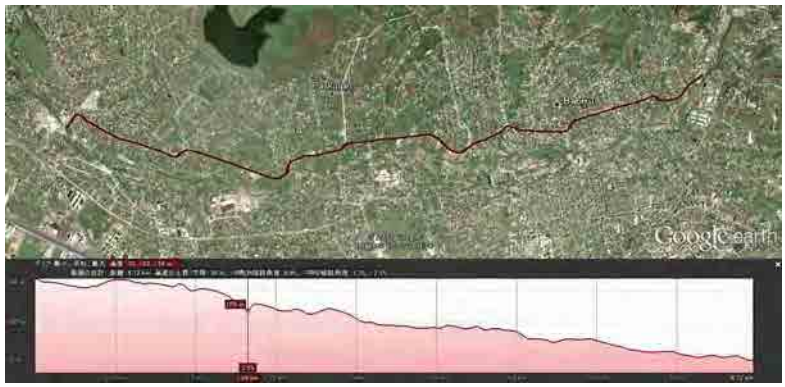
Main interceptors of the existing drainage system, especially Tirana's interceptors, are difficult to locate since they run not under the public road but underneath public or private properties.

(7) Kashar Development Area

Whole picture of this development is not clearly described.

(8) Development in Paskuqan Commune

Low-lying land along Tirana River requires a pumping station for its development since the ground descends steeply toward the river. Some portion of the backyard area of main Paskuqan road, Rruga Demokracia, also needs a pumping station (see Figure 7.6.1).



Source: Google

Figure 7.6.1 Profile of Demokracia Road in Paskuqan Commune

(9) Tirana River Crossing of the Trunk Main

It is difficult to find a location to dig vertical shafts for the pipe jacking construction along the river, and crossing points shall be carefully considered.

Source: JICA Study Team

Figure 7.6.2 Tirana River Crossing Point

(10) Kashar Pump Station

Kashar PS is such a big station that it shall be environmentally a low-impact facility. A recent site inspection reveals some new buildings in the surrounding area where no building existed before, making it absolutely imperative to procure the site as soon as possible.

Source: JICA Study Team

Figure 7.6.3 Existing Conditions Around Pump Station

(11) Review of Paskuqan Collection Area

Since the boundary line of collection area, especially that of Paskuqan Commune, is not so clear in the 2007 JICA master plan report, more detailed demarcation of the area shall be requested considering the cost-benefit relation in case of installing sewer pipes in a sparsely populated area.

7.7 Drainage System Development

(1) Flow Calculation

Since rainfall data in the past twenty years has not been provided by the meteorological agency, the Study Team has designed stormwater facilities based on the rainfall intensity formula set up in the 1998 JICA report. It was once reviewed in the 2007 JICA Report.

Although most part of the existing sewer network has been designed with combined sewer system, the new stormwater facility is basically designed only for storm water neglecting sewage flow assuming separate collection system in future.

Conditions for the design are summarized as follows.

Stormwater flow (Q):

$Q=1/360 \times C \times I \times A$

Where: Q; Stormwater Flow (m^3/sec)

C; Run-off Coefficient (=0.5 for project area, and 0.3 for outside area)

I; Rainfall Intensity (mm/h)

A; Catchment Area (ha)

And rainfall intensity formula (I) is described as follows:

$$I = \frac{2870}{t + 16} \quad \text{(Return Period : 5 years)}$$

Where: t ; run-off time (min) and

$t=t_1$ (inlet time 5.0min) + t_2 (=L (length; m)/V (velocity; m/sec)/60)

Assumed velocity is 1.5 m/sec for branch sewer and 2.0 m/sec for main sewer (designed pipe)

On the other hand, box culvert is applied for stormwater facility, not pipe culvert, since large diameter pipe are not readily available in Albania. Capacity of the culvert is calculated based on the Manning Formula, assuming 90% effective height and 0.013 roughness coefficient

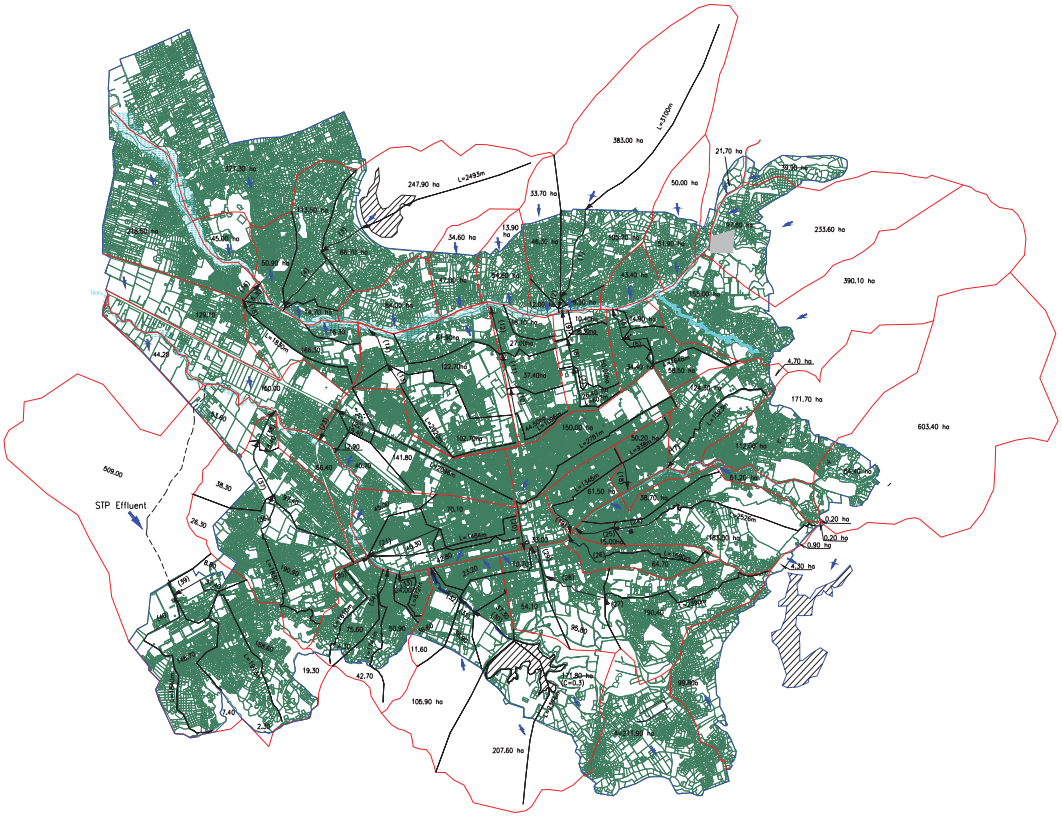
The study area of nearly 60 km^2 area is divided into sub-drainage basins including upper catchment area, and storm water is calculated. Figure 7.7.1 shows location of main stormwater facilities and their drainage area. Dimension of the facilities are shown in Figure 7.7.2. Flow calculation sheet is attached in Table 7.7.1. And lengths of main stormwater facilities are summarized in Table 7.7.2 together with a rough cost estimation.

As to the improvement of Tirana River, a development plan of Tirana River crossing the extension route of Boulevard was presented in the urban planning competition.

The upper and lower streams of Lana River should be improved with embankment.

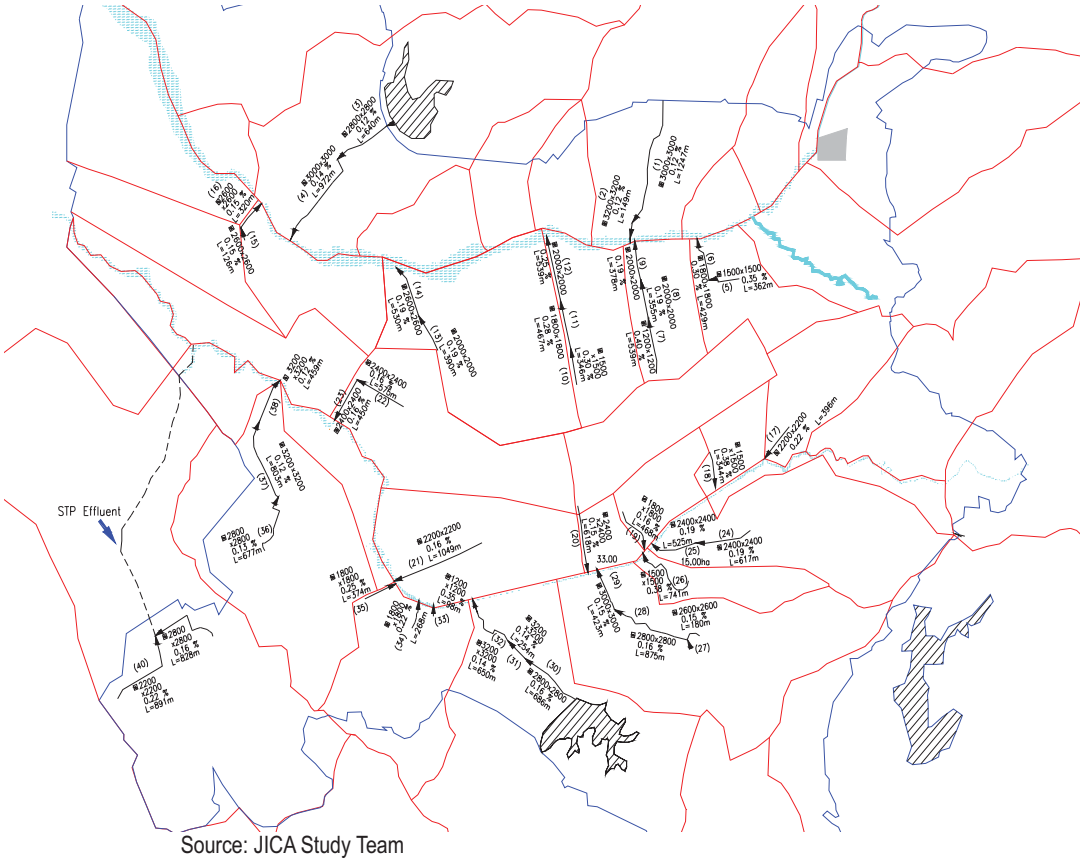
As the urbanization within a river basin is promoted, impermeable surfaces, buildings or house roofs or impervious pavement areas increase. As a result, infiltration volume into the underground aquifer decreases and storm water is discharged in a short amount of time than ever before to the drainage facilities. Augmented run-off, together with shortened run-off time, gives rise to the increase in flow volume, sometimes causing flood damage.

Decreased recharge volume into the groundwater often leads to the lowering in groundwater level and shortage of river water.



Source: JICA Study Team

Figure 7.7.1 Catchment Area of Stormwater Facility



Source: JICA Study Team

Figure 7.7.2 Dimensions of Main Stormwater Facilities

Table 7.7.1 Dimensions of Main Stormwater Facilities

Storm Water Flow

Rainfall Intensity Formula = 2870 (Return Period : 5 Year)
For Main Storm Sewer t + 16
Runoff Coefficient = 0.5 (Project Area) 0.3 (Outside of Project Area)
Inlet Time = 5 min
Assumed Average Velocity = 1.5 m/sec (Branch) 2.0 (Main)

No.	Down Stream	Length (m)		Area (ha)		Storm Water Quantity		Pipe Capacity (effective h= 0.9 x H)					
		Increment	Total	Increment	Total	Time	Q_1(m^3/s)	W (mm)	H (mm)	I (‰)	V (m/s)	Q_2(m^3/s)	
(Tirana River Right Side)													
1	2	1247	4347	105.70	335.50	49.8	20.324	3000	3000	1.2	2.60	21.060	383*0.3/0.5=229.80ha
2	Outfall	149	4496	66.52	402.02	51.0	23.918	3200	3200	1.2	2.72	25.068	33.7*0.3/0.5=20.22ha
3	4	640	3133	86.70	235.44	38.0	17.379	2800	2800	1.2	2.48	17.499	247.9*0.3/0.5=148.74ha
4	outfall	972	4105	113.50	348.94	46.1	22.398	3000	3000	1.4	2.81	22.761	
(Tirana River Left Side)													
5	6	362	2010	58.50	58.50	26.3	5.513	1500	1500	3.5	2.80	5.670	
6	Outfall	429	2439	34.40	92.90	29.9	8.068	1800	1800	3.0	2.93	8.544	
7	8	539	1146	26.40	26.40	16.2	3.268	1200	1200	4.0	2.58	3.344	
8	9	355	1501	50.00	76.40	19.2	8.652	2000	2000	1.9	2.50	9.000	
9	Outfall	378	1879	8.30	84.70	22.4	8.792	2000	2000	1.9	2.50	9.000	
10	11	346	1442	44.50	44.50	20.1	4.914	1500	1500	3.0	2.59	5.245	
11	12	467	1909	37.40	81.90	24.0	8.162	1800	1800	2.8	2.83	8.252	
12	Outfall	539	2448	27.00	108.90	28.5	9.755	2000	2000	2.5	2.87	10.333	
13	14	390	2410	102.70	102.70	30.7	8.766	2000	2000	1.9	2.50	9.000	
14	Outfall	530	2940	122.70	225.40	35.1	17.583	2600	2600	1.9	2.97	18.069	
15	16	126	1956	166.30	166.30	26.4	15.634	2600	2600	1.5	2.64	16.063	
16	Outfall	320	2276	6.30	172.60	29.1	15.255	2600	2600	1.5	2.64	16.062	
(Lana River Right Side)													
17	Outfall	396	1919	124.30	124.30	25.2	12.026	2200	2200	2.2	2.86	12.458	
18	Outfall	344	1282	50.20	50.20	18.3	5.834	1500	1500	3.8	2.92	5.913	
19	Outfall	468	1813	61.50	61.50	23.8	6.159	1800	1800	1.6	2.14	6.240	
20	Outfall	618	3399	150.00	183.00	41.1	12.775	2400	2400	1.5	2.51	13.012	
21	Outfall	1049	2533	40.30	110.40	30.2	9.525	2200	2200	1.6	2.44	10.629	
22	23	575	2671	19.40	161.20	33.1	13.087	2400	2400	1.6	2.59	13.427	
23	Outfall	450	3121	12.90	174.10	36.9	13.119	2400	2400	1.6	2.59	13.427	
(Lana River Left Side)													
24	25	617	3143	183.00	183.54	38.2	13.498	2400	2400	1.9	2.82	14.619	Existing 2000x2000 0.90*0.3/0.5=0.54ha
25	Outfall	525	3668	15.00	198.54	42.6	13.505	2400	2400	1.9	2.82	14.619	Existing 2000x2000
26	Outfall	741	2331	64.70	64.70	28.8	5.757	1500	1500	3.8	2.92	5.913	Existing 1000x1000
27	28	180	2570	190.40	190.40	33.1	15.457	2600	2600	1.5	2.64	16.062	Existing 2000x2000
28	29	875	3445	95.80	286.20	40.4	20.227	2800	2800	1.6	2.87	20.251	Existing 2000x2000
29	Outfall	423	3868	54.10	340.30	43.9	22.646	3000	3000	1.5	2.91	23.571	Existing 2000x2000
30	31	686	3080	37.30	264.90	37.3	19.811	2800	2800	1.6	2.87	20.251	(207.6+171.8)*0.3/0.5=227.6 existing 1600x1600
31	32	254	3334	38.90	303.80	39.4	21.859	3200	3200	1.4	2.93	27.003	Existing 2000x2000
32	Outfall	650	3984	107.10	410.90	44.8	26.939	3200	3200	1.4	2.93	27.003	117.5*0.3/0.5=70.5 Existing 1400x1400
33	Outfall	98	970	24.00	24.00	15.5	3.037	1200	1200	3.5	2.41	3.123	Existing φ1000
34	Outfall	268	2009	50.90	76.52	26.6	7.160	1800	1800	2.2	2.51	7.319	42.70*0.3/0.5=25.62 Existing φ1000
35	Outfall	374	1984	75.60	78.18	26.0	7.420	1800	1800	2.5	2.67	7.786	4.30*0.3/0.5=2.58
36	37	677	2507	190.90	206.68	31.0	17.529	2800	2800	1.3	2.58	18.204	26.3*0.3/0.5=15.78
37	38	803	3310	120.38	327.06	37.7	24.277	3200	3200	1.2	2.72	25.068	38.3*0.3/0.5=22.98
38	Outfall	459	3769	13.40	340.46	41.5	23.602	3200	3200	1.2	2.72	25.068	
39	Outfall	828	2741	226.00	244.24	33.2	19.788	2800	2800	1.6	2.87	20.251	(19.3+2.30+8.8)*0.3/0.5=18.24
40	Outfall	891	2731	145.70	150.14	32.9	12.239	2200	2200	2.2	2.86	12.458	7.40*0.3/0.5=4.44

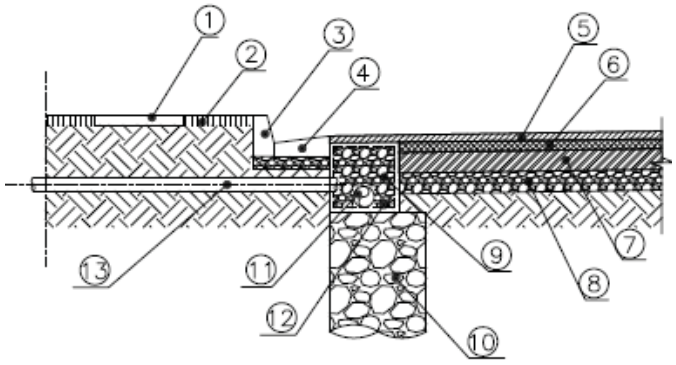
Source: JICA Study Team

Table 7.7.2 Summary of Main Stormwater Facilities

Dimension W (mm) ×H (mm)	Length (m)	Unit Cost (Lek/m)	Cost (Million Lek)	Remarks
(1) 1200 ×1200	637	57800	37	
(2) 1500 ×1500	1793	78400	141	
(3) 1800 ×1800	2006	102000	205	
(4) 2000 ×2000	1662	119500	199	
(5) 2200 ×2200	2336	138300	323	
(6) 2400 ×2400	2785	158500	441	
(7) 2600 ×2600	1156	179900	208	
(8) 2800 ×2800	3706	202800	752	
(9) 3000 ×3000	2896	227000	600	
(10) 3200 ×3200	2061	252600	585	
Total	21038		3491	

Source: JICA Study Team

Introduction of permeable pavements with pervious wells is one of the efficient countermeasures against increased run-off storm water. Figure 7.7.3 shows a sample of permeable pavement road proposed and decided on by referring to the "Handbook on Permeable Pavement," written by the Japan Road Construction Association, in addition to the local method on permeable pavement method which has been developed mainly by a Brazilian city.



No.	Material and Dimensions, etc.	No.	Material, Dimensions, etc.
①	Walkway concrete (Uniform finishing), t=7 cm	⑧	Lower sub-base: Mixed gravel (t=15 cm)
②	Walkway turf (Esmeralda species)	⑨	Pervious trench: No.3 Gravel (50 cm x 50 cm)
③	PC edge stone（Municipality type, H=30 cm）	⑩	Pervious well: No.3 Gravel + Broken stone (Ø=70 cm)
④	Side ditch (cast in-situ concrete, t=10 cm-15 cm)	⑪	Perforated drain pipe: PVC Ø=15 cm
⑤	Surface layer: Pervious asphalt (CPA: t=5 cm)	⑫	Liner sheet (Bidim)
⑥	Base layer: Normal asphalt (PMQ: t=7 cm)	⑬	Rainwater drain pipe inside housing lot: PVC Ø=10 cm
⑦	Upper sub-base: Size controlled gravel (t=15 cm)		

Source: JICA Study Team

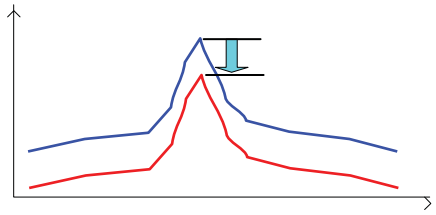
Figure 7.7.3 Standard Construction Method of Permeable Pavement Road

(2) Target of Permeable Pavement

Based on the performance of the proposed permeable pavement being used in the Brazilian city, the target is set as follows.

> Target of the permeable pavement is infiltration capacity exceeding rainfall intensity of
>
> **Under 10 mm / h**

An image of infiltration effect is shown in Figure 7.7.4.



Source: JICA Study Team

Figure 7.7.4 Image of Run-off Reduction

Construction cost of the permeable pavement is estimated from Brazilian construction data as follows.

> Construction cost is 5,000 Japanese Yen /m =6,345 Lek (=5,000 x 1.269) ≒
>
> **6,400 Lek/m**

Construction cost is not estimated since applicability of the facility is yet unknown.

(3) Permeability Test Result in STP site

Infiltration capacity greatly depends on the permeability of the soil. In Table 7.7.3 below, permeability of the Tirana area is represented by the coefficient (K) and the values are the result of tests conducted at the proposed STP site.

Table 7.7.3 Permeable Coefficient at STP site

Point	No.1	No.2
K for first one hour	0.22×10^{-7}	0.16×10^{-7}
K for second one hour	0.15×10^{-7}	0.103×10^{-7}

Source: Japanese ODA Loan Consultants

Although K values are not so high, the above-stated predetermined capacity of the infiltration pavement shall be secured narrowing the space of pervious wells or pervious trench dimensions.

In case permeable pavements are introduced and rainfall intensity is reduced by 10 mm/h at each point, the dimension of the culvert is reduced as shown in Table 7.7.4. Total cost is calculated to be 3,009 million Lek, recording 14% of cost reduction only by storm water main facilities. Flow calculation considering use of permeable pavement is shown in Table 7.7.5.

Table 7.7.4 Storm Water Calculation in Case of Permeable Pavement (1)

Dimension W (=H)	Unit Cost (lek/m)	Length (m)		Cost (Million Lek)	
		without PP	with PP	without PP	with PP
1200	57,800	637	637	37	37
1500	78,400	1,793	2,261	141	177
1800	102,000	2,006	4,249	205	433
2000	119,500	1,662	1,905	199	228
2200	138,300	2,336	2,167	323	300
2400	158,500	2,785	1,833	441	291
2600	179,900	1,156	4,276	208	769
2800	202,800	3,706	2,806	752	569
3000	227,000	2,642	904	600	205
3200	252,600	2,315	0	585	0
		21,038	21,038	3,491	3,009

PP; Permeable Pavement

Source: JICA Study Team

Table 7.7.5 Storm Water Calculation in Case of Permeable Pavement (2)

Storm Water Flow

Rainfall Intensity Formula = $\left[\frac{2870}{t + 16} \right]^{-10}$ T (Return Period : 5 Year)

For Main Storm Sewer

Runoff Coefficient = 0.5 (Project Area) 0.3 (Outside of Project Area)

Inlet Time = 5 min

Assumed Average Velocity = 1.5 m/sec (Branch) 2.0 (Main)

No.	Down Stream	Length (m) Increment	Length (m) Total	Area (ha) Increment	Area (ha) Total	Storm Water Quantity Time	Storm Water Quantity Q_1(m^3/s)	Pipe Capacity (effective h= 0.9 x H) W (mm)	H (mm)	I (‰)	V (m/s)	Q_2(m^3/s)	
(Tirana River Right Side)													
1	2	1247	4347	105.70	335.50	49.8	15.665	2600	2600	1.5	2.64	16.062	383*0.3/0.5=229.80ha
2	Outfall	149	4496	66.52	402.02	51.0	18.334	2800	2800	1.4	2.68	18.910	33.7*0.3/0.5=20.22ha
3	4	640	3133	86.70	235.44	38.0	14.109	2600	2600	1.2	2.36	14.358	247.9*0.3/0.5=148.74ha
4	outfall	972	4105	113.50	348.94	46.1	17.552	2800	2800	1.3	2.58	18.204	
(Tirana River Left Side)													
5	6	362	2010	58.50	58.50	26.3	4.700	1500	1500	2.5	2.37	4.799	
6	Outfall	429	2439	34.40	92.90	29.9	6.777	1800	1800	2.0	2.39	6.969	
7	8	539	1146	26.40	26.40	16.2	2.901	1200	1200	3.5	2.41	3.123	
8	9	355	1501	50.00	76.40	19.2	7.591	1800	1800	2.5	2.67	7.786	
9	Outfall	378	1879	8.30	84.70	22.4	7.616	1800	1800	2.5	2.67	7.786	
10	11	346	1442	44.50	44.50	20.1	4.296	1500	1500	2.5	2.37	4.799	
11	12	467	1909	37.40	81.90	24.0	7.024	1800	1800	2.8	2.83	8.252	
12	Outfall	539	2448	27.00	108.90	28.5	8.242	1800	1800	2.8	2.83	8.252	
13	14	390	2410	102.70	102.70	30.7	7.340	1800	1800	2.5	2.67	7.786	
14	Outfall	530	2940	122.70	225.40	35.1	14.452	2400	2400	2.0	2.89	14.982	
15	16	126	1956	166.30	166.30	26.4	13.324	2400	2400	1.6	2.59	13.427	
16	Outfall	320	2276	6.30	172.60	29.1	12.858	2400	2400	1.6	2.59	13.427	
(Lana River Right Side)													
17	Outfall	396	1919	124.30	124.30	25.2	10.300	2000	2000	2.5	2.87	10.332	
18	Outfall	344	1282	50.20	50.20	18.3	5.137	1500	1500	3.5	2.80	5.670	
19	Outfall	468	1813	61.50	61.50	23.8	5.305	1500	1500	3.5	2.80	5.670	
20	Outfall	618	3399	150.00	183.00	41.1	10.233	2000	2000	2.5	2.87	10.332	
21	Outfall	1049	2533	40.30	110.40	30.2	7.992	1800	1800	2.8	2.83	8.252	
22	23	575	2671	19.40	161.20	33.1	10.848	2200	2200	1.7	2.52	10.977	
23	Outfall	450	3121	12.90	174.10	36.9	10.701	2200	2200	1.7	2.52	10.977	
(Lana River Left Side)													
24	25	617	3143	183.00	183.54	38.2	10.949	2200	2200	1.7	2.52	10.977	Existing 2000x2000 0.90*0.3/0.5=0.54ha
25	Outfall	525	3668	15.00	198.54	42.6	10.748	2200	2200	1.7	2.52	10.977	Existing 2000x2000
26	Outfall	741	2331	64.70	64.70	28.8	4.858	1500	1500	3.0	2.59	5.245	Existing 1000x1000
27	28	180	2570	190.40	190.40	33.1	12.813	2400	2400	1.6	2.59	13.427	Existing 2000x2000
28	29	875	3445	95.80	286.20	40.4	16.252	2600	2600	1.6	2.73	16.609	Existing 2000x2000
29	Outfall	423	3868	54.10	340.30	43.9	17.919	2800	2800	1.5	2.78	19.616	Existing 2000x2000
30	31	686	3080	37.30	264.90	37.3	16.132	2600	2600	1.6	2.73	16.609	(207.6+171.8)*0.3/0.5=227.6 existing 1600x1600
31	32	254	3334	102.44	367.34	39.4	21.329	3000	3000	1.4	2.81	22.761	Existing 2000x2000
32	Outfall	650	3984	43.56	410.90	44.8	21.232	3000	3000	1.4	2.81	22.761	11.6*0.3/0.5=6.96 Existing 1400x1400
33	Outfall	98	970	24.00	24.00	15.5	2.704	1200	1200	3.5	2.41	3.123	Existing φ1000
34	Outfall	268	2009	50.90	76.52	26.6	6.097	1800	1800	2.2	2.51	7.319	42.70*0.3/0.5=25.62 Existing φ1000
35	Outfall	374	1984	75.60	78.18	26.0	6.334	1800	1800	2.5	2.67	7.786	4.30*0.3/0.5=2.58
36	37	677	2507	190.90	206.68	31.0	14.658	2400	2400	2.0	2.89	14.982	26.3*0.3/0.5=15.78
37	38	803	3310	120.38	327.06	37.7	19.735	2800	2800	1.6	2.87	20.251	38.3*0.3/0.5=22.98
38	Outfall	459	3769	13.40	340.46	41.5	18.873	2800	2800	1.6	2.87	20.251	
39	Outfall	828	2741	226.00	244.24	33.2	16.396	2600	2600	1.6	2.73	16.609	(19.3+2.30+8.8)*0.3/0.5=18.24
40	Outfall	891	2731	145.70	150.14	32.9	10.153	2000	2000	2.5	2.87	10.332	7.40*0.3/0.5=4.44

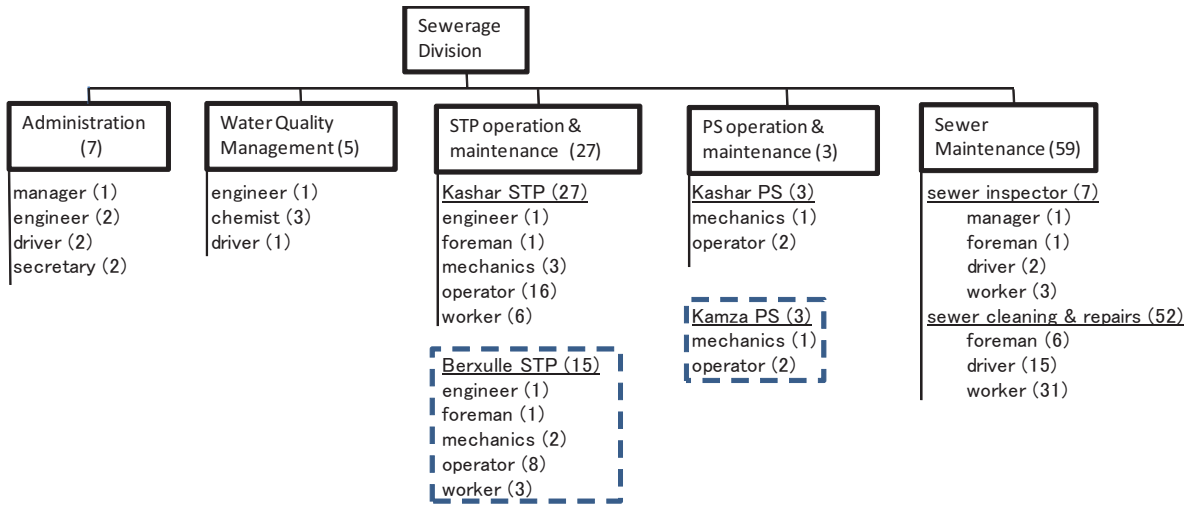
Source: JICA Study Team

7.8 Institutional, Organizational and Financial Reform for Sustainable Sewerage Administration

(1) Organizational Reform of UKT Sewerage Sector

In preparation for the inauguration of large-scale STPs, UKT has to strengthen its sewerage sector. In addition to the existing sewer pipe management section, there should be another section managing sewage treatment plants and pump stations. For the monitoring of the impact of discharge of treated water and the management of in-plant water quality, there should also be a water quality management section. Outsourcing of the O&M works of sewage treatment plants is one available option, say, in the case of Bovilla water treatment plant. But outsourcing shall be confined to the special task, like water quality analysis, so that STP personnel can obtain the know-how of appropriate operation of the plant.

A new organization for the O&M works after the completion of Kashar STP was proposed as shown in Figure 7.8.1. This organizational chart was proposed in the 2007 JICA study.



Source: 2007 JICA Study Report

Figure 7.8.1 Proposed Organization Chart for Sewerage Division of UKT

(2) Required training for Sewerage O&M section of UKT

Training programs shall be elaborated especially for asset management and quantitative process operation and preventive maintenance. Main items to be trained in the program are described as follows.

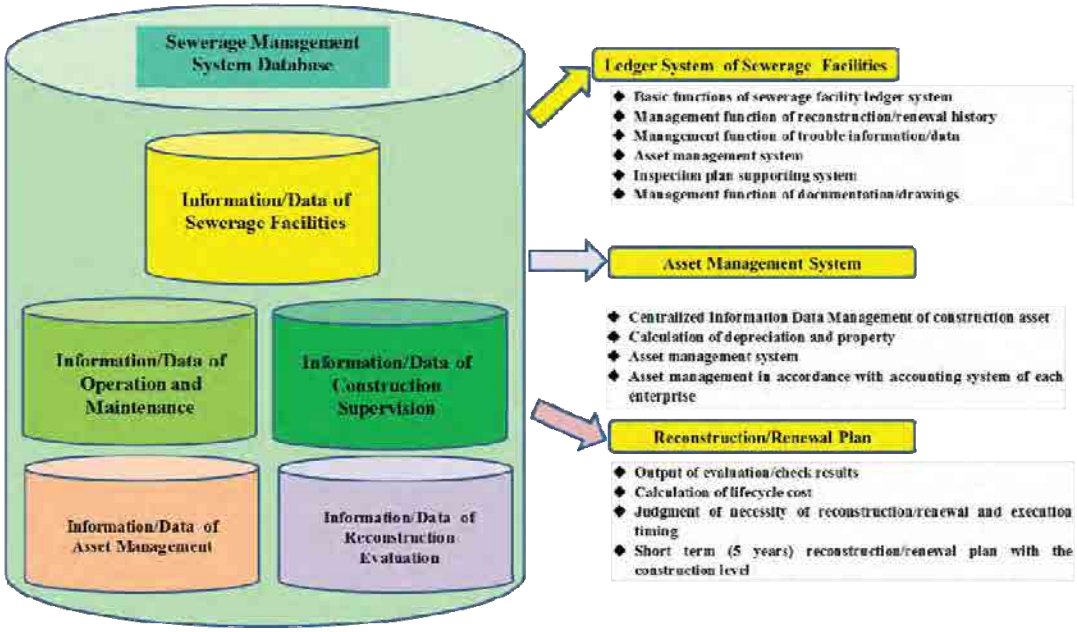
- **Asset Management**

When the proposed sewerage facilities are constructed, UKT will own a significant quantity of sewerage assets. These assets need to be maintained and utilized adequately. For this purpose, all information regarding sewerage facilities including all records and drawings should be unified and centralized in a database system supported with a mapping/ledger system. It can be used as the fundamental logistics necessary for establishing efficient operation and maintenance, procedures in particular, for preventive maintenance, by the Sewerage Division. Figure 7.8.2 shows the outline of the Sewerage Management System Database.

- **Quantitative Process Operation and Preventive Maintenance**

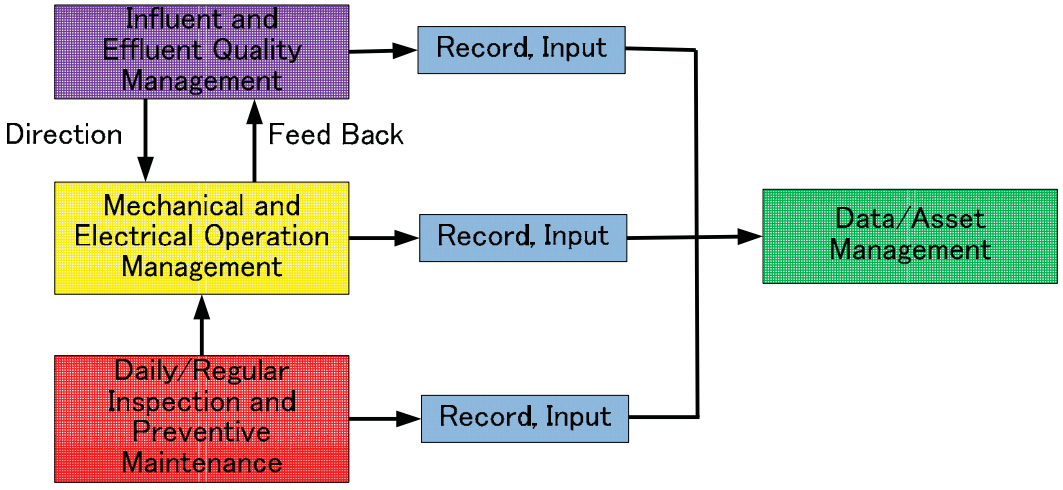
Proficient engineering and operational knowledge are required by the O&M personnel of the proposed sewerage facilities. UKT is required to have expert engineers at each facility in order to attain total effective and efficient engineering with the concept of quantitative operation and preventive maintenance. Figure 7.8.3 shows the concept of quantitative process operation and maintenance in the sewage treatment plant.

Quantitative process operation based on team work and cooperation among the STP operations personnel is required to facilitate the way in which the STP achieves the designed effluent quality.



Source: JICA Study Team

Figure 7.8.2 Outline of Sewerage Management System Database

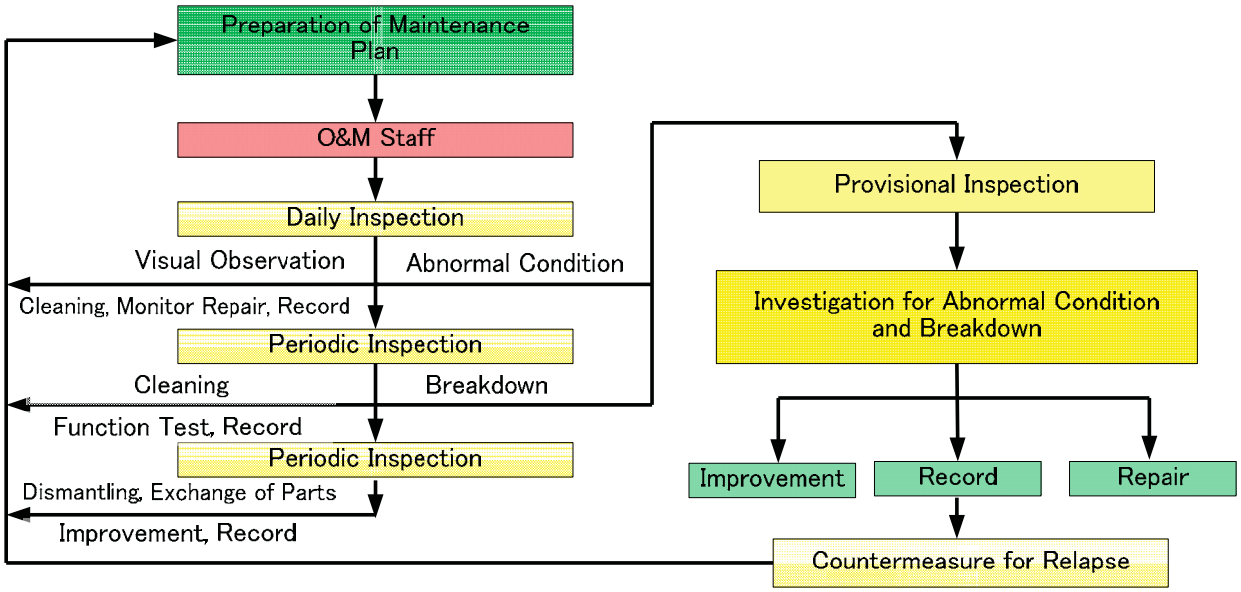


Source: JICA Study Team

Figure 7.8.3 Concept of Quantitative Process Operation in STP

Quantitative process operation based on proper monitoring and control of sewage and sludge quality and quantity is the first step in overall STP quality control, which includes data/asset management and energy use optimization through optimized operation and maintenance of the equipment and facilities of the sewage treatment plant.

Mechanical and electrical operation management is not only for sewage treatment plants but also for the management of pump stations and sewers. In order to sustain sound function and prevent accidents at the facilities, preventive maintenance is indispensable and an adequate maintenance plan needs to be established. As a result of implementing the planned maintenance, the plan needs to be periodically reviewed since there may be instances where the contents and frequency of some activities are not appropriate. Also, results of maintenance activities must be recorded so as to make full use of existing prior information for the repairs and rehabilitation in the future. Figure 7.8.4 shows the approach to preventive maintenance.



Source: JICA Study Team

Figure 7.8.4 Outline of Preventive Maintenance Plan

Considering that current O&M activities by sewerage section of UKT is conducted based on the annual maintenance plan although existing activities are limited to the sewer network and manholes, necessity of preventive maintenance seems understood to some extent.

Without maintaining an awareness of quantitative process operation and preventive maintenance of the STP, training will end in failure. The training program should focus on how it can make trainees comprehend and make a habit of these concepts. It is necessary to keep in mind that installation of asset management software will become meaningless without this awareness.

(3) Financial Reform

Sewage tariff is set to cover the increasing STP maintenance cost considering the rate against water tariff. It is proposed that sewage tariff be increased up to 50 or 60% of water tariff.

7.9 Phasing of Sewerage Development

In this section, establishment of the projects and their priority is discussed. After that, project cost is investigated by stage.

(1) Project Formation

A sewerage project is usually formed considering one SD as a unit project. In case one SD is large, a phased project is formed.

In the 2007 JICA Report, a three-stage construction plan was proposed as follows:

- Kashar SD Phase I Project (Priority Project) 2009 to 2013
- Kashar SD Phase II Project 2014 to 2017
- Berxulle SD Project 2018 to 2021

Through the revision works by Japanese ODA Loan consultants, expansion project of Kashar Phase II area was created setting the target year at 2030.

- Kashar SD Phase II expansion project

And finally, within newly established Farka SD, a staged development plan considering the early sewerage development of Sauk area is investigated and two projects took shape, that is:

- Sauk Area Sewerage Development Project, and
- Farka SD Project.

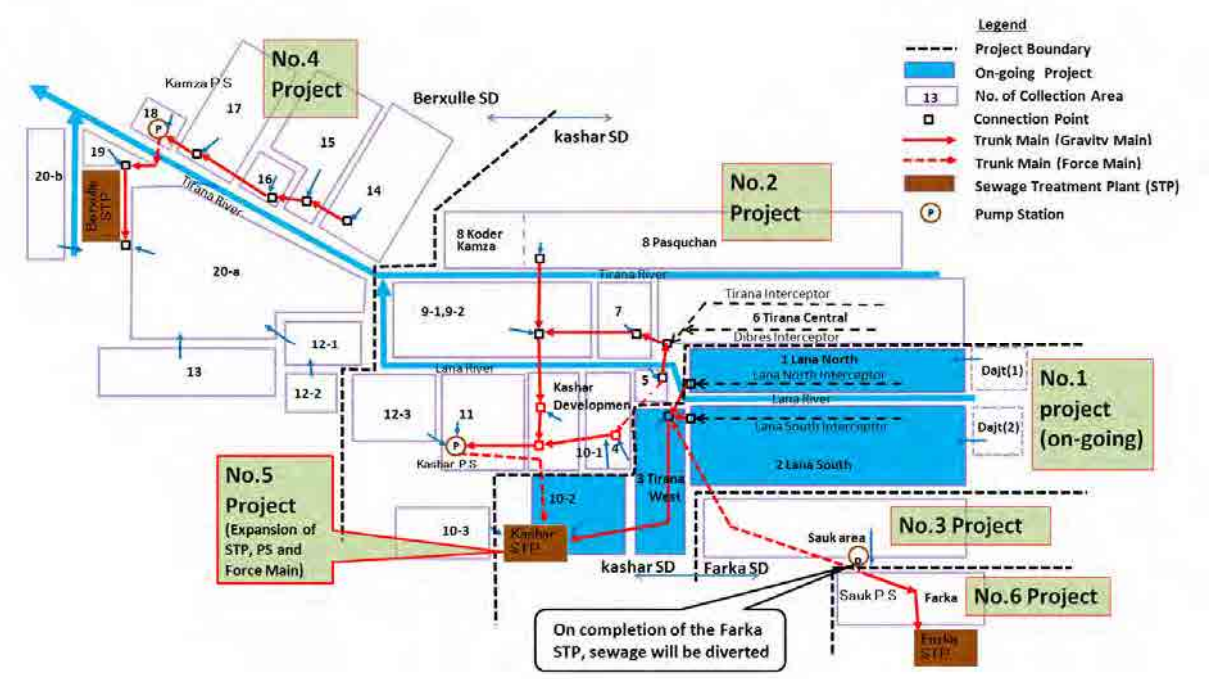
As previously explained, the first Sauk project is a tentative plan to pump the sewage from Sauk area to the Kashar SD Phase I area. Farka SD project then includes conveying Sauk sewage to Farka STP together with development of Farka area.

An outline of the above-stated six projects is summarized in Table 7.9.1 considering the promising time horizon. Figure 7.9.1 shows a schematic figure of formed projects.

Table 7.9.1 Formation of Sewerage Projects

No.	Project	Period	Framework	Main Facility	Remarks
1	Kashar SD Phase I Project (On-going)	2009 – 2015 Originally 2009-2013	Service Population: 335,880 persons STP Inflow Volume: 94,046 m^3/d (Daily Maximum)	Trunk Main: 4.42 km Main & Branch Sewer: 11.16 km Improvement of Lana South Interceptor D800-1500 L=2,990m Kashar STP Phase I Capacity: 94,100 m^3/d (Daily Maximum)	This project is on-going under the Japanese ODA Loan fund. Construction bidding and contract is due in 2012 fiscal year.
2	Kashar SD Phase II Project	2016 – 2021 Originally 2014-2017	Total Service Population: 816,772 persons Total STP Inflow Volume 253,202 m^3/d (Daily Maximum)	Trunk Main: 10.3 km (including 2.9 km of Force Main) Main & Branch Sewer: 79.6 km Kashar STP Phase II Capacity:253,300 m^3/d (Daily Maximum) expansion volume; 159,200 m^3/d (Daily Maximum) Kashar PS 141 m3/min (Hourly Maximum)	Feasibility study of this project is included in consulting service of Japanese ODA Loan consultants
3	Sauk Area Development Project	2022 - 2024	Service Population: 20,000 persons Sewage Volume 6,200 m^3/d (Daily Maximum)	Main & Branch Sewer 44.3 km (including 6.58 km of Force main to Kashar SD) Sauk PS Capacity: 6.2 m^3/min (Hourly Maximum)	Sewage of Sauk area is tentatively transferred to Kashar SD, to the head of No. 3 Trunk Main Sewer.
4	Berxulle SD Development Project	2025 – 2030 Originally 2018-2021	Service Population: 155,917 persons STP Inflow Volume: 48,334 m^3/d (Daily Maximum)	Trunk Main 6.8 km (including 0.29 km of Force Main) Main & Branch Sewer: 74 km Kamza PS: 32.4 m^3/min (Hourly Maximum) Berxulle STP Capacity: 48,400 m^3/d (Daily Maximum)	This project was third stage of Master Plan of 2007 JICA Study, reviewed and postponed to 2030 by Japanese consultants of the 2009 Japanese ODA Loan
5	Kashar SD Phase II Expansion Project	2028 - 2030	Total Service Population: 1,034,384 persons STP Inflow Volume 320,660 m^3/d (Daily Maximum)	Kashar STP Expansion from 253,300 m^3/d to 320,700 m^3/d (Daily Maximum) Kashar PS Expansion from 141 m^3/min to 206 m^3/min (Hourly Maximum) Additional Force main from PS to STP D1000 mm pressure pipe of 2.9 km length is installed.	This expansion is planned mainly due to the population increase of Kashar Development Area.
6	Farka SD Development Project	2031 - 2034	Total Service Population: 40,000 persons Total STP Inflow Volume: 12,400 m^3/d (Daily Maximum)	Main & Branch Sewer: 35.4 km exclusively for Farka area Farka STP Capacity: 12,400 m^3/d (Daily Maximum)	After the completion of Farka STP, sewage from Sauk area is diverted to Farka SD by gravity flow, decommissioning Sauk PS.

Legend: STP= Sewage Treatment Plant, PS = Pump Station, SD= Sewer District
Source: JICA Study Team



Source: JICA Study Team

Figure 7.9.1 Schematic Figure of Formed Project

(2) Project Phasing

The Japanese ODA loan project consultants who started their consulting service for Priority Projects in February 2010 have revised the schedule, preparing two target years, 2022 and 2030, for Kashar SD Phase II project and one target year, 2030, for Berxulle SD project. The reason why Kashar SD Phase II project has two target years is that population settlement in Kashar Development Area is likely to happen after 2022 up to 2030. A schedule of construction details of the master plan area, however, was not indicated, while construction of priority project facilities will finish in 2015.

Of the area covered by three newly established SDs, it is clear that Kashar SD Phase II project has higher priority than the other areas since central core area of MOT is included in this project's study area, and feasibility study of this Phase II project is included in the consulting service of the Japanese ODA Loan consultants

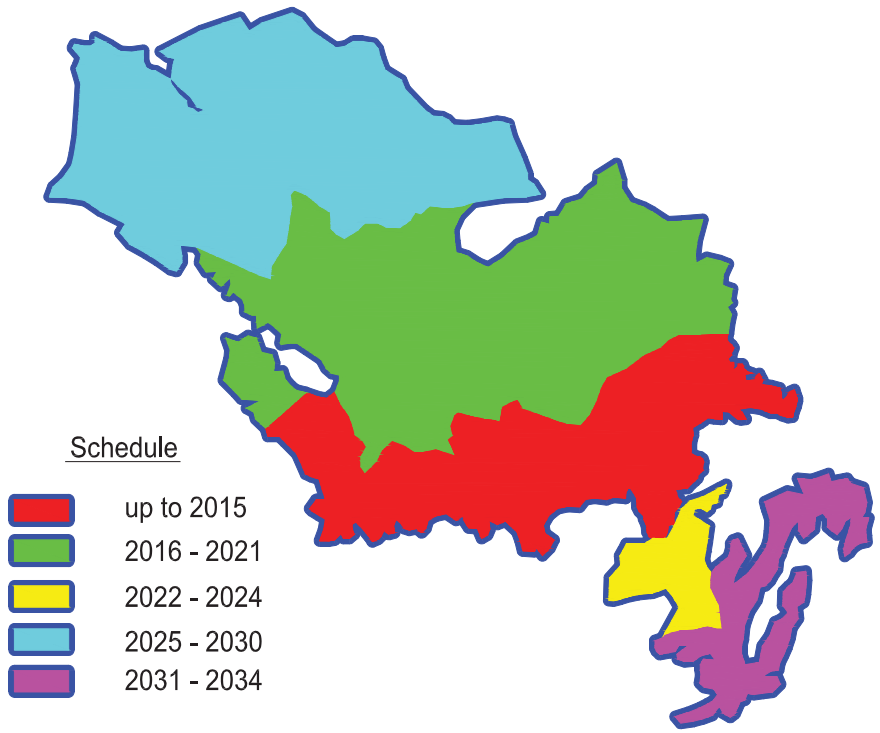
As discussed in the former section, Sauk area in MOT is an important area for the development of MOT, and it is desirable to cover this area tentatively by Kashar SD, separating from Farka SD. This area will be converted to Farka SD which has lower priority than originally proposed Berxulle SD

Based on the above-stated reason, prioritization is shown in Table 7.9.2 and Figure 7.9.2

Table 7.9.2 Timetable for the Projects (1)

	Staged Plans	Construction Period
1	Kashar Sewer District Phase-I Project (on-going)	2013 - 2015 (3 yars)
2	Kashar Sewer District Phase-II Project	2016 - 2021 (6 years)
3	Sauk Area Development Project	2022 - 2024 (3 years)
4	Berxulle Sewer District Project	2025 - 2030 (6 years)
5	Kashar Sewer District Expansion Project	2028 - 2030 (3 years)
6	Farka Sewer District Project	2031 - 2034 (4 years)

Source: JICA Study Team



Source: JICA Study Team

Figure 7.9.2 Phased Sewerage Development

(3) Project Cost

Sewerage project cost is re-estimated by six newly proposed stages referring to the above cost. Basis for cost estimate are as follows.

- Basic price is Albanian Lek and conversion to foreign currency is as follows:

1 US Dollar = 105.700 Albanian Lek = 83.294 Japanese Yen

- Foreign and local currency is portioned as the type of material and works by each content.
- Direct cost is referred to the 2007 JICA Report and adjusted by flow and dimension. Breakdown to civil, architectural, mechanical and electrical works shall be appropriately considered.
- Indirect cost includes land acquisition cost, administration cost, engineering service cost, physical contingency, capacity building cost, and tax (VAT). Administration cost is 5% and engineering service cost and physical contingency make up 10% of the direct cost, same percentage of the 2007 JICA study, while VAT is 20% for local currency portion of direct cost.

Direct cost of the on-going Phase I project has not yet been finalized and feasibility study cost in the 2007 JICA Study is used. Same method is applied for Berxulle SD cost since the framework of this SD has not changed so much. Phase II cost of Kashar SD is reviewed since pipeline route and dimension was revised by the Japanese ODA Loan Consultants. Construction cost for newly proposed Farka SD including Sauk area development cost was described in the former section. Capacity building cost is estimated assuming on-the-job and classroom training by Japanese consultants in Tirana. Project cost by each stage is summarized in Table 7.9.3. Detailed data is in the Technical Notes.

Table 7.9.3 Project Cost

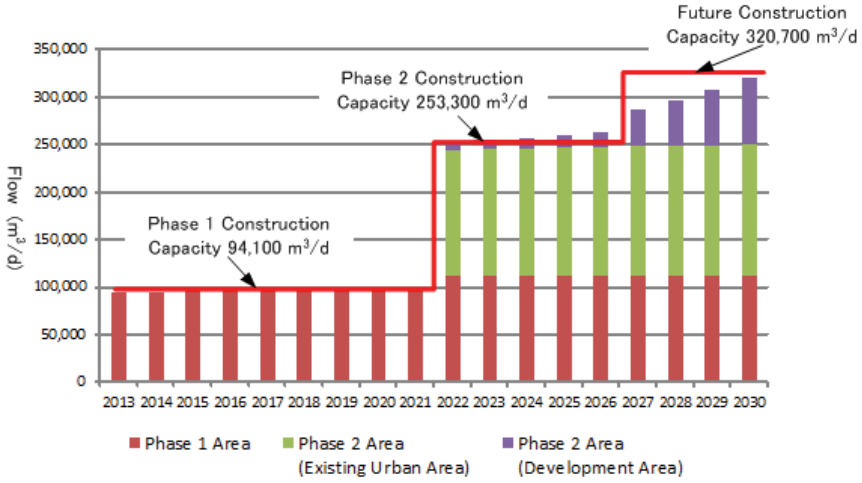
Component	Kashar 1st Phase (FS Cost)			Kashar 2nd Phase			Sauk area development			Berxulle SD project			Kashar Expansion project			Farka SD project			Project Total		
	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total
Direct Construction Cost																					
Trunk Sewer	2,038		2,038	2167	272	2,439			0	174	355	529	101	13	114			0	4,480	640	5,120
Main Sewer		288	288		1748	1,748	165	828	993		1520	1,520			0		779	779	165	5,163	5,328
Kashar PS			0	328	298	626			0			0	299	26	325			0	627	324	951
Kashar STP	2,000	2,054	4,054	2626	2598	5,224			0			0	1,114	911	2,025			0	5,740	5,563	11,303
Kamza PS			0			0			0	208	137	345			0			0	208	137	345
Berxulle STP			0			0			0	1419	948	2,367			0			0	1,419	948	2,367
Sauk PS			0			0	55	38	93			0			0			0	55	38	93
Farka STP			0			0			0			0			0	484	260	744	484	260	744
Total of Direct Construction Cost	4,038	2,342	6,380	5,121	4,916	10,037	220	866	1,086	1,801	2,960	4,761	1,514	950	2,464	484	1,039	1,523	13,178	13,073	26,251
Indirect Construction Cost																					
Land Acquisition and Compensation		1,146	1,146		90	90.0			0			0		57	57		160	160	0	1,453	1,453
Administrative Expense		319	319		502	502		54	54		238	238		123	123		76	76	0	1,313	1,313
Engineering Services	404	234	638	512	492	1,004	22	87	109	180	296	476	151	95	246	48	104	152	1,318	1,307	2,625
Physical Contingency	404	234	638	512	492	1,004	22	87	109	180	296	476	151	95	246	48	104	152	1,318	1,307	2,625
Capacity Building Cost	96	51	147	84	25	109													180	76	256
Value Added Tax (VAT)			0		983	983		173	173		592	592		190	190		208	208		2,146	2,146
Total of Indirect Cost	904	1,984	2,888	1,108	2,583	3,692	44	401	445	360	1,422	1,782	303	560	863	97	652	749	2,816	7,602	9,555
Total Project Cost	4,942	4,326	9,268	6,229	7,499	13,729	264	1,267	1,531	2,161	4,382	6,543	1,817	1,510	3,327	581	1,691	2,272	15,994	20,675	35,806

Source: JICA Study Team

7.10 Listing of Priority Projects

(1) Review of Priority Project

In the Master Plan, Phase 2 project of Kashar SD has highest priority and is selected as priority project. Due to the delay of Phase 1 project, however, Phase 2 project is anticipated to finish in 2021, soon before the target year of 2022. There is apprehension that the sewage treatment capacity will become insufficient soon after the completion of the project. Assuming a comparatively low growth rate in Kashar Development Area up to 2026, future expansion facility for Kashar SD is expected to be operated from 2027, following the three-year construction period from 2024 to 2026. Inflow increase and corresponding capacity expansion are explained in Figure 7.10.1.



Source: JICA Study Team

Figure 7.10.1 Staged Construction Plan

For the above-stated reason, it is reasonable to integrate Phase 2 project and Future Expansion project of Kashar SD into one uninterrupted project. From the aspect of project evaluation, the project in accordance with increasing population and sewage volume is preferable.

Table 7.10.1 Selection of Priority Project

Priority Project on-going project

No.	Project	Period	Framework	Main Facility	Remarks
1	Kashar SD Phase I Project (On-going)	2009 - 2015	• Service Population: 335,880 persons • STP Inflow Volume: 94,046 m^3/d (Daily Maximum)	• Trunk Main 4.42 km • Main & Branch Sewer: 11.16 km • Improvement of Lana South Interceptor D800-1500 L=2,990m • Kashar STP Phase I Capacity: 94,100 m^3/d (Daily Maximum)	This project is on-going under the Japanese ODA Loan fund. Construction bidding and contract is due in 2012 fiscal year.
2	Kashar SD Phase II Project	2016 - 2021	• Total Service Population: 816,772 persons • Total STP Inflow Volume: 253,202 m^3/d (Daily Maximum)	• Trunk Main 10.3 km (including 2.9 km of Force Main) • Main & Branch Sewer 79.6 km • Kashar STP Phase II Capacity: 253,300 m^3/d (Daily Maximum) Expansion volume; 159,200 m^3/d (Daily Maximum) Kashar PS 141 m3/min (Hourly Maximum)	Feasibility study of this project is included in consulting service of Japanese ODA Loan consultants.
3	Sauk Area Development Project	2022 - 2024	• Service Population: 20,000 persons • Sewage Volume: 6,200 m^3/d (Daily Maximum)	• Main & Branch Sewer: 44.3 km (including 6.58 km of Force main to Kashar SD) • Sauk PS Capacity: 6.2 m^3/min (Hourly Maximum)	Sewage of Sauk area is tentatively transferred to Kashar SD, to the head of No.3 Trunk Main Sewer.
4	Berxulle SD Development Project	2025 - 2030	• Service Population: 155,917 persons • STP Inflow Volume: 48,334 m^3/d (Daily Maximum)	• Trunk Main 6.8 km (including 0.29 km of Force Main) • Main & Branch Sewer: 74 km • Kamza PS: 32.4 m^3/min • (Hourly Maximum) • Berxulle STP Capacity: 48,400 m^3/d (Daily Maximum)	This project was third stage of Master Plan of 2007 JICA Study, reviewed and postponed to 2030 by Japanese consultants of 2009 ODA Loan
5	Kashar SD Improvement Project	2024 - 2026	• Total Service Population: 1,034,384 person • STP Inflow Volume: 320,660 m^3/d (Daily Maximum)	• Kashar STP Expansion from 253,300 m^3/d to 320,700 m^3/d (Daily Maximum) • Kashar PS Expansion from 141 m^3/min to 206 m^3/min (Hourly Maximum) • Additional Force main from PS to STP D1000 mm pressure pipe of 2.9 km length is installed.	This expansion is planned mainly due to the population increase of Kashar Development Area.
6	Farka SD Development Project	2031 - 2034	• Total Service Population: 40,000 persons • Total STP Inflow Volume: 12,400 m^3/d (Daily Maximum)	• Main & Branch Sewer: 35.4 km exclusively for Farka area • Farka STP Capacity: 12,400 m^3/d (Daily Maximum)	After the completion of Farka STP, sewage from Sauk area is diverted to Farka SD by gravity flow, decommissioning Sauk PS.

Legend: STP= Sewage Treatment Plant, PS= Pump Station, SD= Sewer district
Source: JICA Study Team

8. Strategic Environmental Assessment (SEA)

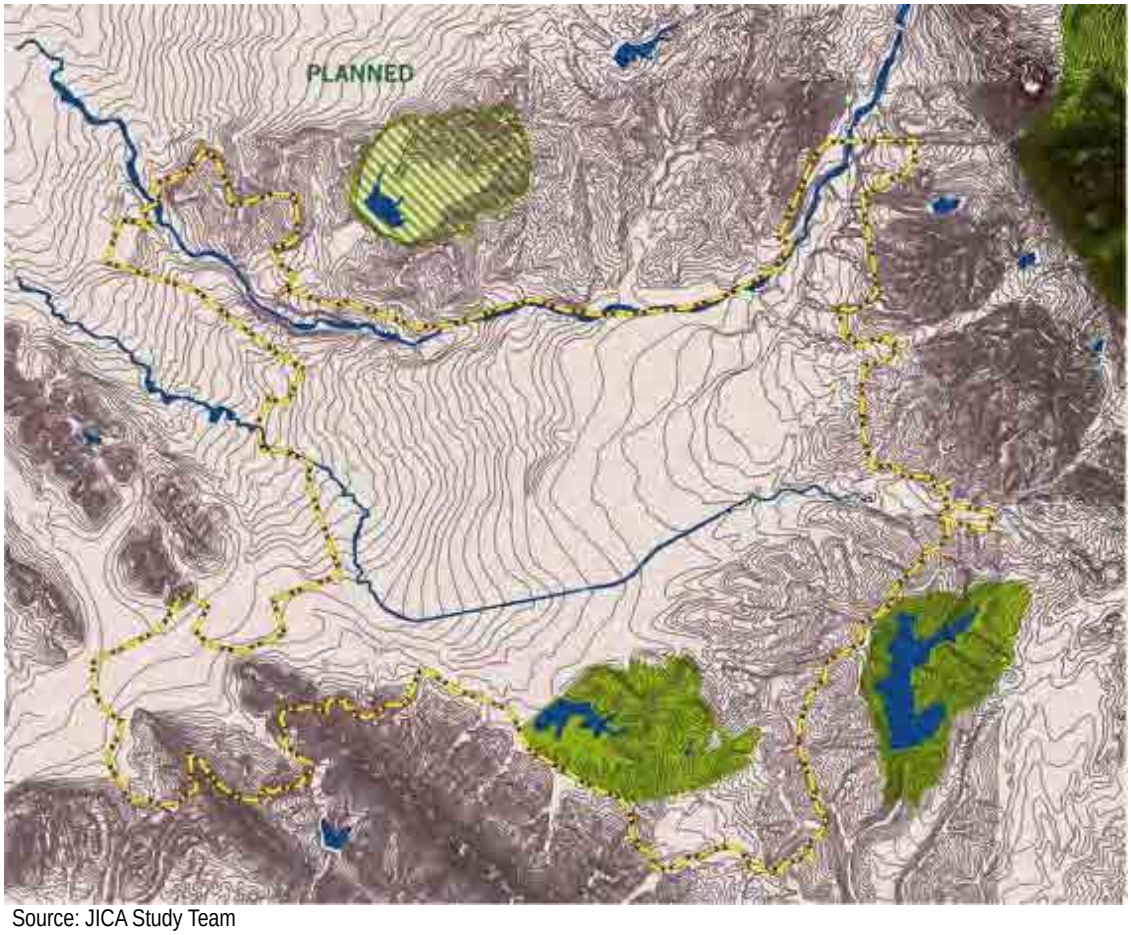
8.1 Current Status and Salient Environmental Feature

8.1.1 Natural Environment

(1) Topography and Geology

1) Topography

Municipality of Tirana (MOT) is located in the alluvial plain, where the average altitude is 110 m (360 ft) above sea level and the land gradually slopes to south-west direction. The major river system is composed of 1) Terkuza River, which runs in its north part and flows into Tirana and Ishmi Rivers, and 2) Tirana River, which runs through the city from east to west. Two small river systems, i.e., Limuthi River and Lana River, that runs through the city center; flow into Tirana River. And then there is Erzeni River, which runs south of the city and flows into the Adriatic Sea. A map detailing the city's topography is shown in Figure 8.1.1.



Source: JICA Study Team

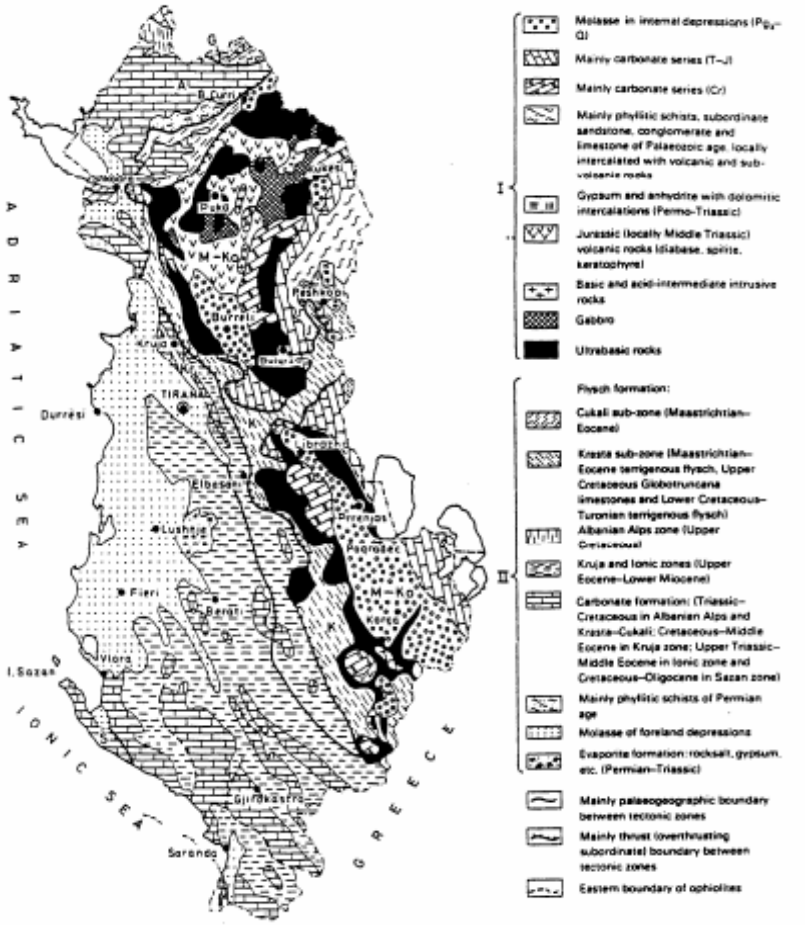
Figure 8.1.1 Topographic Map of MOT

2) Geology

Albania is part of the Mediterranean Alps. Its geological structure is divided into Alban inner zone in its east and Alban external zone in its west by the overthrust fault in the direction of north to south. The Alban inner zone was pushed into west direction by the tectonic activity in the Mesozoic era and became a mountain area. The east side is characterized by basic rocks, igneous activity of ultra and basic rocks, mineralization and metamorphism. The Alban external, on one hand, became a plain and distributed with sedimentary rocks.

The Municipality of Tirana (MOT) is located in the Alban external zone in the west side of the north-to-south fault and its geology provides a foreland depression.

The geology of Albania is shown in Figure 8.1.2.



Source: Report on Mineral Resources Development and Environment in Albania, Japan Oil, Gas and Metals National Corporation (JOGMEC),

Figure 8.1.2 Geology of Albania

(2) Flora and Fauna

Most of Albania's territory extends between 200 and 2,000 m above sea level with an average altitude of about 708 m. The territory is a mountainous and a coastal country which provides biodiversity. The diversity of habitats that extend over more than two-thirds of the territory is a characteristic of the country.

In Albania 3,200 species of higher plants, 800 fungi, and 1,200 diatoms as well as 313 species of fish, 323 birds, 36 reptiles, 70 mammals and 520 mollusks are identified so far. According to the Palearctic Habitat Classification, there are two bio-geographical regions in Albania: the Mediterranean and the Alpine. The major part of the country belongs to the Mediterranean type, which includes all the Southern part and the Northwest. Meanwhile the Alpine type covers the North-eastern part of Albania.

Albania is an important migration route for migratory species of wild fauna. The main elements of the Albanian flora are Mediterranean (24%), Balkan (22%), European (18%) and Eurasian (14%). The Eurasian, Holarctic, Mediterranean and Balkan elements dominate the fauna spectrum of the country. "Holarctic" ecozone refers to the habitats found throughout the northern continents of the world as a whole. This region is divided into the Palearctic, consisting of Northern Africa and all of Eurasia, with the exception of Southeast Asia and the Indian subcontinent, and the Nearctic, consisting of North America, north of southern Mexico.

Albania is distinguished for a diversity of genetic resources, species, and ecosystems. A general overview of the number of species known so far in Albania is shown in Table 8.1.1.

Table 8.1.1 Species of Flora and Fauna

Group of Flora and Fauna	Number of Species in Albania
Visible Algae	136
Microscopic Algae (Diatoms)	1,200
Fungi	800
Mosses	500
Ferns	45
Flowering Plants	3,200
Mollusks	520
Insects	4,000
Decapods	115
Echinoderms	46
Fishes	313
Marine Fishes	249
Freshwater Fishes	64
Amphibians	15
Reptiles	36
Birds	323
Mammals	70

Source: JICA Study Team

The plant species belong to 166 families and 1,022 genera. Out of this figure, 27 plant species and 150 subspecies are endemic to Albania. There are around 400 plant species in the Balkan region.

Table 8.1.2 shows the list of endangered species which has been designated in IUCN and Red List of Albanian Flora and Fauna. The updating of the list according to the legal framework is conducted every five years.

Table 8.1.2 Threatened Species based on IUCN and Red List of Albanian Flora and Fauna

Category	Total Number of Species (IUCN)	Red List of Albania
Mammal	70	36
Bird	323	117
Reptile	36	20
Amphibian	15	2
Fish	253	23

Source: Biodiversity and the protected areas system in Albania, Mehmet Metaj,

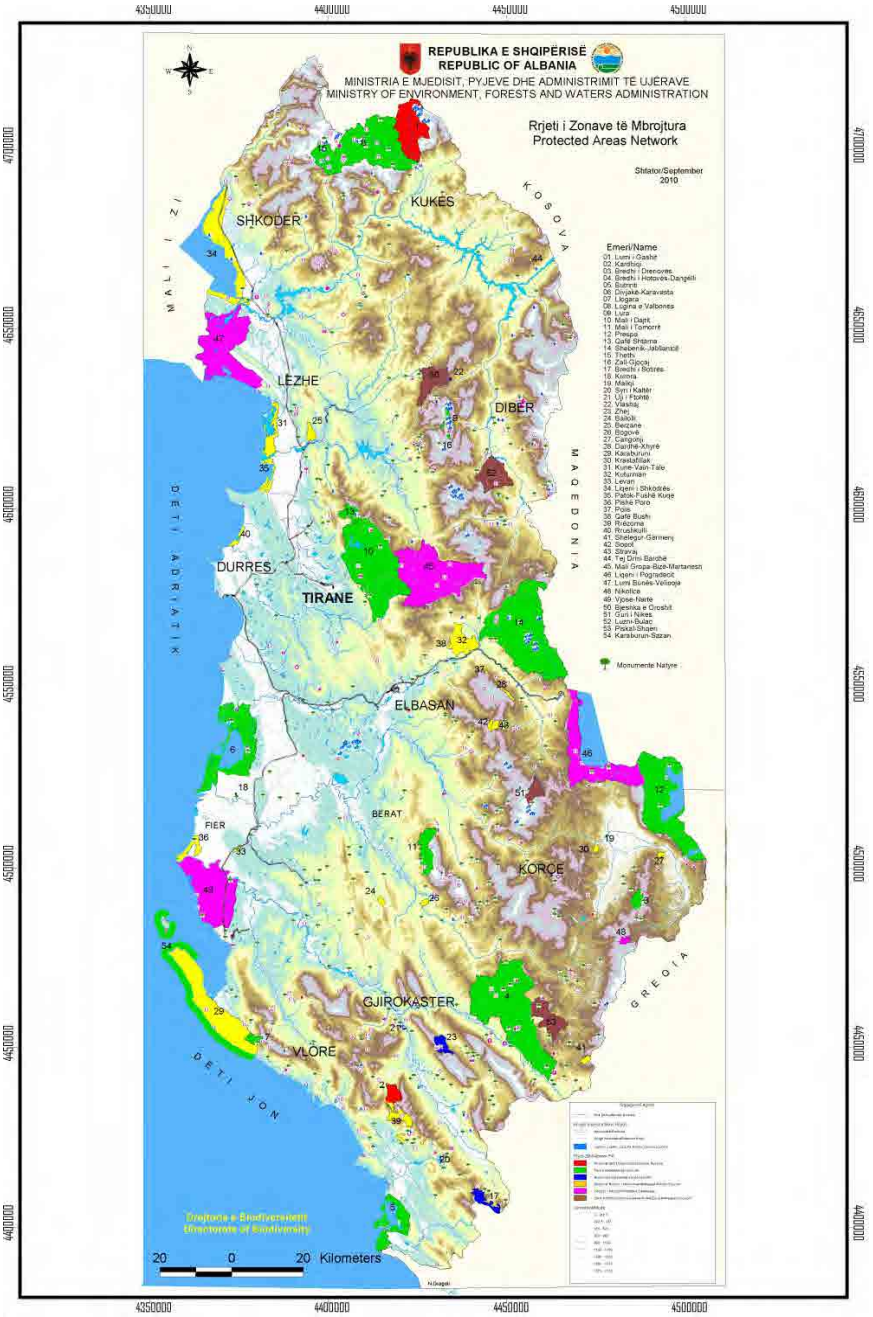
The scale of threat for the bird species is listed in the Red Book of the Albanian fauna according to different IUCN categories.

(3) Protected Area

The location of protected areas is shown in Figure 8.1.3.

The protected areas of Albania include 15 national parks, 5 protected landscape areas, 4 strict nature reserves, 26 managed nature reserves, and other protected areas. The largest national park of Albania is Llogara National Park which covers an area of 1,010 hectares.

There is no protected area in the study area.



Source: Protected Areas Network, Ministry of Environment, Forests and Water Administration, 2010

Figure 8.1.3 Location Map of Protected Areas

8.1.2 Pollution

(1) Air Pollution

1) Monitoring Stations

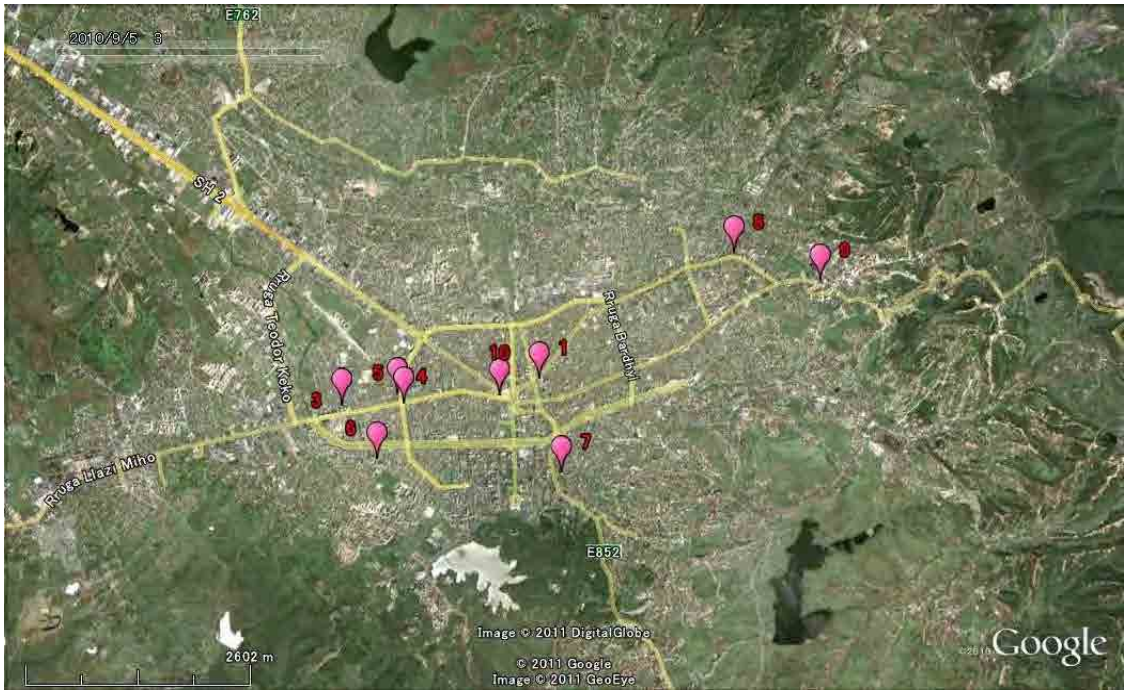
There are monitoring stations for air pollution in MOT.

The list of the monitoring stations is shown in Table 8.1.3 and its location map is shown in Figure 8.1.4. Five monitoring sites are chosen to monitor the direct exposure of population to air pollutants. Other sites represent the indirect influence of pollution to the population of the city.

Table 8.1.3 List of Monitoring Stations for Air Pollution

No.	Name of Monitoring Station	Site Condition
1	Poliklinika Qendrore	Traffic - Urban
2	IHM (Institute of Hydrometeorology)	Traffic - Urban
3	IHM Laboratory	Sub-Urban
4	Hotel Mondial	Traffic - Urban
5	21 Dhjetori	Traffic - Urban
6	Institute of Environment (IE)	Suburban
7	Directorate of Public Health (DPH)	Urban
8	Agency of Environment and Forestry (AEF)	Background Suburban
9	Institute of Public Health (IPH)	Suburban
10	Ministry of Environment, Forestry, and Water Administration (MOEFWA)	Traffic - Urban

Source: Tirana Air Quality Report, Environmental Center for Administration & Technology, December, 2008



Source: Tirana Air Quality Report, Environmental Center for Administration & Technology, Tirana, 2008

Figure 8.1.4 Location Map of Monitoring Stations

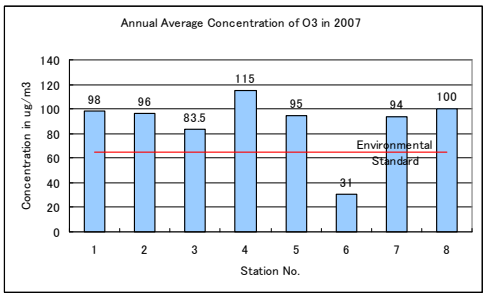
2) Monitoring Results

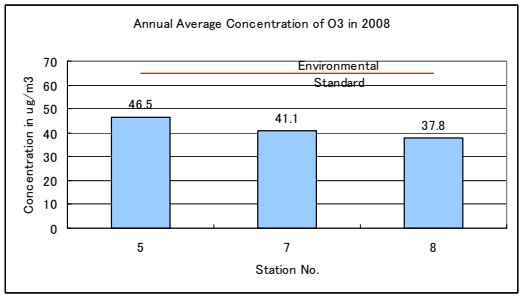
The traffic volume of Municipality of Tirana (MOT) has drastically increased from the few hundreds in 1990 to 70,000 currently. However, most of the vehicles are as old as 15 years or more. In addition, the vehicles use diesel oil in most cases. Under this background, the air quality of MOT has been gradually deteriorated.

Figure 8.1.5 shows the monitoring results in the monitoring stations which are listed in Table 8.1.3.

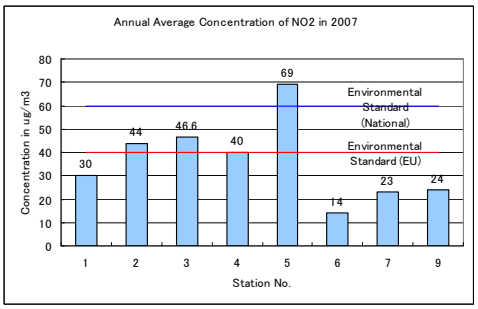
The pollutant parameters of O_3 and PM_{10} exceed the national or European Union (EU) standards especially in station 5, which is located at 21 Dhjetori Street of the city center. This means that the urban ambient air in MOT has been polluted by the increased number of vehicles.

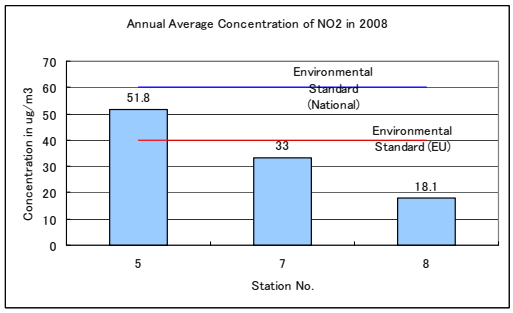
- O_3



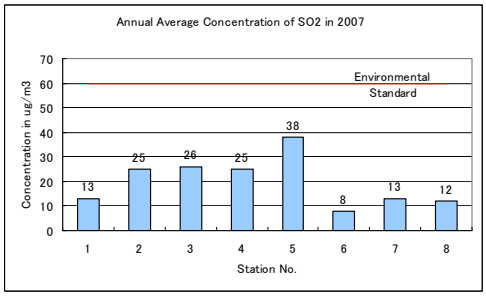


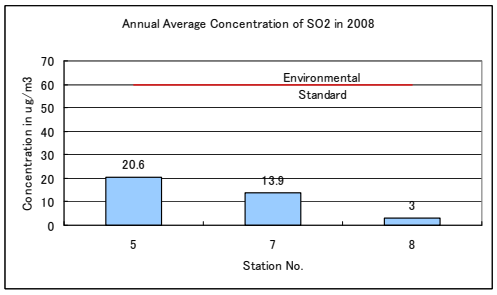
- NO_2



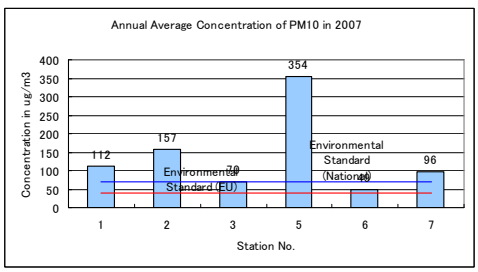


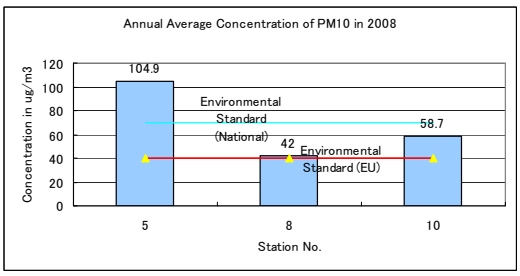
- SO_2





- PM_{10}





Source: Tirana Air Quality Report, ECAT, December 2008,

Figure 8.1.5 Monitoring Results of Air Pollutants in Major Stations in Urban Tirana

(2) Water Pollution

The project area is located in the upstream area of Ishmi River Basin. Two major rivers, Lana and Tirana, run through MOT.

JICA conducted a water quality survey in November and December 2005. The survey results, shown in Table 8.1.4, indicate that the abovementioned two rivers are extremely polluted with the results exceeding both the EU and the Norwegian water quality standards especially in the parameters of BOD_5, COD and fecal coliform.

The aforementioned deterioration of the two rivers is estimated to be caused by the direct discharge without any treatment of effluents from houses, commercial establishments, and illegal dumping of garbage into the rivers as shown in the pictures in Figure 8.1.6.

Table 8.1.4 Results of Water Pollution

A. Dry Weather

Parameter	Unit	Tirana River	Lana River	Environmental Standard (EU[1])	Environmental Standard (Norwagian[2])
pH	-	7.2 – 7.8	7.4 – 7.8	6 - 9	-
BOD5	Mg/l	12.8 – 70.0	10.2 – 87.0	< 6	-
COD	Mg/l	32.0 – 161.3	22.4 – 184.4	-	3.5 – 6.6
Total N	Mg/l	0.66 – 19.36	1.85 – 47.24		400 - 600µg/l
Total P	Mg/l	0.14 – 6.50	0.25 – 32.0	0.4	-
Suspended Solids	Mg/l	200 - 275	210 - 355	< 50	-
Fecal Coliform	MPN/100mL	7,000 – 37,000,000	63,000 – 205,000,000	-	50 – 200

B. Wet Weather

Parameter	Unit	Tirana River	Lana River	Environmental Standard (EU[1])	Environmental Standard (Norwagian[2])
pH	-	7.2 – 7.6	7.6 – 7.8	6 - 9	
BOD_5	Mg/l	8.1 – 76.3	9.6 – 96.0	< 6	
COD	Mg/l	17.6 – 186.9	21.1 – 211.2		3.5 – 6.6
Total N	Mg/l	0.66 – 19.36	1.85 – 47.24		400 - 600µg/l
Total P	Mg/l	0.64 – 15.99	1.12 – 57.43	0.4	
Suspended Solids	Mg/l	264 - 504	257 - 502	< 50	
Fecal Coliform	MPN/100mL	300 – 14,000,000	68,000 – 182,000,000		50 – 200

Notes:
1) The standards for Cyprinid waters were applied as a comparison with the results of the JICA study.
2) Class III was used for the comparison with the study results of the JICA study.
Source: "The Study on the Development Plan for Sewerage System and Sewage Treatment Plant for Greater Tirana in the Republic of Albania," March 2007, JICA

Figure 8.1.6 Photos of Illegally Dumped Garbage in Rivers in Urban Areas of MOT

(3) Noise

According to the "Environmental and Social Impact Assessment for Tirana Outer Ring Road," the noise level in MOT is different in the city. Some areas such as Elbasan road in the east and the Kavaja road in the west generate high noise level. The Kavaja road having a traffic volume of 29,000 motor-vehicles/day in 2008 is estimated to emit the noise level of 70.4 dB(A) at day time and 63.1 dB(A) at night time which exceeds the World Health Organization (WHO) standards of 55 dB(A) at day time and 45-55 dB(A) at night time.

8.1.3 Social Environment

(1) Ethnic Minority

Albania's population can be considered as homogeneous with only 2% to 3% ethnic minority population. Greeks are the largest minority group followed by Macedonians and Montenegrins in a very low number, while Roma, Egyptian and Arumanian people are recognized as "ethno-linguistic" minorities. Greeks take part in central and local government, and Macedonians and Montenegrins also do in the local authorities in the areas where they live. On the contrary, Roma and Egyptians are currently assumed as the poorest and the most marginalized ethno-linguistic groups. These groups in general suffer from the same common issues; however, the Egyptians being settled are somehow integrated, while the Roma usually face greater difficulties due to their traditional practice of migration.

The estimation of Roma population varies from 10,000 to 120,000 (ERRC 1997) and from 80,000 to 150,000. In most cases, their children are not registered at birth; hence, they are excluded from access to education, health care and other social services they are supposed to be entitled to.

The majority of Roma people work in the informal economy and collect herbs, sell blood to hospitals, or sell bottles and scrap metal. As a result, they are left out of the social and health security system (OSI Fact sheet, 2006:2). As compared to the majority of the Albanian population, the percentage of the very poor group of households among Roma and Egyptians is apparently much higher (De Soto and others 2002), and the Roma and Egyptians fall into lower poverty categories in comparison with the "white" Albanians (World Bank , 2005).

(2) Social Vulnerability

There is no area or group designated as "impoverished" or "vulnerable." On the other hand, the

Government of Albania specifies that deprived households without any income source or landholding for subsistence be supported by "Ndihma Economike (NE)" or Economic Aid. The budget allocation for NE is based on the lists of beneficiaries prepared at the municipality level.

However, government authorities as well as donors have commented and pointed out that the targeting and outreach of NE does not necessarily cover the "poor households" who need social protection as the selection of beneficiaries is often affected by political intervention.

(3) Land Use

Most of Tirana's infrastructures were constructed before 1990 according to a plan which envisaged a low-to-medium rise city with densities reflecting this planning. However, much of these infrastructures, while well planned, were probably built with limited financial resources. With the increasing population of the city, these aging infrastructures have been unable to cope with the increased demands. In addition, without any overall master plan, or even an assessment of resources, many partial urban studies (PUS) are approved for new buildings. It is not clear how sufficient water or power supplies for these new developments are assessed.

(4) Cultural / Historical Assets

Although Tirana is a relatively new city, there are substantial areas and buildings which could be marked for preservation. There are also some prehistoric settlement sites surrounding the city. Recently, the remains of an old castle have been unearthed during excavations adjacent to the Municipal Office. Most of the historic buildings and buildings of cultural value are grouped in and around Skanderbeg Square.

The Institute for Cultural Monuments (ICM), which is under the Ministry of Culture, Heritage and Sports, maintains a list of around 100 culturally prominent buildings in Tirana that need to be preserved. The list has not been updated since 1990, and many of the buildings on the list have been demolished or reconditioned, although permission is supposed to be required from both MOT and ICM to modify such buildings. No funds are allocated for preservation and there do not seem to be any incentives for owners of such buildings to preserve them either.

8.2 Review of Existing Policies, Previous Studies and Planning Issues

8.2.1 National Policy Framework on Environmental and Social Considerations

(1) National Policy

In Albania, the Ministry of Environment, Forestry and Water Administration (MOEFWA) has approved with decree of the Councils of Ministers the "Environmental Sector and Cross-Cutting Strategy 2007-2013. According to the national strategy, the main goal of the government environmental policy is a sustainable development with economic development through the accession to EU. Such national goal will be achieved through an effective incorporation of sector specific policies into an integrated approach.

The national environmental strategy is a part of the integrated approach being developed in the national strategy for development and integration. Most of the policies and measures in the said strategy are supported by the programs in sector strategies such as water, energy, and agriculture.

They are also supported by more detailed action programs addressing specific issues. The strategy is based in the Government Program of 2005-2009, that is resumed in the following paragraph.

(2) Government Program 2005 - 2009

The Government Program 2005 - 2009 is the national program aiming for sustainable development in line with the national policy toward rapid economic and human resource development.

The Program sets the priorities for environmental protection and sustainable use of natural resources as summarized below:

- The laws on environmental protection particularly the "polluter pays principle" shall be strictly enforced;
- Government will impose sanction on economic activities that cause air and water pollution, compromise tourism potential, damage forests and cause soil erosion;
- Air pollution particularly in large urban areas shall be reduced;
- All the "environmental hot spots" affected by old and abandoned industries shall be fully neutralized and rehabilitated;
- Government shall stop all the exploitive economic activities in the areas with risk of erosion, one of the main causes of flooding;
- Environmental friendly incentives for economic operators and individuals shall be adopted in compliance with the principles of free market;
- Improved provision of property rights and their enforcement shall be introduced including the transfer of the ownership and their right of use of environmental resources to the local communities such as forests, pastures, water, and land;
- Specific measures shall be adopted to prevent and stop the exploitative use of wild fauna, that is, through strengthening the monitoring and protection capacities to increase punitive measures;
- Expansion of surface area under legal protection, ensuring not only its preservation but also its development shall be observed;
- Ensuring a sustainable management of the natural resources, forestry and pastures by preserving biodiversity, productivity, and renewable capacity through guaranteeing the continuation of ecological, economic and social functions on the local, national, and global levels; and
- Rehabilitation of degraded forests to return them in optimal condition shall remain a priority of forestry sector and that of the environment, in general.

(3) Government Program 2009 – 2013

The Government Program of 2009-2013 regarding the environmental issues, has a continuity with the previous program. In this context, environmental protection and sustainable development will remain the backbone and the main objective of the government.

Protection and enhancement of environmental quality is based on a few basic tools:

- The gradual adoption of the EU environmental standards and the establishment of the monitoring instruments, systems of inspection and penalties;

- The adoption of fiscal instruments to guide the behavior of operators towards the compliance of environmental standards and / or to promote the investments that have positive effect on the environment;
- The conservation instruments and /or the development instruments applied to zones and / or systems that have environmental values, supported by public funds and / or private;
- Rehabilitation of the inherited polluted areas through public or private funds; and
- General public environmental education and awareness as well as dedicated education and awareness for any social category or group.

(4) Strategies on Environmental and Social Considerations

The strategic priorities established as the government's programs are 1) Enforcement of environmental legislation; 2) Adoption of EU's legal standards; 3) Financial support for environmental protection; 4) Environmental resource management; 5) Enhancement of public awareness; and 6) Decentralization of environmental control. These are explained below.

1) Enforcement of Environmental Legislation

The enforcement of environmental legislation is currently weak. Greater enforcement will require additional resources to be given to the Regional Environment Agencies (REA). Strengthening of the REA will be important as a means for communication between the national and local level in line with the decentralization process. At present, the level of respect for environmental law is moderately low. Changes in behavior and attitudes of individuals and business entities will require a number of measures including improvements in legislation and communication. Enforcement campaign will be necessary.

2) Adoption of EU's Legal Standards

Adoption of EU's environmental standards is a requirement for the accession process of EU membership. The public sector capacity development will be necessary to transpose the *acquis communautaire* from short to medium term. The endorsement of environmental standards for air, water quality, and sold waste management will be a priority issue for the urban and rural infrastructure.

3) Financial Ssupport for Environmental Protection

Financial expenditures will be necessary to comply with the environmental standards. Current program of public investment in the following environmental issues is enhanced and a sustainable investment program is developed to achieve EU's standards within 20 years.

- Drinking water standard
- Waste water treatment
- Solid waste management
- Soil contamination
- Technology improvement of state-owned industries

4) Environmental Resource Management

The government intends to establish a sustainable environmental resource management on the

following issues:

- Exploitation of mineral resources: sustainable administration without negative impact on environment;
- Exploitation of forestry and pasture: sustainable management to guarantee future resource abundance;
- Exploitation in fishery: sustainable administration in line with nature protection;
- Land management: control of development in order to preserve landscape and biodiversity;
- Sustainable administration of protected areas: increase and improvement of designated lands;
- Soil protection: Prevention of soil erosion and desertification;
- Protection of flora and fauna: prevention of losses of flora and fauna diversity; and
- Water resources and water rights management: water conservation and water quality preservation.

Such sustainable resource management should be based on a controlled framework of laws and regulations which will be implemented through an appropriate monitoring and enforcement permit system. The present system should be improved specially the resource allocation process and permitting needs to be more transparent and open to public. More comprehensive system of land use/ spatial planning developed by the Ministry of Public Works and Transport (MOPWT) should be supported by MOEFWA.

5) Communication and Awareness

The current level of public awareness is low. Some advances toward effective communication for environmental protection have been made. However, these needs to be consolidated and the communication department of MOEFWA should be strengthened to attain the prescribed goals.

Measures should be taken measure to address the following:

- To provide information for the public at the national and local levels;
- To enhance awareness on legal requirements; and
- To promote environmentally friendly behavior.

6) Decentralization of Environmental Control

The decentralization of environmental management will bring a greater role to local governments in the financing of the environmental control services such as water, wastewater, and solid waste management. Local governments, currently, do not have the financial sources to improve their prescribed service level on environmental control. They will need financial support from the central government and also from external donors. The establishment of an "Environmental Fund" will be one of the approaches to financially support local governments; hence, decentralization on environmental control is proposed.

(5) Laws and Regulation on Environmental and Social Considerations

1) General

The Albanian Government is currently facing a requirement for amendment to the domestic legislation including environmental sector to harmonize or concord with EU directives. The main policy document for the achievement of such legislative concordance is the National Plan for Approximation of Legislation which was updated in May 2007. There is a considerable gap between

current national legislation and those of European directives. Generally, the level of dissemination of legislation and the level of the public's knowledge on the legislation seem to be relatively low in Albania. The effort toward realization of enforcement of laws and regulations is currently required.

2) Environmental Protection / Conservation

The Law No. 10431 dated 9 June 2012, is a fundamental law for environmental conservation which provides basic principles on environmental protection, environmental policy, environmental impact assessment (EIA), strategic EIA and environmental license system. The basic principles on environmental protection are defined as sustainable development, precautionary measure, "polluter pays principle," restoration for environmental damage or degradation, public education for environmental conservation, public participation in decision making for developing projects, and securing transparency.

National environmental policies and strategies, sectorial environmental strategies, and action plans in the national and regional levels are provided. The sectorial and regional action plans shall be established in line with the national environmental strategies.

Any project or activity that will affect or is likely to affect the environment, has to obtain an Environmental Declaration, Environmental Permit, and Authorization or Consent from MOEFWA or the concerned REA before project implementation may commence. The law specifies that EIA process shall be required in order to identify, forecast, interpret, measure, communicate, and prevent the impact of any project on the environment, according to its alternative prior to development of any project, and that a Strategic Environmental Assessment (SEA) shall be required to assess the possible impacts on the environment, of a policy, plan or program.

3) Environmental Impact Assessment

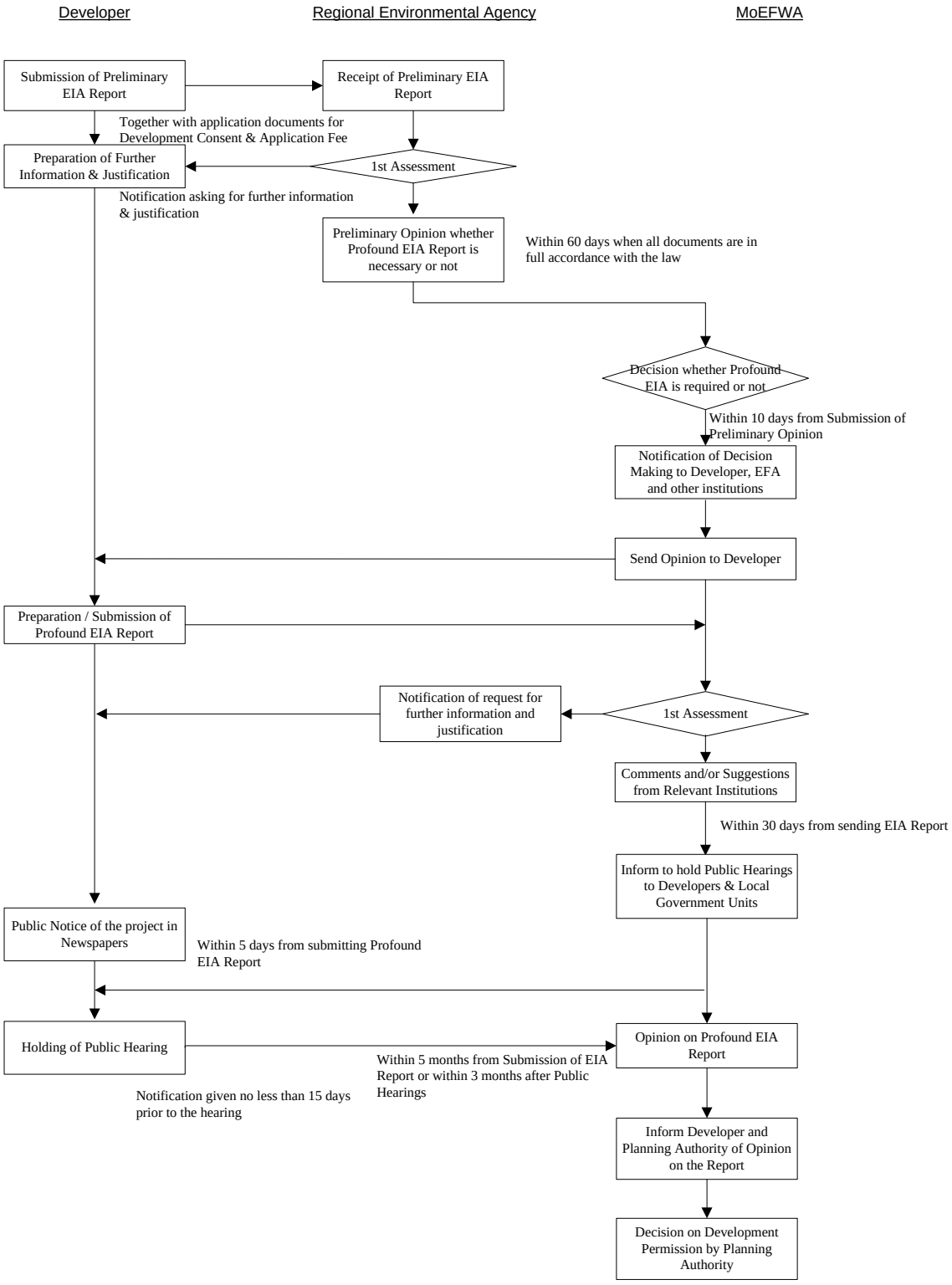
A new EIA law of Law No. 10,440 was approved in the Government of Albania in July, 2011. The new law was enacted to harmonize/ integrate the national legislative system into EU directives.

According to the law, the environmental assessment shall include a determination, description and assessment of expected impacts by a project whether it is implemented or not implemented. The EIA process based on the law is shown in Figure 8.2.1.

As a first step, a developer has to prepare a Preliminary EIA Report and submit it to the REA. After the examination of the ministry (MOEFWA) on the report through REA, the ministry will make a decision whether the project should require a Profound EIA Report or not. When a Profound EIA Report is required for the project, the developer should prepare the report and submit it to the ministry. Thereafter, the developer has to revise the report after receiving the request for further information and comments from the ministry and arrange / hold a Public Hearing on the report.

As a final step, the ministry reflects the opinions at the Public Hearing on the report and makes a decision on the approval of the project.

The type of the project in the sectors in this study which require a preliminary Environmental Assessment Report or a Profound EIA Report is shown in Table 8.2.1.



Source: JICA Study Team

Figure 8.2.1 EIA Process based on Law No. 10,440 dated July 07, 2011

Table 8.2.1 List of Project Types for the Sectors in the Study based on Law No. 10,440

Sector	Project Type required in	
	Profound EIA	Preliminary EIA
Road / Transport	• Long-distance railway traffic • Construction of motorways and expressway • Construction of a new road of four or more lanes, realignment and/or widening of existing roads of two lanes or less	• Urban development projects including car parks • Construction of railways not listed in the projects in Profound EIA • Construction of roads not listed in the projects in Profound EIA • Tramways elevated and underground railways
Solid Waste Management	• Waste incineration facility or waste disposal facility with a capacity exceeding 50 t/day	• Waste disposal facilities not listed in the projects in Profound EIA
Water Supply	• Extraction of groundwater or artificial groundwater recharge schemes where annual volume of refilled (recharge water is equivalent or higher than 10 million m^3) • Transfer works of water sources from basins of rivers where the water volume exceeds 10 million m^3 / year • Development of dams and reservoirs which store the water exceeding 10 million m^3.	• Dams and other facilities to hold water on long term basis
Sewerage	• Waste water treatment plant with a capacity covering 30,000 population	• Waste water treatment plant projects not listed in the projects in Profound EIA

Source: JICA Study Team

4) Institutional and Administrative Issues to Meet Environmental and Social Considerations

a) Administrative System in Environmental and Social Considerations

Central Government Level

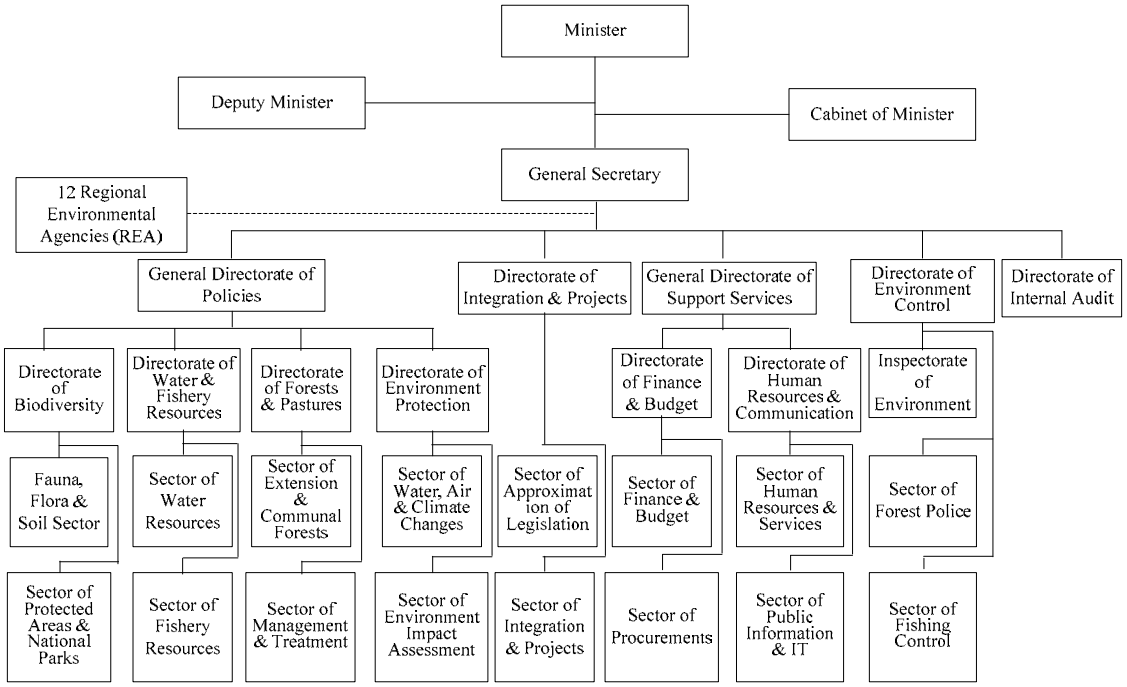
MOEFWA is the highest government body responsible for environmental protection in Albania. In early 2006, MOEFWA was additionally tasked with inspection/ management of the environmental issues related to water, pasture, and forest.

MOEFWA's main tasks include implementing national policies, decision making on priority development of environmental and forestry sectors, developing national research programs in the environmental sector, and coordinating environmental protection activities in collaboration with other ministries and local authorities.

As shown in Figure 8.2.2, MOEFWA is organized into five main directorates, namely, a general directorate of basic policies in four sub-directorates, a directorate for integration and projects, a general directorate for support services such as finance and human resources, a directorate for environment control, and a directorate for internal audit.

MOEFWA is supported by 12 REAs which are located in 12 administrative counties (called "prefectures" in Albania). REAs are responsible for implementing and enforcing national legislation, carrying out site inspection, controlling operating facilities and use of natural resources

within their regions, authorizing environmental permitting for new projects, and supporting environmental monitoring and assessments.



Source: Ministry of Environment, Forestry and Water Administration

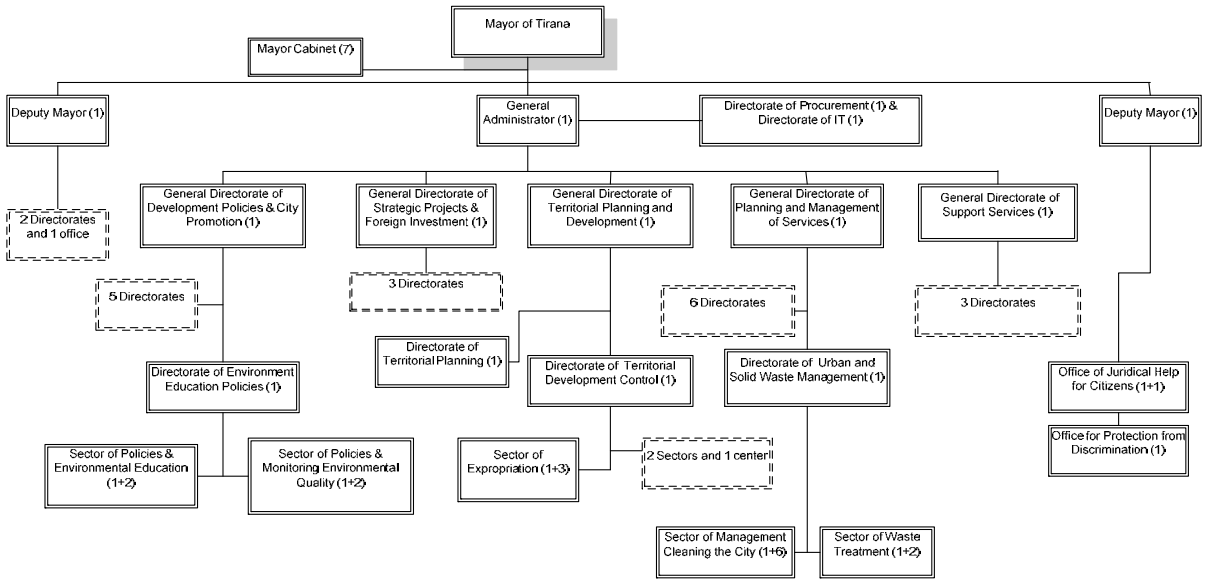
Figure 8.2.2 Organization Chart of MOEFWA

Local Government (Tirana Municipality)

A new mayor was elected in 2011 and resulted in the establishment of a new organization of Tirana municipality as shown in Figure 8.2.3.

The directorate of environment education policies and the directorate of urban and solid waste management are charge in the environmental protection and monitoring.

As for the social issues, on one hand, the directorate territorial development center and the office for protection from discrimination under a deputy mayor are charge in the coordination of the social issues for socially vulnerable and the expropriation to be caused by development of projects.



Source: MOT

Figure 8.2.3 Organization Chart of MOT (2011)

b) Land Expropriation

In Albania, land expropriation is executed pursuant to the Law No. 8561 dated December 22, 1999 and government decisions as shown in Table 8.2.2.

Table 8.2.2 List of Laws and Regulations on Land Expropriation

No. of Laws and Regulations	Articles
Law No. 8561 dated December 22, 1999	Expropriation and Temporary Taking of Private Property for Public Interest
Decision 126 dated March 23, 2000	Composition and Procedures of the Special Committees for Expropriation
Decision 127 dated March 23, 2000	Content and Procedures for the Submission of the Requests and Notifications for Expropriation and Temporary Utilization of Private Property for the Public Interest
Decision 138 dated March 23, 2000	Technical Criteria for Evaluation and Calculation of Compensation for Expropriated Private Property, Devaluated Properties and Third Party Rights
Decision 147 dated March 23, 2000	Functioning Rules and Modalities for Special Committees for Expropriation

Source: JICA Study Team

Pursuant to Law No. 8561, land expropriation or temporary use of private lands can be executed only in the case that the public interest has priority over private properties.

The public interest is defined as follows:

- Realization of obligations of the state that come from treaties and international multilateral conventions;
- Realization of programs, projects and investments contemplated in international agreements that extend into the territory of several states;
- Realization of projects and investments that present national or local territorial extent or interest in the fields of transportation, energy, telecommunication, water and irrigation for the public interest;
- Realization of national or local projects and investments, in the function of protection of the environment, health, culture, and public education, as well as infrastructure for the public interest;

- Realization of programs and investments for national defense; and
- Protection of monuments and immovable objects of archaeological, historical, cultural, and scientific values, when the repair or improvement of these objects cannot be realized by private owners at a real risk of failure of realization, damage or hindrance to the function of these objects.

Land expropriation can be executed when public, private or foreign juridical persons implement a project for the public interest mandated in the Law No. 8561.

The procedure of land expropriation is shown in Figure 8.2.4.

As an initial step, an applicant shall prepare application documents consisting of the following and submit them to the competent ministry:

- Official documents of registration attested by juridical persons;
- Project plans as well as documents of legal agreements that prove public interest;
- Documents of financial analysis and funding plans to be required for implementation of the project;
- Preliminary valuation documents for expropriation and compensation measure that is contemplated for each private owner;
- Appropriate licenses and approvals from the competent organs according to the law, in accordance with the nature and type of the project to be realized;
- Official documents for implementation of the projects by applicant;
- List of owners of private properties as to which expropriation is sought;
- List of owners of private properties that are devaluated because of the expropriation and a list of third parties who should be compensated for their rights to the private properties that are sought to be expropriated; and
- Documents that prove the reason for the expropriation.

The minister of the competent ministry gives an order that the ministry should set up a special commission for the process of the land expropriation after he receives the application documents. The minister conducts an inspection of the property when needed. The ministry returns the application documents, and when necessary, the applicant has to revise his documents in accordance with the ministry's directives. The competent ministry makes a decision on the acceptance of application documents on the land expropriation and notifies the applicant immediately.

An agreement shall be made between the applicant and the competent ministry as to the mutual rights and obligations related to the expropriation procedure. Within 10 days from the day of entering into an agreement over the object being applied for expropriation, the competent ministry commences a process of direct notification to each owner or joint owners of the private properties which shall be expropriated or devalued as well as to third parties related to their compensation.

To protect the rights and interests of third parties in relation to the private property which shall be expropriated, at the same time as the notification of the application for expropriation in the interest of the public, the competent ministry publishes the expropriation application in the Official Journal, a newspaper with national circulation and in a local newspaper for a one-week period.

The special commission set up by the competent minister performs the actions to make a final valuation, as well as computation, of the compensation amount of the object of expropriation.

At the conclusion of the preliminary procedures for expropriation, the competent minister submits to the Council of Ministers the proposal for expropriation, accompanied by the following documentation:

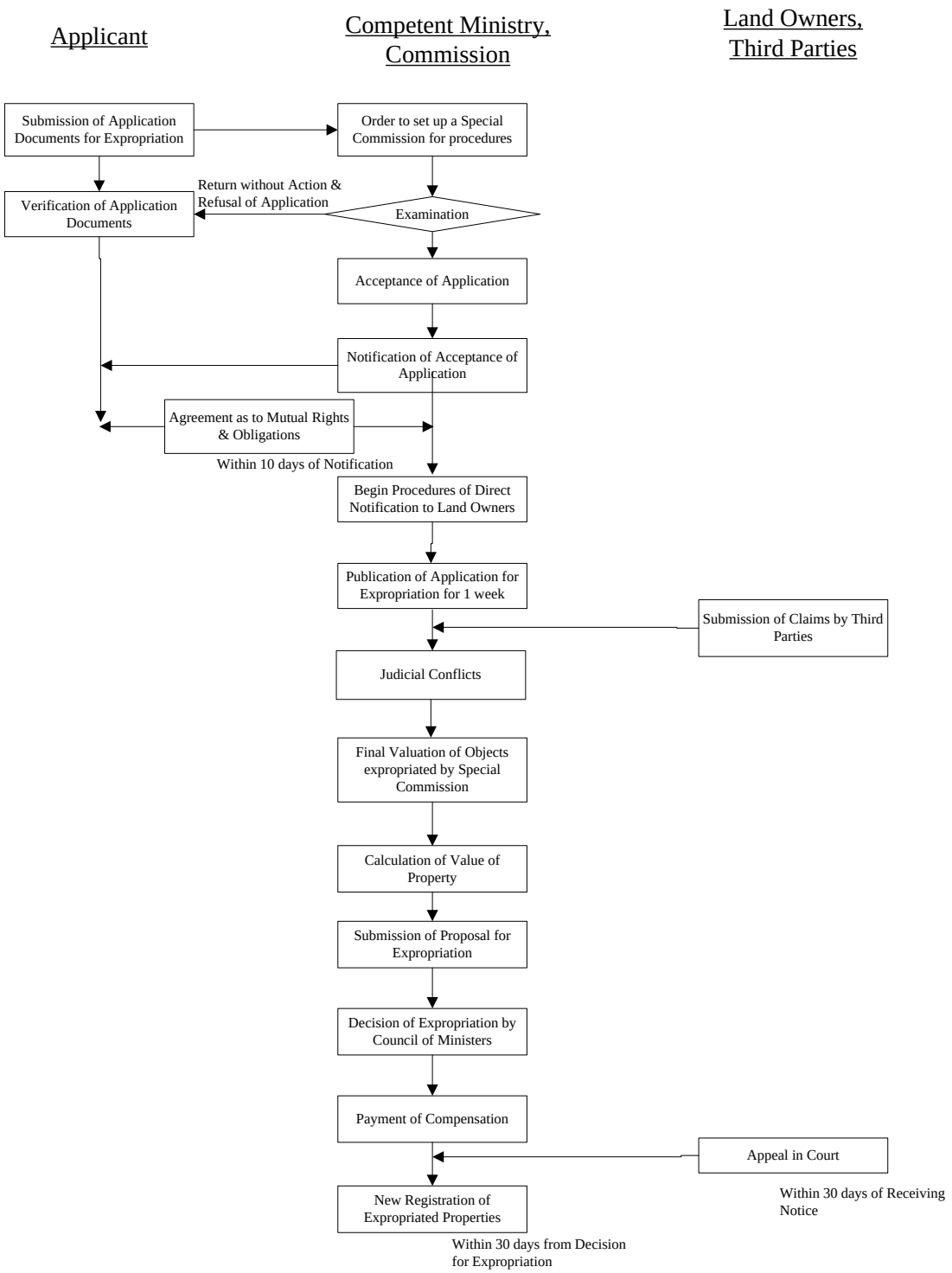
- A summary statement of the purpose, reason and necessity for expropriation, as well as the time period for beginning and ending the expropriation;
- Application documents;
- Final list of the owners of the properties that shall be expropriated or devalued and the respective official documents of ownership, as well as a list of the third parties whose rights are to be compensated because of the expropriation;
- Documents verifying the expenses of the process of expropriation.

When an expropriation according to an application accepted by the competent ministry is refused by the Council of Ministers, the competent ministry returns to the applicant all funds deposited for the expropriation procedure.

The amount of compensation is respectively given to or put at the disposition of the person who has connection to the expropriated property, the owner or third party who is affected, no later than three months from the date when the court decision has become final.

The owners of properties that are expropriated and devalued by the expropriation and the third parties whose rights are compensated because of the expropriation have the right to appeal in court within 30 days from receiving notice.

In cases when the private properties that have been expropriated are to be registered according to the law, this registration shall be done by the competent ministry within 30 days from the date when the decision of the Council of Ministers for expropriation has been taken.



Source: JICA Study Team based on The Republic of Albania Assembly Law No. 8561, dated December 22, 1999

Figure 8.2.4 Process of Land Expropriation Based on Law No. 8561

c) Involuntary Resettlement

Albania does not have any specific law and regulations for resettlement. The recent example for resettlement of the people affected by infrastructure projects was done on an ad-hoc basis and required a special Council of Ministers Decision. Land consolidation, land use, environment and water use fall under the direction of the Ministry of Agriculture and Food, and the MOEFWA. Social welfare issues are under the responsibility of the Ministry of Labour, Social Affairs and Equal Opportunities.

8.2.2 Findings from Previous Studies and Research

(1) SEA for Regulatory Plan of Tirana (RPT)

As of September 2008, RPT's final report on SEA was reviewed with environmental and social considerations for the superordinate plan/ program of the proposed JICA study on the urban development in MOT. SEA report was commissioned by MOT with World Bank assistance.

(2) Outline of SEA for RPT

The 1990 RPT neither envisioned nor planned for the city's massive expansion. The plan lacks supporting policy and does not attach legally binding conditions to land. The new RPT has been prepared to respond to current land use, accommodate the planning and development needs of the city, and promote better land management.

The plan consists of a general land use plan and a general zoning plan with the development of infrastructure such as a ring road and parking areas. The latter provides clear guidelines for building types and activities in each zone. These plans are supported by a detailed zoning code with special development processes. Recommendations are included to improve the legal and institutional framework for planning, along with capacity building measures.

Environmentally, the RPT proposes protection of existing green areas and water bodies in and around the city. These green areas include those around the lakes and along both rivers and at the interface of urban development and green areas, such as along the banks of Tirana River and the planned eastern sector of the ring road.

Preparation of SEA is a mandatory process in the Albanian environmental law with environmental and social considerations for formulation of a policy, program or plan in upstream level. SEA for the RPT identifies the plan's possible negative environmental effects and recommends preventive and mitigation measures.

(3) Potential Impacts and Mitigation Measures by RPT

The major potential impacts and the measures proposed by RPT are summarized in Table 8.2.3. According to the SEA, RPT's effective implementation is expected to have beneficial environmental impacts. It will bring the projected population increases that are located in currently inefficiently settled areas and develop sustainable new commercial and residential areas around MOT. It will also preserve the built heritage of the city while promoting a more consistent and visually pleasing cityscape. It will assist in the protection and development of parks in and around the city while importantly preventing further encroachment into the surrounding hills. RPT is

expected to enable environmental improvements, although it will have limited impact on improving air and water quality. Its benefits will mainly be in more efficient land use.

Table 8.2.3 Summary of Potential Impacts and Measures Proposed by RPT

Environmental Issue	Potential Environmental Impact	Measures proposed by RPT
Poor air quality in city	Air quality in many parts of the city is worse based on Albanian and international standards.	Transportation proposal aim to lessen the number of cars and certainly reduce air pollution in city center. Outer ring road will reduce traffic congestion in city center.
Poor water quality in rivers	Polluted water quality of these rivers all the way to the Adriatic Sea.	Development of sewage treatment plants.
Poor drinking water quality & quantity	Expenditure on bottled water and generation of solid waste. Groundwater pollution	RPT's growth scenario conforms to master plan study, but RPT is not intended to include infrastructure.
Solid waste management	The new sanitary landfill site will improve the area, but there are no plans to clean up the existing dumpsite which pollutes groundwater and Erzeni River. Waste in parts of Tirana is still improperly disposed.	No development proposed in or around Sharra. Solid waste collection is operational and thus, not included in the plan.
Loss of heritage sites	Loss of unique qualities of the city.	Identifies areas for preservation in study area. Proposes preservation orders.
Lack of new green space in city center	Lack of trees and amenity value for residents.	Includes these in priority areas and suggests a process to identify and secure areas.
Earthquake risk		In building codes, but does not specify any retroactive needs.
Radon risk	No full understanding of the cause.	None
Reduced biodiversity and loss of flora and fauna	Not fully known, but general issues of ecological loss.	No direct proposals, but reducing the urban sprawl should reduce biodiversity loss.

Source: Strategic Environmental Assessment (SEA) of the Regulatory Plan of Tirana, MOT, 2008

(4) Stakeholder Involvement

The central and local governments conducted a series of meetings to inform stakeholders about the aims of SEA. Another aim of these meetings was to know the existing situation and invite proposals with regard to environmental conditions and urban management in MOT.

The relevant stakeholders are shown below.

- MOT:
  - Directorate of Urban Planning
  - Directorate of Management of Infrastructure Services
  - Directorate of Promotion of the City
  - Department of Environmental Management
- Ministry of Environment, Forestry and Water Administration:
  - Directorate of Environment Impact Assessment and Permits
  - National Agency for Environment and Forests
  - Regional Environmental Agency, MOEFWA

- Ministry of Public Works, Transportation and Telecommunications, General Directorate of Water Supply and Sanitation
- Ministry of Health, Public Health Institute
- Commune of Dajti
- Commune of Kashar
- Commune of Paskuqan
- EU-assisted Environmental Legislation Approximation Project
- EU-assisted Strengthening Environmental Management in Albania Project

On 17 September 2008 a presentation was given to MOT on SEA and its role in RPT. This provided various feedbacks which were included in the plan, and there were some comments on micro-climates impact of the changing densities of the city.

On 19 September 2008 a meeting was held at the Tirana International Hotel attended by various environmental agencies and groups. The aims of SEA and the approaches to its preparation along with the major environmental issues were discussed.

A joint meeting was held at the Sheraton Hotel on 25 September 2008 with RPT preparation team. While this meeting focused more on RPT and the need for integrated planning across the local governments in Tirana, it also provided an opportunity to show how this is also clearly linked to addressing the environmental issues in Tirana, particularly for land use.

A follow-up meeting was then held with government and environmental groups in the Tirana International Hotel on 26 September 2008. The scope of RPT in addressing environmental issues was presented and discussed. The main comments raised were that there is a need to also complement the plan.

8.3 Objectives and Methodologies for SEA

8.3.1 Objectives

The objective of SEA is to conduct an assessment in Initial Environmental Examination (IEE) level for the proposed basic plans which will be formulated targeting the year 2027 in each sector of road/transport, solid waste management, and water supply and sewage treatment/ urban drainage.

According to the JICA Guidelines, SEA studies environmental and social considerations in providing alternatives of proposed plans at an early stage of formulation of master plans. In this study, the proposed basic plans were examined.

8.3.2 Methodology

SEA is to estimate possible environmental and social impacts by above action plans or priority projects in each sector through the analysis of the data and information of the secondary data and the results of the field reconnaissance. The elements of social environment (e.g., land issues, land use, social infrastructure, and cultural heritage) natural environment (e.g., topography, geology, flora, and fauna) and pollution (e.g., air, water, soil, and noise) were established for estimating the possible

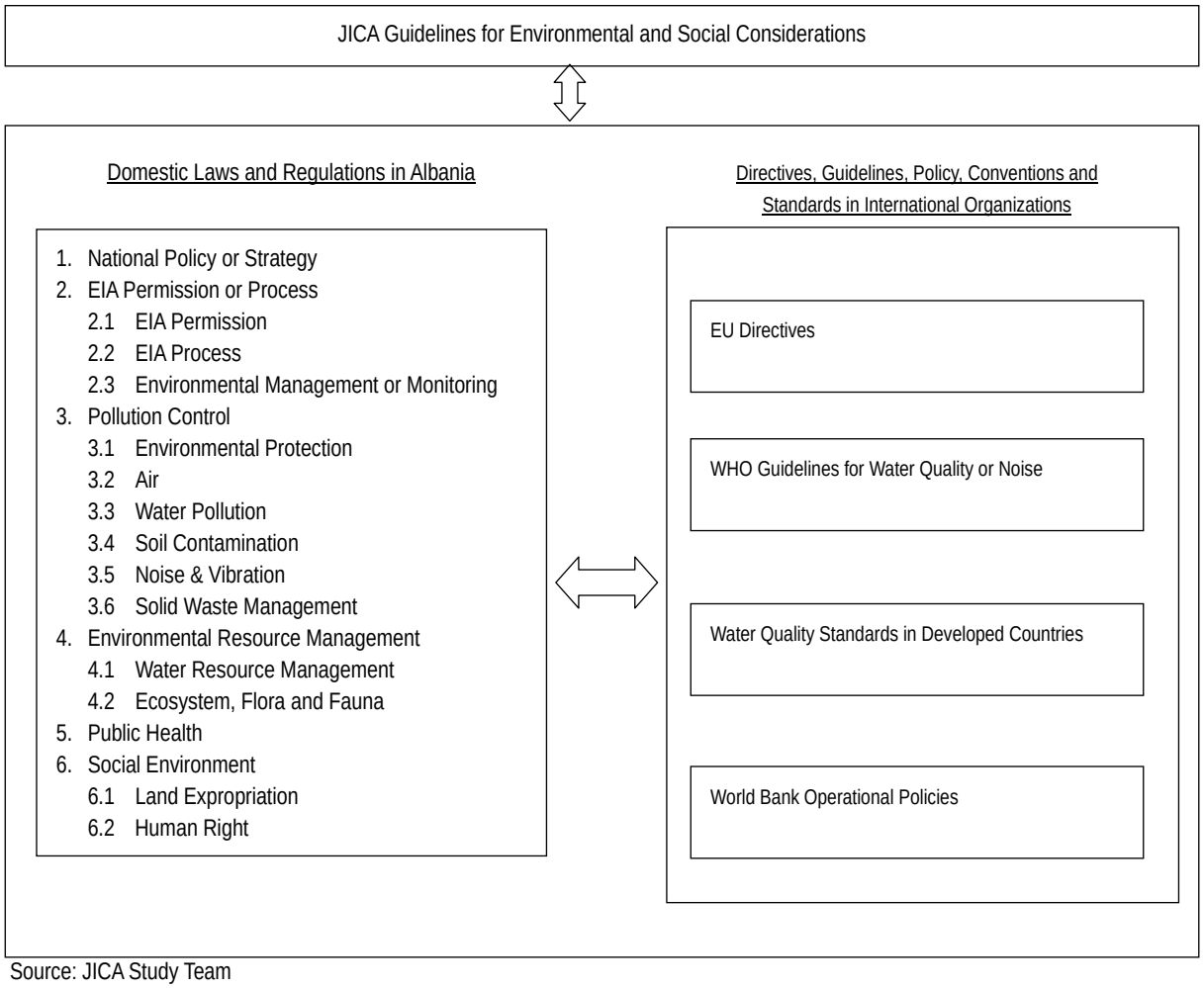
impacts on their environmental elements at each stage of action, namely, before construction, during construction, and operation. The impact was analyzed according to three levels, i.e., serious impact, some impact, and negligible impact, for the possibility of adverse impacts.

In case there is a possibility of adverse impact by the proposed action plans or projects, their mitigation measures will be recommended including establishment of environmental management plan.

8.4 Legislative Framework of SEA

The legislative framework of SEA is shown in Figure 8.4.1. The scoping in SEA, especially its assessment on possible environmental and social impacts, will be based on the domestic laws and regulations in Albania. However, for the issues such as involuntary resettlement and water quality standards which are not regulated in Albania, some international guideline or policy such as the World Bank's operational policy or WHO guideline will be applied.

The list of the laws and regulations referred to in the above-mentioned legislative framework is shown in Table 8.4.1.



Source: JICA Study Team

Figure 8.4.1 Schematic Image of Legislative Framework of SEA

Table 8.4.1 List of Laws and Regulations to be Applied for SEA

Issue	Laws and Regulations to be Applied for SEA
1. National Policy or Strategy	• National environmental strategy 2007 • Government Program 2005 – 2009 • Government Program 2009 – 2013
2. EIA Permission or Process	• Law No. 10431, dated June 09, 2011, regarding Environmental Protection • Law No. 10440, dated July 07,2011, regarding Environmental Impact Assessment • Decree No. 249, dated April 24,2003, regarding approval of documentation for environmental permits and environmental permit elements • Guidance No.1, dated March 3, 2009 regarding the tasks of environmental bodies to ensure public participation and environmental NG0-s in environmental impact assessment process; • Decree No. 103, dated March 31, 2002, regarding environmental monitoring
3. Pollution Control	• Law No. 10431, dated June 9, 2011, regarding Environmental Protection Law No. 8897, dated May 16, 2002, regarding protection of air from pollution • Guideline No. 6527, dated December 24, 2004, regarding permissible values of air polluting and noise emissions from vehicles (amended) • Regulation No. 803, dated December 4, 2003, regarding laying down air quality standards • WHO guideline for drinking water
4. Environmental Resource Management	• Law No. 8093, dated May 16, 2002, regarding water resources (which was improved by Nos. 8375, 8605 and 8736 from the year 1996) • Law No. 9587, dated July 20, 2006, regarding biodiversity protection • Law No. 8906 dated June 6, 2002, regarding protected areas • Law No. 10006, dated October 23, 2008, regarding wild fauna protection • Law No. 9867, dated January 31, 2008, regarding rules and procedures for international trade of endangered species of flora and fauna
5. Public Health	• National Strategy for Health in Albania , 2007-2013 • Public Health Law in Albania (in process)
6. Social Environment	• Law No. 8561, regarding land expropriation or temporary use of private lands for the public interest • Law No. 9048, dated July 4,2003, regarding cultural heritage • World Bank operational policy for involuntary resettlement (OP.4.12) • Constitution of the Republic of Albania, 1998

Source: JICA Study Team

8.5 Scoping of Environmental Impacts on Proposed Action Plan/ Projects in Each Sector

8.5.1 Road / Transport Sector

In the road/ transport sector, three major development plan are proposed by type of project purposes and they are 1) the development of the outer ring road for the solution of traffic congestion due to the traffic concentration in city center; 2) public transport system toward the improvement of the existing service level of public transport; and 3) the development of parking areas for solving the bottleneck of parking problems in the city center. Each proposed plan has its own separate purpose toward solving the current problems in the sector, and it would be essential to discuss the evaluation for each plan separately.

In addition, the historical background of the urban plan in MOT and the actual progress of the outer ring road project, whose construction started in 2011, should be taken into consideration for the alternative study on the environmental and social aspects.

1) Outer Ring Road

Alternatives Considered

There are development options for the evaluations to be discussed in such transport systems as road or railway and their route plans, and those of design. However, the alternatives on route plans should be examined in a way that there is continuity with the historical background since a section of the outer ring road has already been completed, and construction of another section is ongoing, and also, since the purpose of the study is master plan formulation and not design.

The outer ring road was planned by MOT to solve the traffic concentration and/or congestion in the city center through the development of a bypass route between the north and south parts of the city. The outer ring road is composed of four sections, that is, a western section (Crossing point with the existing railway - Kavaja Road), a southern section (Kavaja Road - Elbasan Road), an eastern section (Elbasan Road - Connection Road to National Road) and a northern section (Connection Road to National Road - Crossing point to the existing railway). Construction of the western section has already been completed and the southern section is currently under construction. The future development of the ring road is the eastern and northern sections and the alternatives of these remaining sections should be examined. The route of the eastern section, however, has already been decided in the urban plan of 1989 and no other alternative route exists. Therefore, the alternatives on the route plans in the northern section should be examined,

Table 8.5.1 shows four options (E_{N1}, E_{N2}, E_{N3} and Zero Option) on the route plans in the northern section including a zero option (“do nothing”).

The proposed plan is to develop a road section running parallel to Tirana River, a natural river: E_{N1} is an option to develop a new road in the south part of Tirana River; E_{N2} is an option to develop a new road on both sides of Tirana River along with the development of a recreational park; and E_{N3} is an option to develop a ring road through utilizing an existing road in the northern parts along Tirana River.

Table 8.5.1 Alternatives in Northern Section of Outer Ring Road

	South Route Plan (EN1)	Route Plan with Roads on Both Sides of Tirana River (EN2)	North Route Plan (EN3)	Zero Option
Outline of Alternatives	The planned route is based on the Regulatory Plan proposed in 1990 and in 2008, which starts at the crossing point to the national road (Arbri Road), runs in the south part parallel to Tirana River and finally terminates at the completed section of the ring road.	The route plan is currently proposed by the Ministry of Transport & Public Works, which starts at the crossing point to the national road (Arbri Road), caters to one way traffic in both parts parallel to Tirana River, connects to the completed section of the ring road and the existing national road to Shkodra together with the development of recreational park at the river banks. The site does not have a high degree of vegetation.	The route plan starts at the crossing point to the national road (Arbri Road), crosses Tirana River, runs in its north parts parallel to it by utilizing the existing road (Paskuqani Road), finally terminates at the completed section of the ring road and connects with the national road in the direction of Shkodra.	Any ring road is not developed in the north part of the city; there is only the completed section and the section currently under construction.

Source: JICA Study Team

Possible Environmental and Social Impacts

The country has nearly 350,000 informal properties spread in 320,000 ha. Especially, in the north part of the city, plenty of rural residents have migrated into the area along Tirana River through occupying the lands and building their houses without any permission or any plan of MOT or the central government after 1990, when communist rule ended in Albania. For such historical background, the social infrastructure such as paved road with enough width or sewer pipes has not been developed. And the garbage and the domestic wastewater/ sewage were dumped or directly discharged into the river without any treatment, respectively. The target area, accordingly, has been struggling with deteriorated sanitary conditions, river water environment, and scenic value.

Table 8.5.2 shows the results of estimated environmental and social impacts. Any development option except zero option in Table 8.5.2 may require land acquisition for securing right-of- way (ROW) of the project sites and result in the resettlement of residential houses and establishments. Any option may affect the surrounding cityscape at the project sites because of the development of new roads or expansion of the existing road. Even in case of *zero option,* the existing deteriorated cityscape will remain. Any option may cause air pollution because of the increased traffic volume due to the future potential increase of vehicle demand. The *zero option,* however, may not solve the problems of traffic congestion and parking because it will not be able to distribute the concentrated traffic volume.

Table 8.5.2 Scoping Results: Outer Ring Road

	Alternative Plan / Element to be assessed	South Route Plan (E_{N1})			Route Plan of Both Sides of Tirana River (E_{N2})			North Route Plan (E_{N3})			Zero Option		
		1	2	3	1	2	3	1	2	3	1	2	3
Socio-economic Environment	1.1 Involuntary Resettlement	A	A	N	A	A	N	A	A	N	C	C	C
	1.2 Local Economy & Livelihood	N	N	N	N	N	N	N	N	N	C	C	C
	1.3 Land Use and Use of Local Resources	B	B	N	B	B	N	B	B	N	A	A	A
	1.4 Split of Communities	B	B	N	B	B	N	B	B	N	C	C	C
	1.5 Social Infrastructure	B	B	N	B	B	N	B	B	N	C	C	C
	1.6 Vulnerable or Ethnic Minorities	A	A	N	A	A	N	A	A	N	C	C	C
	1.7 Cultural Heritage	C	C	C	C	C	C	C	C	C	C	C	C
	1.8 Local Conflicts	N	N	N	N	N	N	N	N	N	N	N	N
	1.9 Water Use or Water Rights	C	C	C	C	C	C	C	C	C	C	C	C
	1.10 Public Health incl. HIV/AIDS	C	B	N	C	B	N	C	B	N	A	A	A
	1.11 Hazards	C	B	C	C	B	C	C	B	C	C	C	C
Natural Environment	2.1 Topography and Geography	C	C	C	C	B	C	C	C	C	C	C	C
	2.2 Groundwater	C	C	C	C	C	C	C	C	C	C	C	C
	2.3 Soil Erosion	C	C	C	C	C	C	C	C	C	C	C	C
	2.4 Hydrological Situation	C	C	C	C	C	C	C	C	C	C	C	C
	2.5 Coastal Environment	C	C	C	C	C	C	C	C	C	C	C	C
	2.6 Flora & Fauna	C	C	C	C	C	C	C	C	C	C	C	C
	2.7 Meteorology	C	C	C	C	C	C	C	C	C	C	C	C
	2.8 Scenic Value or Cityscape	C	B	B	C	B	B	C	B	B	A	A	A
	2.9 Global Warming	C	C	B	C	C	B	C	C	B	C	C	C
Pollution	3.1 Air Pollution	C	B	A	C	B	A	C	B	A	C	C	A
	3.2 Water Pollution	C	B	C	C	B	C	C	B	C	A	A	A
	3.3 Soil Contamination	C	C	C	C	C	C	C	C	C	C	C	C
	3.4 Solid Waste	C	B	C	C	B	C	C	B	C	A	A	A
	3.5 Noise & Vibration	C	B	C	C	B	C	C	B	C	C	C	C
	3.6 Ground Subsidence	C	C	C	C	C	C	C	C	C	C	C	C
	3.7 Offensive Odor	C	C	C	C	C	C	C	C	C	A	A	A
	3.8 River Sediment	C	C	C	C	B	C	C	C	C	B	B	B
	3.9 Radio Wave Interference	C	C	C	C	C	C	C	C	C	C	C	C
	3.10 Obstruction of Sunshine	C	C	C	C	C	C	C	C	C	C	C	C

Notes:
1) Stage of Project Activity
1: Before Construction, 2: During Construction, 3: During Operation
2) Impact Level
Negative Impact: A: Serious, B: Some, C: Negligible
Positive Impact: ++
N: Level of impact is unknown.
Source: JICA Study Team

2) Tirana Northern Boulevard

Alternatives Considered

The proposed plan is a transport project for which MOT made an international call for tenders for the development concept in November 2011 and is currently under process for the selection of the final winner. The proposed plan is to extend a boulevard toward north direction which starts at the existing train station or the crossing point between Boulevard Zogu and Reshi Petrela Street through removing the existing train station and railway track. The plan was analyzed in the three options regarding the end point of the extension, namely, an option (A_1) extending its end point before Paskuqan Park, another option extending its end point inside Paskuqan Park (A_2) and the Zero Option. The comparison of each alternative including zero option is shown in Table 8.5.3.

Table 8.5.3 Alternatives of Tirana Northern Boulevard

	Option extending Paskuqan Park (A_1)	Option extending inside Paskuqan Park (A_2)	Zero Option
Outline of Alternatives	This option is to develop a northern boulevard extending its end point before Paskuqan Park.	This option is to develop a northern boulevard extending its end point inside Paskuqan Park.	No development of a northern boulevard and a tram way.

Source: JICA Study Team

Possible Environmental and Social Impacts

Table 8.5.4 shows the results of estimated environmental and social impacts.

The waters of Paskuqan Lake are in poor condition with the lakeside littered with dumped waste.

There is not much difference on the impact level in option A_1 and A_2. Both options may require a resettlement of residential houses and establishments.

Table 8.5.4 Scoping Results: Tirana Northern Boulevard

Element to be assessed \ Alternative Plan		Option extending before Paskuqan Park (A_1)			Option extending inside Paskuqan Park (A_2)			Zero Option		
		1	2	3	1	2	3	1	2	3
Socio-economic Environment	1.1 Involuntary Resettlement	A	A	N	A	A	N	C	C	C
	1.2 Local Economy & Livelihood	N	N	N	N	N	N	C	C	C
	1.3 Land Use and Use of Local Resources	B	B	N	B	B	N	A	A	A
	1.4 Split of Communities	B	B	N	B	B	N	C	C	C
	1.5 Social Infrastructure	B	B	N	B	B	N	C	C	C
	1.6 Vulnerable or Ethnic Minorities	C	C	C	C	C	C	C	C	C
	1.7 Cultural Heritage	C	C	C	C	C	C	C	C	C
	1.8 Local Conflicts	N	N	N	N	N	N	N	N	N
	1.9 Water Use or Water Rights	C	C	C	C	C	C	C	C	C
	1.10 Public Health incl. HIV/AIDS	C	B	N	C	B	++	A	A	A
	1.11 Hazards	C	B	C	C	B	C	C	C	C
Natural Environment	2.1 Topography and Geography	C	B	C	C	B	C	C	C	C
	2.2 Groundwater	C	C	C	C	C	C	C	C	C
	2.3 Soil Erosion	C	C	C	C	C	C	C	C	C
	2.4 Hydrological Situation	C	C	C	C	B	B	C	C	C
	2.5 Coastal Environment	C	C	C	C	C	C	C	C	C
	2.6 Flora & Fauna	C	C	C	C	C	C	C	C	C
	2.7 Meteorology	C	C	C	C	C	C	C	C	C
	2.8 Scenic Value or Cityscape	C	B	B	C	B	B	A	A	A
	2.9 Global Warming	C	C	B	C	C	B	C	C	C
Pollution	3.1 Air Pollution	C	B	A	C	B	A	C	C	A
	3.2 Water Pollution	C	B	C	C	B	C	A	A	A
	3.3 Soil Contamination	C	C	C	C	C	C	C	C	C
	3.4 Solid Waste	C	B	C	C	B	C	A	A	A
	3.5 Noise & Vibration	C	B	C	C	B	C	C	C	C
	3.6 Ground Subsidence	C	C	C	C	C	C	C	C	C
	3.7 Offensive Odor	C	C	C	C	C	C	A	A	A
	3.8 River Sediment	C	C	C	C	C	C	C	C	C
	3.9 Radio Wave Interference	C	C	C	C	C	B	C	C	C
	3.10 Obstruction of Sunshine	C	C	C	C	C	B	C	C	C

Notes:
1) Stage of Project Activity
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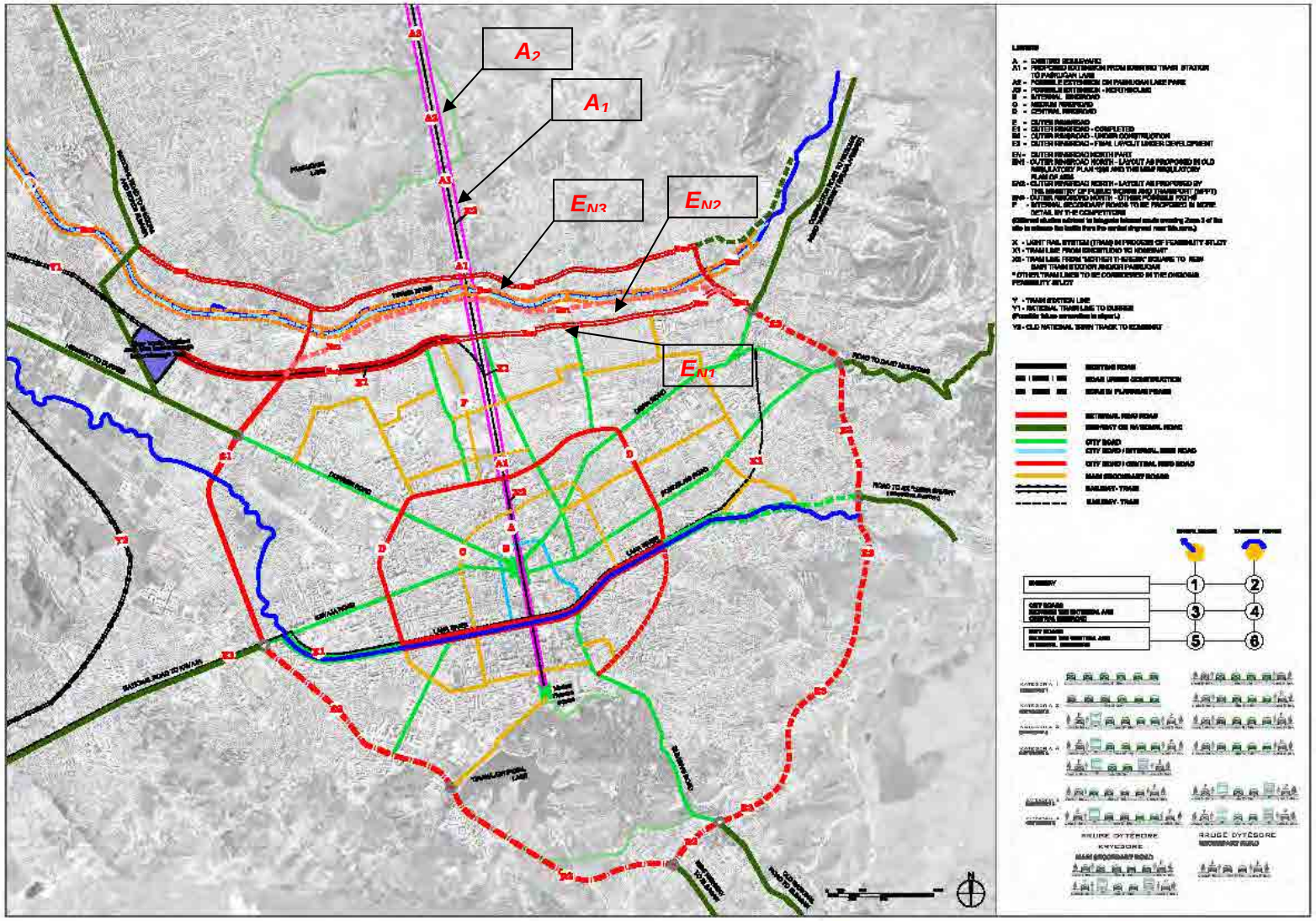
N: Level of impact is unknown.
Source: JICA Study Team



Source: Competition on "Tirana Northern Boulevard and River Project," MOT, November 2011

Figure 8.5.1 Location Map of Road/ Transportation Plan

3) Public Transport System

Alternatives Considered

In MOT, its citizen's dependence on public transport system is 36% (27% use private automobiles), which is much higher compared to other nations such as those in south-east Asia (e.g., 17%, in the case of Malaysia). In addition, the development of public transport system will have an important significance in that it can control the entry of vehicles into the city center.

Currently, a tram line (LRT: Light Rail transit system) is proposed by MOT, and development of exclusive bus lanes (BRT: Bus Rapid Transit) is also planned.

Table 8.5.5 shows the comparison of each alternative of public transport system including zero option. The LRT system is planned in the two lines, one is the line which starts at Mother Teresa Square and ends at a new station through utilizing the existing railway track, and another is on the existing road (Gjergj Fishta Boulevard).

The BRT line, meanwhile, is proposed in two routes, one is an east-west line (Kavaja Road – Porcelani Road) and another is a north-south line (Student City – Paskuqan Lake).

Table 8.5.5 Alternatives on Public Transport System

	Tram Line (LRT)	BRT	Zero Option
Outline of Alternatives	Track system that drives a tram line by constructing a track way and overhead wiring. South-North line: *Mother Theresa Square* – New Station West-East line: Gjergj Fishta *Boulevard*	BRT system is to transport a large amount of passengers through the rapid transport by developing a dedicated bus lane on an existing road. West-East line: Kavaja Road – Porcelani Road South-North line: Student City– Paskuqan Lake	Existing road and railway track will still remain.

Source: JICA Study Team

Possible Environmental and Social Impacts

Table 8.5.6 shows the results of estimated environmental and social impacts.

As shown in Table 8.5.6, the BRT system will have a worse impact on air pollution than the LRT system, though both systems will not require resettlement because of the existing road area or railway track; the LRT system, on the other hand, may require additional investment of station, rail track, tram and signal systems, etc. The BRT system may require a measure for controlling or reducing air pollutants to be generated at the operation. Each option may not cause an adverse impact on land issue such as land acquisition nor resettlement.

Table 8.5.6 Scoping Table: Public Transport System

	Alternative Plan	Tram Line (LRT)			BRT			Zero Option		
	Element to be assessed	1	2	3	1	2	3	1	2	3
Socio-economic Environment	1.1 Involuntary Resettlement	C	C	C	C	C	C	C	C	C
	1.2 Local Economy & Livelihood	C	++	++	C	++	++	C	B	B
	1.3 Land Use and Use of Local Resources	C	C	C	C	C	C	C	C	C
	1.4 Split of Communities	C	C	C	C	C	C	C	C	C
	1.5 Social Infrastructure	C	B	++	C	B	++	C	C	B
	1.6 Vulnerable or Ethnic Minorities	C	C	C	C	C	C	C	C	C
	1.7 Cultural Heritage	C	C	C	C	C	C	C	C	C
	1.8 Local Conflicts	C	C	C	C	C	C	C	C	C
	1.9 Water Use or Water Rights	C	C	C	C	C	C	C	C	C
	1.10 Public Health incl. HIV/AIDS	C	C	C	C	C	C	C	C	C
	1.11 Hazards	C	B	B	C	B	B	C	C	C
Natural Environment	2.1 Topography and Geography	C	C	C	C	C	C	C	C	C
	2.2 Groundwater	C	C	C	C	C	C	C	C	C
	2.3 Soil Erosion	C	C	C	C	C	C	C	C	C
	2.4 Hydrological Situation	C	B	B	C	C	C	C	C	C
	2.5 Coastal Environment	C	C	C	C	C	C	C	C	C
	2.6 Flora & Fauna	C	C	C	C	C	C	C	C	C
	2.7 Meteorology	C	C	C	C	C	C	C	C	C
	2.8 Scenic Value or Cityscape	C	B	++	C	B	C	C	C	C
	2.9 Global Warming	C	C	C	C	C	B	C	C	C
Pollution	3.1 Air Pollution	C	C	++	C	B	A	B	B	B
	3.2 Water Pollution	C	C	C	C	C	B	C	C	C
	3.3 Soil Contamination	C	C	C	C	C	C	C	C	C
	3.4 Solid Waste	C	C	C	C	B	C	C	C	C
	3.5 Noise & Vibration	C	B	B	C	C	B	C	C	C
	3.6 Ground Subsidence	C	C	C	C	C	C	C	C	C
	3.7 Offensive Odor	C	C	C	C	C	C	C	C	C
	3.8 River Sediment	C	C	C	C	C	C	C	C	C
	3.9 Radio Wave Interference	C	C	C	C	C	C	C	C	C
	3.10 Obstruction of Sunshine	C	C	C	C	C	C	C	C	C

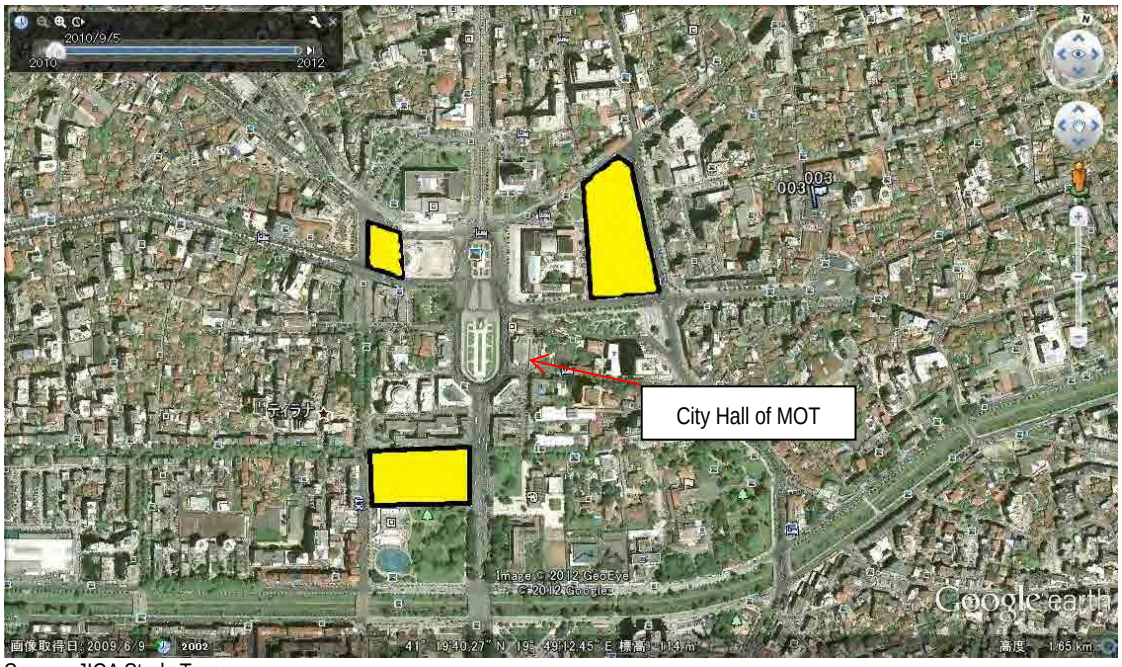
Notes:
1) Stage of Project Activity
1: Before Construction, 2: During Construction, 3: During Operation
2) Impact Level
Negative Impact: A: Serious, B: Some, C: Negligible
Positive Impact: ++
N: Level of impact is unknown.
Source: JICA Study Team

4) Development of Parking Area

Alternatives Considered

MOT is currently facing chronic deficits of parking area due to the automobiles concentrating in the narrow streets in the city center caused by the rapid increase of automobiles. This phenomenon is also causing traffic congestion on the roads.

Three sites of parking areas are proposed near the location of the municipal office as shown in Figure 8.5.2. Table 8.5.7 shows the comparison of the alternatives on parking area. Other areas for parking space cannot be identified except for the aforementioned three sites in the city center. Therefore, the three parking options and zero option ("do nothing") will be discussed for the alternative study.



Source: JICA Study Team
Inner Ring Road Study ,2008

Parking Area

Figure 8.5.2 Location Map of Proposed Parking Area

Table 8.5.7 Alternatives on Development of Parking Area

	Proposed Development Plan of Parking Area	Zero Option
Outline of Alternatives	To develop underground parking areas near MOT city hall.	No development of parking area.

Possible Environmental and Social Impacts

Table 8.5.8 shows the results of estimated environmental and social impacts.

The proposed plan of underground parking areas may affect the existing utilities (e.g., water pipes and electricity) at the construction stage. However, zero option may cause another negative impact of air pollution to be caused by the traffic congestion.

Table 8.5.8 Scoping Table: Development of Parking Area

Alternative Plan / Element to be assessed		Development of Parking Area			Zero Option		
		1	2	3	1	2	3
Socio-economic Environment	1.1 Involuntary Resettlement	C	C	C	C	C	C
	1.2 Local Economy & Livelihood	C	++	++	C	B	B
	1.3 Land Use and Use of Local Resources	B	B	C	C	C	C
	1.4 Split of Communities	C	C	C	C	C	C
	1.5 Social Infrastructure	C	A	C	C	C	C
	1.6 Vulnerable or Ethnic Minorities	C	C	C	C	C	C
	1.7 Cultural Heritage	C	B	C	C	C	C
	1.8 Local Conflicts	C	C	C	C	C	C
	1.9 Water Use or Water Rights	C	C	C	C	C	C
	1.10 Public Health incl. HIV/AIDS	C	B	C	C	C	C
	1.11 Hazards	C	B	B	C	C	C
Natural Environment	2.1 Topography and Geography	C	B	C	C	C	C
	2.2 Groundwater	C	B	C	C	C	C
	2.3 Soil Erosion	C	C	C	C	C	C
	2.4 Hydrological Situation	C	C	C	C	C	C
	2.5 Coastal Environment	C	C	C	C	C	C
	2.6 Flora & Fauna	C	C	C	C	C	C
	2.7 Meteorology	C	C	C	C	C	C
	2.8 Scenic Value or Cityscape	C	B	C	C	C	C
	2.9 Global Warming	C	C	C	C	C	C
Pollution	3.1 Air Pollution	C	B	A	B	B	B
	3.2 Water Pollution	C	C	B	C	C	C
	3.3 Soil Contamination	C	C	C	C	C	C
	3.4 Solid Waste	C	B	C	C	C	C
	3.5 Noise & Vibration	C	C	B	C	C	C
	3.6 Ground Subsidence	C	B	B	C	C	C
	3.7 Offensive Odor	C	C	C	C	C	C
	3.8 River Sediment	C	C	C	C	C	C
	3.9 Radio Wave Interference	C	C	C	C	C	C
	3.10 Obstruction of Sunshine	C	C	C	C	C	C

Source: JICA Study Team

Notes:

1) Stage of Project Activity 1: Before Construction, 2: During Construction, 3: During Operation

2) Impact Level

Negative Impact: A: Serious, B: Some, C: Negligible

Positive Impact: ++

N: Level of impact is unknown.

8.5.2 Solid Waste Management Sector

In Albania, intermediate treatment is required legally since final disposal by landfill without any intermediate treatment is not allowed under Law No. 10,463, dated September 22, 2011, on integrated waste management. Currently, there is no identified intermediate treatment for reducing the disposal amount for final landfill in Albania. On the other hand, the existing *Sharra* final disposal facility is reaching its full capacity in a few years. The development of both systems of intermediate treatment and final landfill will be essential to solve above issues in this sector.

Therefore, the alternatives of intermediate treatment and final disposal systems should be discussed in the following sections separately.

1) Intermediate Treatment

Alternatives Considered

Four options of intermediate treatment, i.e., Material Recovery Facility (MRF), waste-to-energy processing, bio-gasification and composting, are proposed in the sector.

Table 8.5.9 shows the alternatives of intermediate treatment including zero option ("do nothing" of intermediate treatment). Each option of intermediate treatment will contribute to the reduction of waste volume except the zero option.

Table 8.5.9 Alternatives of Intermediate Treatment

	MRF	Waste-to-energy	Bio-gasification	Composting	Zero Option
Outline of Alternatives	The facility recovers recyclable materials of used paper, plastics, metals and glasses. The proposed site is planned in the existing Sharra landfill area.	The facility incinerates combustible waste. The proposed site is planned in the existing Sharra landfill area. The generated heat can be used for thermal power generation.	The facility converts organic waste into methane gas under the anaerobic state. The recovered methane can be used for power generation.	The facility uses microorganisms to decompose organic waste to produce compost. The proposed site is the neighboring land to existing Sharra landfill.	The generated waste is transported directly to final landfill site without any reduction of waste volume.

Source: JICA Study Team

Possible Environmental and Social Impacts

Table 8.5.10 shows the results of estimated environmental and social impacts. The definite project sites of each option have not been decided yet. However, one of the candidate sites of the project is the site adjacent to the existing *Sharra* final landfill site. There are currently several houses and agricultural lands near the candidate sites.

The possible impacts of each option are described below.

MRF: The process has a function of secondary sorting of recyclable materials discharged into the dry recyclable material containers; sorting, shredding and cleaning are necessary, which may generate dust and wastewater. The residues which cannot be traded in the recycling market have to be transported to the final landfill. This process has the potential to generate odor or wastewater from the facility.

Waste-to-energy Processing: Air pollutants such as nitrogen oxide (NOx), sulfuric oxide (Sox), hydrochloric acid (HCl) and dioxins will be possibly generated. The equipment for emission control of above air pollutants should be installed. Sludge containing heavy metals such as mercury (Hg) and lead (Pb) will be possibly generated from the treated ashes, which requires the measure for restriction of carrying in batteries containing both these elements to the facility. The recovered heat after the process will be utilized for power generation or community heating. In addition, this process has the potential to generate odor or wastewater at the facility, which will require appropriate control and treatment.

Bio-gasification: Methane gas, one of the greenhouse gases, will be recovered as a fuel which will contribute for preventing global warming. The generated biogas will be utilized for power generation. Odor and wastewater will be generated at the facility.

Compost: Odor and wastewater will be generated at the facility.

Zero option: The life span of the final landfill will be shortened because the volume of generated waste will not be reduced.

Each option may have some adverse impact on the social issue of land acquisition or resettlement, for example, the existence of several houses at the proposed site, or surrounding agricultural land that may be affected. Each option also may generate odor and wastewater. The options of MRF and waste-to-energy may have some impact on the current waste picking activities of the large number of Roma people.

Table 8.5.10 Scoping Table: Solid Waste Management- Intermediate Treatment

	Alternative Plan	MRF			Waste-to-Energy			Bio-Gasification			Compost			Zero Option		
	Element to be assessed	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Socio-economic Environment	1.1 Involuntary Resettlement	B	B	C	B	B	C	B	B	C	B	B	C	C	C	C
	1.2 Local Economy & Livelihood	C	++	++	C	++	++	C	++	++	C	++	++	C	C	C
	1.3 Land Use and Use of Local Resources	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.4 Split of Communities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.5 Social Infrastructure	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.6 Vulnerable or Ethnic Minorities	C	C	B	C	C	B	C	C	++	C	C	++	C	C	C
	1.7 Cultural Heritage	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.8 Local Conflicts	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.9 Water Use or Water Rights	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.10 Public Health incl. HIV/AIDS	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
	1.11 Hazards	C	C	C	C	B	B	C	B	B	C	B	B	C	C	C
Natural Environment	2.1 Topography and Geography	C	C	C	C	C	C	C	B	C	C	C	C	C	C	C
	2.2 Groundwater	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2.3 Soil Erosion	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2.4 Hydrological Situation	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2.5 Coastal Environment	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2.6 Flora & Fauna	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2.7 Meteorology	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2.8 Scenic Value or Cityscape	C	C	C	C	B	A	C	C	C	C	C	C	C	C	C
	2.9 Global Warming	C	C	B	C	C	A	C	C	B	C	C	B	C	C	C
Pollution	3.1 Air Pollution	C	B	B	C	B	A	C	B	B	C	B	C	C	C	C
	3.2 Water Pollution	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
	3.3 Soil Contamination	C	C	C	C	C	A	C	C	C	C	C	C	C	C	C
	3.4 Solid Waste	C	B	++	C	B	++	C	B	++	C	B	++	A	A	A
	3.5 Noise & Vibration	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
	3.6 Ground Subsidence	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	3.7 Offensive Odor	C	C	A	C	C	A	C	C	A	C	C	A	A	A	A
	3.8 River Sediment	C	C	C	B	B	B	C	B	C	C	C	C	C	C	C
	3.9 Radio Wave Interference	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	3.10 Obstruction of Sunshine	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Notes:
1) Stage of Project Activity
1: Before Construction, 2: During Construction, 3: During Operation
2) Impact Level
Negative Impact: A: Serious, B: Some, C: Negligible
Positive Impact: ++
N: Level of impact is unknown.
Source: JICA Study Team

2) Development of Final Disposal Facility

Alternatives Considered

Table 8.5.11 shows the outline of each option of the candidate sites for development of final landfill, while Figure 8.5.3 shows the location of each option on the map. Currently, the site of final disposal area cannot be secured within the administrative area of MOT where most of the land has already been urbanized. Accordingly, the final disposal site has to be selected from the appropriate candidate site in the surrounding communes: Site A (Sharra site) locates adjacent to the existing landfill site where some houses and agricultural lands exist. Both lands of Site B (Lalm) and Site C (Mullet) are located in the tributary catchment of Erzeni river valley with low vegetation. Site D (Ferraj site) is located in the catchment of Tirana river valley (in a hilly area). Several houses were identified in nearby Site A but not identified in Sites B, C and D.

Table 8.5.11 Options of Final Landfill Sites

	A Sharra Site	B Lalm Site	C Mullet Site	D Ferraj Site	*Zero Option*
Outline of Alternatives	The site is located in the south-west part at about 5 km far from the city center. It is adjacent to the existing *Sharra* landfill site. The site is a hilly and valley area with low variety of vegetation. Several houses are identified close to the proposed site.	The site is located in the west part at about 8.4 km far from the city center. It is found in the catchment of the tributary of *Erzeni* river. The site is hilly and in a valley area with low vegetation, where cows or sheep are grazed. Access road reaching the site is not developed. No private houses are identified.	The site is located in the south-east part at about 8.4 km far from the city center. It is found in the catchment of the tributary of *Erzeni* river. The site is a hilly and valley area with low vegetation, where cows or sheep are grazed. Access road reaching the site is not developed. No private houses are identified.	The site is located in the north-east part at about 8.3 km far from the city center. It is found in the catchment of tributary of Tirana River. The site is a hilly area with low vegetation with steep slope. A road reaching Macedonia is under construction near the site. No residential houses are identified.	No final landfill is developed. Existing *Sharra* landfill site has to be utilized beyond its landfill capacity.

Source: JICA Study Team

Possible Environmental and Social Impacts

Table 8.5.12 shows the results of estimated environmental and social impacts. Site A (Sharra site) is close to several houses and agricultural lands. Some negative impacts are expected on the residents and the agricultural lands in case that the land of Site A is selected. In the case of other options of Sites B, C and D, the lands are possibly private lands, and some negative impacts on the land owners will be estimated for the expropriation of their lands. In the case of Sites A, B, C and D, some adverse impact may be caused on public health and water pollution unless appropriate design or operation is implemented for the treatment of leachate water or soil covering for landfill operation. The zero option will deteriorate the public health or cause hazardous situations, such as collapse of landfill, if the existing landfill in Sharra is used beyond its capacity.

Table 8.5.12 Scoping Table :Solid Waste Management- Development of Final Landfill

	Alternative Plan	A Sharra Site			B Lalm Site			C Mullet Site			D Ferraj Site			Zero Option		
	Element to be assessed	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Socio-economic Environment	1.1 Involuntary Resettlement	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C
	1.2 Local Economy & Livelihood	C	++	C	C	++	C	C	++	C	C	++	C	C	C	C
	1.3 Land Use and Use of Local Resources	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C
	1.4 Split of Communities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.5 Social Infrastructure	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.6 Vulnerable or Ethnic Minorities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.7 Cultural Heritage	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.8 Local Conflicts	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.9 Water Use or Water Rights	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.10 Public Health incl. HIV/AIDS	C	B	C	C	B	C	C	B	C	C	B	C	C	C	A
	1.11 Hazards	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
Natural Environment	2.1 Topography and Geography	C	B	C	C	B	C	C	B	C	C	B	C	C	C	C
	2.2 Groundwater	C	B	B	C	B	B	C	B	B	C	B	B	B	B	B
	2.3 Soil Erosion	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
	2.4 Hydrological Situation	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
	2.5 Coastal Environment	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2.6 Flora & Fauna	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
	2.7 Meteorology	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2.8 Scenic Value or Cityscape	C	B	B	B	B	B	B	B	B	B	B	B	C	C	C
	2.9 Global Warming	C	C	B	C	C	B	C	C	B	C	C	B	C	C	C
Pollution	3.1 Air Pollution	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
	3.2 Water Pollution	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
	3.3 Soil Contamination	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
	3.4 Solid Waste	C	B	++	C	B	++	C	B	++	C	B	++	A	A	A
	3.5 Noise & Vibration	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
	3.6 Ground Subsidence	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	3.7 Offensive Odor	C	C	A	C	C	A	C	C	A	C	C	A	A	A	A
	3.8 River Sediment	C	C	C	C	C	C	C	C	C	C	C	C	B	B	B
	3.9 Radio Wave Interference	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	3.10 Obstruction of Sunshine	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Notes:
1) Stage of Project Activity
1: Before Construction, 2: During Construction, 3: During Operation
2) Impact Level
Negative Impact: A: Serious, B: Some, C: Negligible
Positive Impact: ++
N: Level of impact is unknown.
Source: JICA Study Team

Source: JICA Study Team

Figure 8.5.3 Location Map of Final Landfill Sites

8.5.3 Water Supply Sector

Alternatives Considered

Table 8.5.13 shows the comparison of each option including a zero option which does not develop any project for water supply. The options in the sector are mainly divided into securement of new water source, expansion of existing facility, and improvement of water distribution network. Development of new water source consists of dam reservoir, digging a well, development of spring water and expansion of raw water main.

Table 8.5.13 Options of Development Plan in Water Supply Sector

	Securement of New Water Source				Expansion of Existing Water Treatment Plant	Improvement of Water Distribution Network	Zero Option
	Development of Dam Reservoir	Digging of Well	Development of Spring Water	Expansion of Raw Water Main			
Outline of Alternatives	To develop a new dam / reservoir. This option will require a huge amount of investment cost.	Water volume and quality survey of groundwater is necessary prior to digging a well.	A survey of a new water source of spring water and development of intake facility are necessary.	Securement of additional water volume by expanding a water supply pipe from the existing water source of Bovilles lake.	To expand the existing water treatment plant at Paskuqan to treat the new additional water quantity.	To improve existing deteriorated water pipes to reform existing condition of unaccounted-for water.	No development of water supply facilities for the increasing water demand.

Source: JICA Study Team

Possible Environmental and Social Impacts

Table 8.5.14 shows the results of estimated environmental and social impacts to be caused by each option.

The development of a new water source, especially a dam or reservoir, may cause a most significant impact in spite of the secure supply of water. On the other hand, the expansion of the water supply pipeline may cause the least significant impact among the development options of water supply. The expansion of the existing water treatment plant will be indispensable in any case for meeting the water demand, which may cause some impact on noise generation due to the operation of pumping equipment. The zero option will cause critical water shortages with increase in water demand due to increase of future population.

Table 8.5.14 Scoping Table: Development Plan in Water Supply Sector

Element to be assessed \ Alternative Plan		Securement of New Water Supply												Expansion of Existing Water Treatment Plant			Improvement of Water Distribution Network			Zero Option		
		Development of Dam/ Reservoir			Digging of Well			Development of Spring Water			Expansion of Raw Water Main											
		1	2	3	1	2	1	1	2	3	1	3	3	1	2	3	1	2	3	1	2	3
Socio-economic Environment	1.1 Involuntary Resettlement	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.2 Local Economy & Livelihood	C	++	C	C	C	C	C	C	C	C	++	C	C	++	C	C	++	C	C	C	C
	1.3 Land Use and Use of Local Resources	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.4 Split of Communities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.5 Social Infrastructure	C	C	C	C	C	C	C	C	C	B	B	B	C	C	C	B	B	B	C	C	C
	1.6 Vulnerable or Ethnic Minorities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.7 Cultural Heritage	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.8 Local Conflicts	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1.9 Water Use or Water Rights	C	B	A	C	C	B	C	C	B	C	C	B	C	C	C	C	C	C	C	C	C
	1.10 Public Health incl. HIV/AIDS	C	B	B	C	C	B	C	C	B	C	C	B	C	C	B	C	C	B	C	C	C
	1.11 Hazards	C	B	B	C	B	C	C	B	C	C	B	C	C	B	C	C	B	C	C	C	C
Natural Environment	2.1 Topography and Geography	C	B	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2.2 Groundwater	C	C	C	C	B	A	C	B	A	C	C	C	C	C	C	C	C	C	C	C	C
	2.3 Soil Erosion	C	B	B	C	C	C	C	C	C	C	B	B	C	B	B	C	B	B	C	C	C
	2.4 Hydrological Situation	C	B	A	C	B	A	C	B	A	C	C	C	C	C	C	C	C	C	C	C	C
	2.5 Coastal Environment	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2.6 Flora & Fauna	C	B	B	C	C	C	C	C	C	C	B	B	C	B	B	C	B	B	C	C	C
	2.7 Meteorology	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	2.8 Scenic Value or Cityscape	C	B	B	B	C	C	C	C	C	C	B	B	B	B	B	B	B	B	C	C	C
	2.9 Global Warming	C	C	C	C	C	C	C	C	C	C	B	B	B	B	B	B	B	B	C	C	C
Pollution	3.1 Air Pollution	C	B	C	C	B	C	C	B	C	C	B	C	C	B	C	C	B	C	C	C	C
	3.2 Water Pollution	C	B	B	C	C	C	C	C	C	C	B	B	C	B	B	C	B	B	C	C	C
	3.3 Soil Contamination	C	B	B	C	C	C	C	C	C	C	B	B	C	B	B	C	B	B	C	C	C
	3.4 Solid Waste	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	3.5 Noise & Vibration	C	B	C	C	B	B	C	B	B	C	B	B	C	B	B	C	B	B	C	C	C
	3.6 Ground Subsidence	C	C	C	C	B	A	C	B	A	C	C	C	C	C	C	C	C	C	C	C	C
	3.7 Offensive Odor	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	3.8 River Sediment	C	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	B	B
	3.9 Radio Wave Interference	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	3.10 Obstruction of Sunshine	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Source: JICA Study Team

Notes: 1) Stage of Project Activity 1: Before Construction, 2: During Construction, 3: During Operation

2) Impact Level Negative Impact: A: Serious, B: Some, C: Negligible, Positive Impact: ++, N: Level of impact is unknown.

8.5.4 Sewerage / Drainage Sector

There is no sewage treatment plant in MOT and the wastewater including sewage from houses and establishments is currently discharged to the Tirana and Lana river courses directly without any treatment, which has led to the degradation of the water environment. Development of sewage treatment facilities has become an urgent challenge to improve water conditions in the urbanized city.

JICA has already conducted a study called "The Study on the Development Plan for Sewerage System and Sewage Treatment Plant for Greater Tirana in the Republic of Albania," March 2007, for improvement of the water environment and alternatives for sewage treatment were presented therein.

In the same study, a comparison was made for two options of Sewerage Treatment Plants (STPs) in Tirana Metropolitan area as shown below.

1) Study on Overall Allotment of Sewage Treatment Facilities

The comparison for the options of Single STP and Multi STPs was studied.

An option of a single STP in Berxulle (Single STP) to treat all sewage which will be generated in Tirana metropolitan area (MOT and surrounding communes) and another option of two STPs in Kashar and Berxulle (Multi STPs) to treat the sewage which will be generated in the region located near each STP were studied in terms of pollution load removal effect (Investment Index = Pollution Load Removal / Cumulative Investment Cost). The option of Multi STPs was selected by the result that Single STP was estimated to have a larger effect of pollutant load removal compared to that of Multi STPs.

2) Study on Sewage Conveyance in Multi STPs

For the option of Multi STPs as mentioned in above section 1), the study of conveyance method of sewage generated in Tirana metropolitan area was conducted. The option which conveys the sewage generated in Lana basin to Kashar STP through a trunk sewer by gravity flow and using jacking method was adopted in terms of its advantage of the least risk of power failure of the pump station, land acquisition and operation and maintenance.

3) Selection of Target Treatment Level

For the system allotment of sewage treatment in Tirana metropolitan area as mentioned in above section 1) and 2), the target treatment level on a primary or secondary treatment level was studied. The option of secondary treatment was selected based on the reason that it had a larger effect in terms of the effect on improvement of water environment (water quality) and cost for Operation and Maintenance (O&M) compared to that of primary treatment.

The proposed action plan or project targeting the year 2026 in this sector is based on the above JICA study with an additional service area of Sauk area, which involves constructing STPs in Kashar and Berxulle for secondary treatment along with the pump stations in Paskuqan and Sauk area.

Table 8.5.15 shows the results of estimated environmental and social impacts to be caused by two cases: one is the case with the project of construction of sewage treatment facility (STP, sewer line, pump station) and the other is without the project (zero option).

In the case of "with the project," some adverse impact is estimated at construction stage (e.g., resettlement, land use, social infrastructure, hazard or noise due to construction works) and operation stage (e.g., hazard, generation of sludge after the treatment or offensive odor). In the case of "without project" (zero option), on the other hand, the water pollution in the water area of Tirana and Lana rivers will still remain because of the untreated sewage and the wastewater, which will cause the degradation of cityscape and offensive odor which was identified in the existing Tirana and Lana rivers.

Table 8.5.15 Scoping Table: Sewage Treatment Sector: Development of Sewerage Facility

Alternative Plan / Element to be assessed		Development of Sewerage Facility			Zero Option		
		1	2	3	1	2	3
Socio-economic Environment	1.1 Involuntary Resettlement	B	C	C	C	C	C
	1.2 Local Economy & Livelihood	N	N	N	C	C	C
	1.3 Land Use and Use of Local Resources	B	C	C	C	C	C
	1.4 Split of Communities	C	C	C	C	C	C
	1.5 Social Infrastructure	C	B	N	C	C	C
	1.6 Vulnerable or Ethnic Minorities	C	C	C	C	C	C
	1.7 Cultural Heritage	C	B	C	C	C	C
	1.8 Local Conflicts	N	N	N	N	N	N
	1.9 Water Use or Water Rights	C	C	C	C	C	C
	1.10 Public Health incl. HIV/AIDS	C	B	++	A	A	A
	1.11 Hazards	C	B	B	C	C	C
Natural Environment	2.1 Topography and Geography	C	B	C	C	C	C
	2.2 Groundwater	C	B	B	B	B	B
	2.3 Soil Erosion	C	C	C	C	C	C
	2.4 Hydrological Situation	C	C	C	C	C	C
	2.5 Coastal Environment	B	B	++	B	B	B
	2.6 Flora & Fauna	C	C	C	C	C	C
	2.7 Meteorology	C	C	C	C	C	C
	2.8 Scenic Value or Cityscape	C	B	C	A	A	A
	2.9 Global Warming	C	C	C	C	C	C
Pollution	3.1 Air Pollution	C	B	C	C	C	C
	3.2 Water Pollution	C	B	++	A	A	A
	3.3 Soil Contamination	C	C	C	C	C	C
	3.4 Solid Waste	C	B	B	C	C	C
	3.5 Noise & Vibration	C	B	B	C	C	C
	3.6 Ground Subsidence	C	B	C	C	C	C
	3.7 Offensive Odor	C	C	B	A	A	A
	3.8 River Sediment	C	C	C	A	A	A
	3.9 Radio Wave Interference	C	C	C	C	C	C
	3.10 Obstruction of Sunshine	C	C	C	C	C	C

Notes:
1) Stage of Project Activity
1: Before Construction, 2: During Construction, 3: During Operation
2) Impact Level
Negative Impact: A: Serious, B: Some, C: Impact Level is negligible
Positive Impact: ++
N: Level of impact is unknown.
Source: JICA Study Team

8.6 Stakeholder Meetings

8.6.1 Proposal on First Stakeholder Meeting for the Proposed Sectorial Projects

(1) Necessity of Stakeholder Meeting

Under the articles of the Territorial Planning Law, SEA is required to be carried out during drafting of the plan, that is, prior to approval of the planning instrument. The JICA Guidelines for planning also stipulate the requirements to conduct SEA in formulating the plan and projects. In connection with conducting this study on urban planning and also for the planning of regulatory plan of MOT, the first meeting of stakeholders is necessary in the initial stage of planning. The Inception Report of the Study proposes to hold the stakeholder meeting twice during the study period. Accordingly, the first meeting is held in the initial stage, its topic was the scope and timeframe of the planning. The first stakeholder meeting was held jointly with a part of the activities of the Study for the Tirana Territorial Regulatory Planning.

(2) Topics in the First Stakeholder Meeting

The proposed topics in the first stakeholder meeting are shown below

- Explanation of JICA Study and the Inception Report
- Methodology for Formulation of Regulatory Plan of MOT
- Explanation of JICA Guidelines for Environmental and Social Considerations
- Q&A with the Stakeholders

(3) Proposed Participants to the First Stakeholder Meeting

The participants to the stakeholder meetings were invited from the representatives of the (1) central government, (2) local government units, (3) government agencies, (4) private/public enterprises, (5) academic, (6) communities, (7) relevant associations, (8) Non-Governmental Organizations (NGOs) / Non-Profit Organizations (NPOs) / Community Based Organizations (CBOs), (9) international agencies, and (10) other relevant organizations. The number of participants to the first stakeholder meeting was around 50 invited from the following organizations listed in Table 8.6.1.

Table 8.6.1 List of Participants of First Stakeholder Meeting

Sector	No.	Name of Organization/Representative
Central Government	1	Ministry of Environment: EIA Sector
Local Government Units	2	Tirana Regional Area Government
	3	MOT: Deputy Mayor
	4	MOT: Team Leader of Technical Working Group of Regulatory Plan
	5	MOT: General Directors
	6	MOT: Mini-municipalities
	7	Municipality: Kamez
	8	Commune: Kashar
	9	Commune: Vaqarr
	10	Commune: Paskuqan
	11	Commune: Dajt
	12	Commune: Farke
	13	Commune Berxulle
Government Agencies	14	National Territorial Planning Agency
	15	Water Regulatory Authority of Albania
	16	Environmental Protection Agency
	17	Regional Environmental Protection Agency
Private/Public Enterprises	18	Tirana Water & Sewerage Company
	19	Tirana Chamber of Commerce
	20	Tirana Industrial Association
Academic	21	Public University: SEA Expert
	22	Private University: SEA Expert
	23	Public University: Urban Planning
	24	Parent-Teacher Association
Communities	25	Representative of Resident from the Mini-municipalities
Related associations	26	Land Developers Association
	27	Albania Recycling Association
NGOs/NPOs/CBOs	28	Environmental NGO/NPO/CBO
International Agencies	29	World Bank Albania Office
	30	Office of Delegation of EU in Albania
	31	GIZ (KfW) Albania Office
	32	USAID Albania Office
	33	Italian Cooperation Albania Office
	34	IFC
Other Relevant Organization	35	Greater Tirana Sewerage System Improvement Project
JICA	36	JICA Balkan Office
	37	JICA Albania Office
	38	JICA Study Team
	39	JICA Study Team: Local Staff

Source: JICA Study Team

(4) Agenda for first Stakeholder Meeting

The agenda of the first stakeholder meeting is shown below.

10:00 Opening (Dr. Jorida Tabaku, Deputy Mayor, MOT)
10:05 Opening Address (Representative of JICA Office)
10:10 Scope & Inception of the JICA Project for Tirana Thematic Urban Planning
(Dr. Katsuhide Nagayama, Team Leader, JICA Study Team)

10:25 Methodology & Timeframe of Tirana Territorial Regulatory Planning
(Mr. Flamur Kuci, Technical Work Group Team Leader)
10:40 JICA Guidelines for Environmental and Social Considerations
(Mr. Masaharu Takasugi, JICA Study Team Member on Solid Waste Management)
10:55 Tea Break
11:10 Discussions: Facilitator (Mr. Flamur Kuci, Technical Team Leader)
11:50 Summary and Conclusions (Dr. Jorida Tabaku, Deputy Mayor, MOT)
11:55 Closing Remarks (Representative of JICA Office)

8.6.2 Results of First Stakeholder Meeting

The first stakeholder meeting was held at Hotel Rogner in Tirana in February 10th 2012. The officers from MOT, mini-municipalities, mayors of surrounding communes adjacent to MOT, universities, water and sewerage entities (Water regulatory entities), recycling association and local NGO groups, etc. attended the meeting making a total of 84 attendees.

The meeting commenced with the opening remarks by the Mayor of MOT and the JICA representative in Tirana and followed by the explanation of the detailed contents and the current progress of the study by the JICA Study Team. After the explanation, a question and answer session was carried out among the participants.

The results of the opinions from the participants and the replies from MOT and the steering committee members are shown in Table 8.6.2.

Table 8.6.2 Results of First Stakeholder Meeting

Issue	Opinion	Response by MOT or Steering Committee Member
Close relationship with communities	I recommend forging close relationships with communities. The problems start from the mini-municipalities and going toward Tirana Municipality. So, I think that even mini-municipalities should be included in these meetings and be a part of the discussions.	In the next stage, the mini-municipalities will be included in the consultation process.
Water supply and sewerage	I would like to know how the issue of sewage and water supply is taken into consideration. From what I understood from the presentation, part of Sauk, Sanatorium, New Neighborhood and Police Academy are located in low lying area. Some of the sewage is discharged to Erzeni River and the rest is discharged into Tirana Lake. I do not know how these problems are taken into consideration.	We will reflect your opinion into our study. At the same time, we already have had a GIS system on the Internet where each municipality and commune will begin to input the existing networks and consequently meet with project. This base will be applied to your area too. Two things regarding the presentation: • We requested that in the Study, water and sewerage problem should not be separated in this coverage area. • Concerning the separation problem of sewerage and water services into two different services, I would suggest that we can learn from the experience of EU countries.
Outer ring road	As it was a ring and radial system, on the presentation we did not see anything. Are you working to present this?	We are working with the Transportation Department to support the Consultant, getting a part of the data from the Transportation Department.

Issue	Opinion	Response by MOT or Steering Committee Member
Solid waste management	On the problem of urban waste, the solution is by new landfill that will be created, or by any technological or scientific solution?	I think the JICA study will develop the possibility of the technology and it will be decided which option will be appropriate. I am convinced that the time has come to adopt other technologies for the solution of solid waste management.
Environmental management	I have to highlight some issues related to urban environmental management. I think the time has come that the local government should demand full authority for environmental management. The question related to the incineration of waste, management issues are under the central authority. Tirana municipality has a new level of understanding on the environment but needs legal power to address all problems. Monitoring of environmental elements in Tirana is an issue that needs a new system for environmental data.	On the issue of cooperation and coordination with the central government, I can say that we asked and insisted to have collaboration, of course, based on the laws.
Public awareness or environmental education	I am from a sector of civil society and actually would like to say that I appreciated the plan presented, especially the vision of Tirana as the Eco2 City. I adore and appreciate the environmental focus given to Tirana development. One of the elements that I like from the presentation is the issue of awareness raising and environmental education in schools. I like to make available the support of all organizations in this regard. One question is this: Can we find these materials on the Tirana Municipality webpage, and if not, how can we find them?	On the issue of cooperation with civil society, your presence here today is just a good time that we see as cooperation opportunities. In the webpage of the Municipality, you will have the full link to the JICA report.
Cross-local cooperation	Are the local units/ communities consulted in the process, in order that they do not see only benefits but also maybe the consequences/ damage, and how to recover from these in a long-term process?	MOT and surrounding communes have signed an agreement to cooperate for the development of the region Memorandum of Agreement is a public document that has emerged as a clear need to coordinate a long-term strategic development. This memorandum sets out clearly the rights and obligations which are equal for everyone.
Consideration for safety and the people who need special care	I would like to hear clearly about the plan regarding safety and degree of satisfaction for the people who need special care.	As a condition at each step of planning an infrastructure, these kinds of issues will be taken into consideration. The care plan such as sidewalks, roads, urban transport, and public facilities will be some examples for the vulnerable people.
Sold waste management	We had previously met with JICA and, at the same time, we have shown our interest to manage solid waste starting from cleaning Tirana up to Landfill. Ideas and requests presented by us to manage the urban waste are in accordance with JICA ideas represented in this presentation.	In the waste management field, environmental protection through integrated waste management, rapid implementation of separate waste collection will be formulated in the JICA plan.

Source: JICA Study Team

8.7 Further Consideration and Actions

Some adverse impacts on environmental and social aspects were identified by the assessment analysis of IEE for the proposed basic plans in each sector. Mitigation measures in a short, mid and long term for these adverse impacts will be established as recommendation.

Environmental Management Plan or Environmental Monitoring Plan for mitigating above adverse impacts will be established for the proposed basic plans in each sector. The Terms of Reference which will be required for environmental clearance in Albanian EIA system will be prepared for the priority projects in each sector.

9. Institutional and Organizational Reform for Development Coordination

9.1 Current Status and Salient Features

9.1.1 National Policy and Strategy on Legal and Institutional Matter

(1) Existing Legal Framework for Urban Management

The following laws define responsibilities and authority for urban policy making and planning in Albania.

- Law on Territorial Planning, No. 10119 (dated 23 April 2009) – the "Planning Law"
- Law on the Organization and Functioning of Local Governments, No. 8652 (dated 31 July 2000) the "Local Government Law"

The main organizations responsible for urban policy making and planning are the Council of Ministers, the National Territory Council (NTC), the National Territory Planning Agency (NTPA), each and every Ministry and each and every other central public body, which, under the effective legislation, has territory planning duties and responsibilities.

Table 9.1.1 Lead Organizations for Urban Policy Making and Planning

Organization	Description
Council of Ministers of the Republic of Albania (CM)	- Approves building regulations, takes measures for the enforcement of national territory planning instruments - Promotes designing of the territory planning and development policies and supports drafting of national or local territorial plans by relevant planning authorities
National Territory Council (NTC)	- NTC shall be the decision-making body responsible for enacting the national planning instruments - NTC shall be established under the Council of Ministers. The Prime Minister shall be the NTC head.
Ministries and other central public bodies	- design national planning instruments, approve building regulations, support designing of the local territory plans by relevant planning authorities, oversee concrete developments in territory and take preventive and punitive measures, foster direction of development and guide the local authorities on the territory planning procedures and methodologies

Source: Law on Territorial Planning, No. 10119, 2009

(2) Delineation of National and Local Planning Functions

Albanian urban planning system is highly centralized. According to the Law on Territorial Planning, No. 10119 (date 23 April 2009):

At the national level, the competences of NTC are as follows:

- To decide on the approval, approval with amendment, adjourning or non-approval of the national territory planning instruments, as per definitions in Section 5.1 herein;
- To decide the approval of determination of national importance for a matter in territory planning, as per provisions in article 5, paragraph 2, 6 and 32 of this law;
- To assess and approve compliance of the local instrument with the planning instruments in force, as set forth in article 45 of this law; and

- To encourage drafting of national and local territorial plans by the relevant planning authorities and ensures that they meet the technical and procedural standards, as provided with this law.

The local planning authorities shall be as follows: municipalities/communes, regions, and subsidiary bodies of the municipality/commune/region, when specified duties and responsibilities for territorial planning have been delegated or sub-delegated to them.

Functions, authorities and responsibilities of the municipality/commune include:

- To exercise their respective functions, authorities and responsibilities, as set forth in Law No. 8652 dated July 31, 2000, "On the organization and function of local government," as amended, and shall enforce the national planning instruments as a delegated function, in compliance with the stipulations contained in this law;
- To lead and guide territory development and protection in their administrative territory through the design and adoption of local planning instruments and their integration into/compatibility with the national planning instruments;
- To determine detailed standards and conditions in the local development control regulations
- To exercise development control for the enforcement of national and local planning instruments in their administrative territory, and take necessary measures; and
- To administer and take measures for an active land management policy and the development on it.

This overlap of responsibilities between the local and national level has been the cause of occasional conflicts and lack of coordination between the two levels of government.

(3) Organizational Structure of the Municipal Administration

The present administrative structure of the Municipality of Tirana (MOT) consists the following five general directorates (see Figure 9.1.1):

- General Directorate of Development Policies and City Promotion,
- General Directorate of Strategic Projects and Foreign Investment,
- General Directorate of Territorial Planning and Development,
- General Directorate of Planning and Management of Services, and
- General Directorate of Supportive Services.

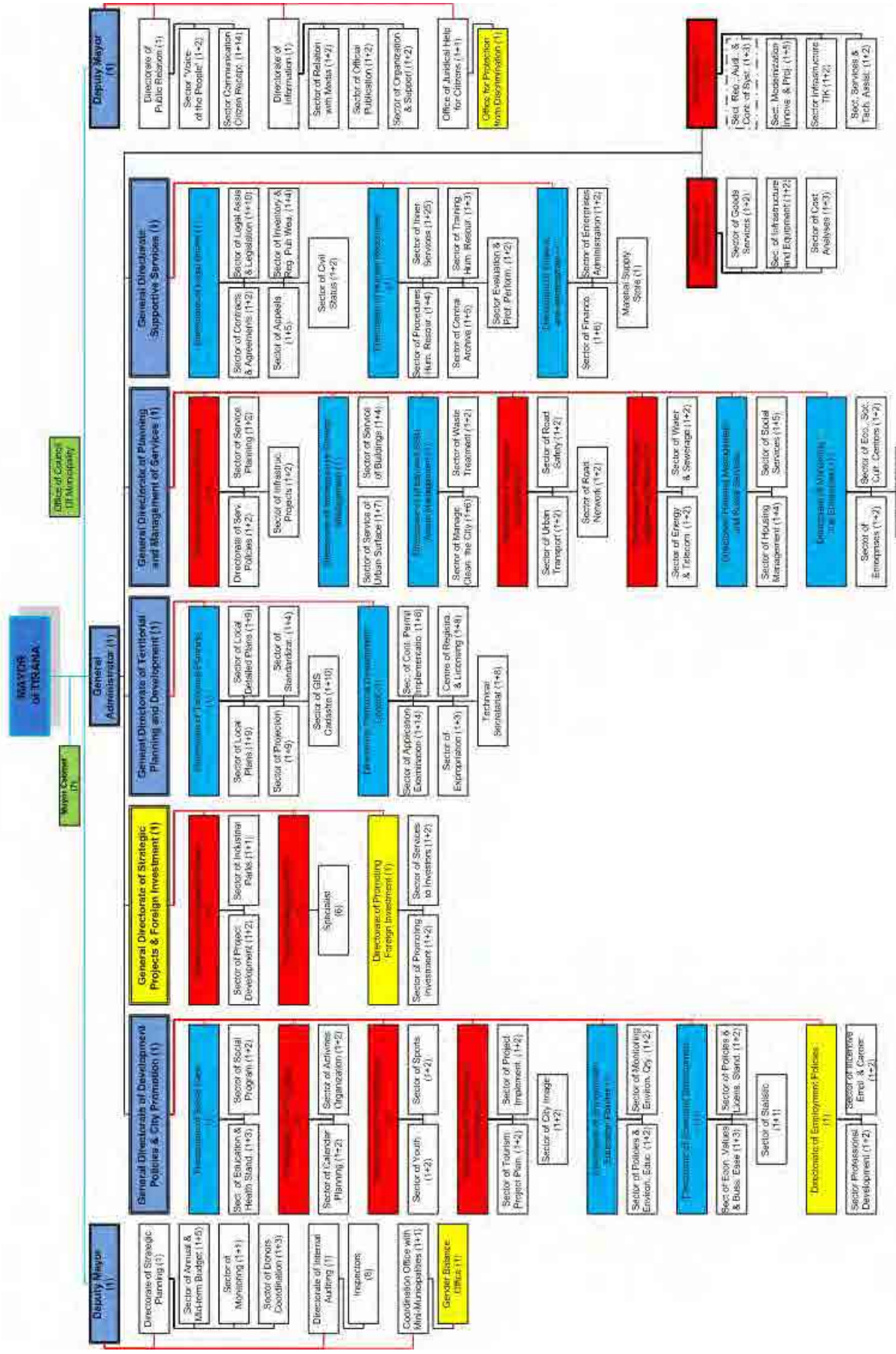


Figure 9.1.1 Organizational Structure of MOT, 2011

Source: MOT

Characteristics of Current Policy Making and Planning Instruments

The main instruments of urban development policy-making and planning in Albania are enumerated in Table 9.1.2.

Table 9.1.2 Main Instruments of Urban Development Policy-Making and Planning

Instrument	Description
National planning	- the planning intended for all or a part of the national territory
Local planning	- the planning intended for all or a part of the local territory, and covers territories coming within the jurisdiction of the municipality, commune and Region
Cross-local planning	- the planning at a local level, which is intended for, or is effective in all or a part of the territory of two or more local government units
Integrated planning	- the planning in the course of which the shared interests of the national and local planning authorities are harmonized into a planning instrument

Source: Law on Territorial Planning, No. 10119, 2009

(4) Responsibility for Infrastructure Planning and Development

According to the Local Government Law, communes and municipalities shall assume responsibilities for a number of "exclusive" functions, including:

- Construction and maintenance of road;
- Public transport;
- Water supply, wastewater and solid waste management;
- Urban planning and land management;
- Park and public spaces; and
- The maintenance of facilities for pre-university education and health care (for municipalities).

In addition, the planning of infrastructure development in most sectors requires collaboration with central government authorities, such as:

- Ministry of Public Work, Transport and Telecommunication for water supply, sewage system, construction of inter-city roads and transportation;
- Ministry of Education and Science for norms and design specifications for education facilities; and
- Ministry of Environment for waste management and parks.

9.1.2 Need for Publicly Supported Vision and Strategy of Long-term Municipal Development - Findings from Previous Studies

The Diagnostic Study of Urban Regulatory Plan Tirana (URPT) assesses the existing institutional arrangements, procedures and capacities for urban management. It also discusses the weaknesses of the existing management system from the point of view of the new regulatory system which it proposes. Within the framework of this Diagnostic Study, the URPT's Capacity Development Report reviews the existing institutional system, identifies capacity development needs, and outlines its capacity development program. Based on the findings of these existing

studies, this section discusses the present situation and challenges on the legal, institutional, and financial aspects of urban development in MOT.

One of the present problems of urban management in MOT is the lack of publicly supported vision and strategy of long-term municipal development. According to the Diagnostic Study, the Municipality has started to prepare a "Tirana Development Policy" as a basis for the Regulatory Plan. The draft of this document states that "the Municipality … will adopt a vision, development policy and Regulatory Plan for the future of Tirana that is shared broadly by all stakeholders." However, the Diagnostic Study points out the need for addressing the following points:

- Elaborate and disseminate the municipal vision statement;
- Complete, mobilize support for and approve urban development policy, and
- Introduce and gain support for the Municipality's new role as a pro-active "leading" actor for local development projects in priority areas.

Without a publicly supported vision and strategy of long-term municipal development, it is difficult to achieve effective prioritization of sector and projects and subsequent allocation of budget.

9.1.3 Unclear Delineation of Responsibilities between Central and Local Governments - Findings from Previous Studies

The present urban planning and management in Albania is a highly centralized system. It is true that the current planning law assigns responsibility for most urban planning and management tasks to local government, but their output is subject to review by central government authorities. That is:

- Approval processes of most local plans (i.e., for areas above 15 hectares and even building permits for major projects) go up to TACRA (Territorial Adjustment Council of Republic of Albania), which is headed by the Prime Minister. Thus, plans and building permits that have been approved by local or district TACs (Territorial Adjustment Councils) may be overturned by TACRA.
- In cases where local governments do not (or are unable) to prepare required urban studies and plans, the National Institute of Urban Planning Studies and Design becomes operationally responsible.
- Furthermore, the authority of the local TAC had been, until recently, limited by the fact that its membership included a heavy contingent of central government appointees.
- Decentralization of the public enterprise for water supply and wastewater to local government is pending.
- Responsibility for investment in social service facilities such as school building is still under central government authority.

This kind of highly centralized system is clearly at variance with national decentralization policies and the Local Government Law. The diagnostic study claims that the incomplete and not yet fully coherent decentralization of responsibility and authority constrains municipal capacity to manage urban development processes.

9.1.4 Unclear Perceived Roles and Responsibilities of Each Department within the Municipality - Findings from Previous Studies

Table 9.1.3 outlines the result of the questionnaire survey regarding missions, main responsibilities, and specific responsibilities perceived by the staff of MOT.

Table 9.1.3 Initial Statements of Mission and Responsibilities, Municipal Sections

Directorate	Mission	Main responsibilities	Specific responsibilities
Policy and Planning			
Master Planning	Translation of municipal development policies into spatial solutions and their direct application in the urban territory	- Supervise work of the Regulatory Plan (RP) project group - Coordinate the RP team with MOT specialists - Define planning topics needing further study and draft TORs - Coordinate work of MOT offices and other institutions regarding subjects related to the RP and special master plans - Confirm land use and boundaries for building permit and development applications, etc.	- Organize meetings, workshops related to RP and Master Plans. - Prepare material for manuals/ handbooks regarding application of the RP
Micro-planning	Increase the quality and standards of public and private space while responding to the needs, demands and expectations of inhabitants, land owners and professionals, including developers	- Manage staff and tasks related to micro-planning: - Projects for urban re-qualification - TOR for re-qualification projects - TOR for international planning competitions - Analysis of urban space - Policy proposals regarding the use, development or re-qualification of urban space	- Ensure work progress of the sector - Prepare and oversee tasks of specialists - Propose alternative organizational solutions for urban projects - Propose forms of collaboration, staff training, projects and studies
Environmental policy	Improvement of environmental quality and living conditions through environmental protection and prevention of pollution	- Follow-up policy application regarding environmental protection, mobility, natural resources, and pollution issues - Identify ways and instruments to promote environmental awareness among citizens and economic actors - Identify standards to reduce environmental impact - Promote responsible use of natural resources - Establish balance between private initiative and public interests - Prepare strategic documents, programs and projects for pollution prevention	- Draft, monitor and assess documents that set indicators for measuring environmental performance - Monitor environmental aspects and impacts of municipal activities and make recommendations - Evaluate land use potentials for urban sites with regard to environmental impacts. - Propose local strategies for environmental protection - Advise on waste management
Transport and Mobility			
Transport policies	Plan the development improvement and extension of transport and mobility systems in conformity with the	Draft and implement transport solutions based on the transport master plan, standing legislation, Municipal Council decisions, and municipal orders	- Conduct studies to identify measures for optimizing the transport system and protect the environment

Directorate	Mission	Main responsibilities	Specific responsibilities
	transport master plan, laws and instructions		- Oversee and analyze implementation of the transport master plan - Manage, plan and program public transport lines - Draft TOR for specialized studies
Social care	Create policies, programs and quality standards for the improvement of social health, education, culture, youth and sports services	- Manage work of the four sections; motivate the staff for optimal use of human resources - Propose social projects and programs; open new social centers - Establish work groups for specific objective and activity plans - Recommend relevant policies and standards to the General Directorate	- Report periodically to the General Directorate of policy and planning on work performed - Formulate annual and monthly activity plans - Establish and maintain contact with stakeholders (communities, NGO, donors) - Coordinate work with other units linked to social programs
Economic development	Generate an environment that is conducive to economic development while improving the quality of life of the population	Plan work within the Directorate and establish synergies with other organization in and outside MOT	- Participate in studies of actual conditions and the business environment - Assemble and update information network on events and economic data
Engineering Networks			
Water supply and drainage	Drafting of policies and strategies for managing and optimizing engineering networks	- Organize and manage work of the sector, implement approved work plan - Coordinate with other units and institutions to achieve objectives	Responsible for participation in decisions regarding infrastructure in the Technical Council
Strategic Planning	Manage the drafting of all municipal revenues and expenditures in relation to the program of activities, projects, objectives and policy goals	- Draft medium-term analysis of year plan of revenues and expenditures - Perform medium term analysis of incomes and expenditures, coordinated with all responsible MOT units - Determine medium-term expenditures and investments based on requests of the units, evaluating and listing main priorities for financing – present for approval - Draft annual budget based on the medium-term plan	- (No distinction is made between main and specific responsibilities) - Monitor implementation to ensure effective and efficient use of funds - Prepare materials for the Municipal Council dealing with medium-term and annual budget approval - Draft strategy to obtain financing through external sources (donors and loans) - Draft projects for financing - Coordinate and control (financial disbursement) progress of all projects

Source: Urban Regulatory Plan Tirana – Capacity Development Report, Urbaplan, 2008

According to the Capacity Development Report, the most prevalent weaknesses is the lack of a clear hierarchy of objectives and the lack of clear distinction between main responsibilities (managerial tasks) and specific responsibilities (subject-oriented tasks). Identified problems include:

- The vertical relationships which would link the mission of a section to that of its directorate and general directorate are not apparent.

- Responsibilities are elaborated to the level of operational steps but not comprehensive managerial concerns.
- Responsibilities are often expressed through words such as “assist”, “collaborate”, and “cooperate”, which tend to hide the real ownership of responsibility.
- Responsibilities are not yet structured and expressed in a way that indicates measurable outputs or performance.

Since the responsibilities and expected outputs of each department are not clearly defined, the definition of performance criteria is also difficult in many cases, which may have had negative effects on the performance of the Municipality.

9.1.5 Need for Effective Coordination - Findings from Previous Studies

1) Coordination between Central and Local Governments

The unclear legal framework of central and local planning relationships combined with a serious lack of vertical collaboration regarding Tirana urban development issues has brought occasional conflicts between the two levels of government. The situation has been worsened by the lack of capacity of Urban Planning Department in MOT, which has hindered the realization of more technical levels of planning and problem solving. In this situation, the Diagnostic Study proposes the establishment of a platform or commission for exchange, coordination and collaboration between central and municipal governments regarding development in the urban region and specific capital city functions of the Municipality.

2) Horizontal Coordination

In addition to the lack of vertical coordination, horizontal cooperation is still at a very low level. This problem has prevented the promotion of coherent and efficient structuring of growth and efficient provision of infrastructure services throughout the fast growing region. The reasons for this coordination problem include:

- The highly centralized administrative system and weak local autonomy focuses attention on “vertical” central-local relationships, to the detriment of “horizontal” relationships.
- Extremely rapid growth in the metropolitan region has confronted authorities with unprecedented problems and challenges.
- At the same time, there seems to be a certain competition for growth and investment among local government units of the metropolitan region.
- No regional organizational or policy framework exists that would facilitate the identification of common objectives, shared problems and possible win-win solutions.
- There is no legal requirement or instrument for supra-local policy-making and planning.

In this context, the Diagnostic Study proposes the establishment of a platform, forum or, ultimately, a planning authority among all local governments of the metropolitan region to coordinate, cooperate and collaborate in matters of metropolitan development.

3) Sector Coordination

The present sector programs and projects are planned and implemented independently and not in an integrated manner. This is a natural result of the lack of publicly supported vision

and strategy of long-term municipal development. Other factors contributing to this problem may include insufficient stakeholder participation in sector planning process and the lack of institutionalized project approval process and insufficient coordination with relevant institutions.

9.1.6 Insufficient Stakeholder Participation - Findings from Previous Studies

Aside from political factors, one of the main reasons why Albania suffers from serious coordination problems seems to be the lack of active participation of all major stakeholders in decision making process. This problem is seen in the following phenomena pointed out in the Capacity Development Report in 2008:

- Under the current planning law and the still highly centralized governmental system, policy making has remained a national prerogative. There appears to be little recognition of the key responsibility of local authorities for urban development policy within the areas of their jurisdiction. Prior to URPT, policy level planning studies have been conducted without MOT participation.
- Tirana's development vision, policy framework and strategy, formulated for URPT, are still tentative; they have not yet been fully vetted or approved.
- The public consultations held on the RP are not sufficient to generate broad public and stakeholder understanding and support for RP.
- MOT's experience with participatory planning is very limited.

The above proposals on the establishment of a platform for coordination between central and municipal governments and among all local governments of the metropolitan region may also reflect the lack of stakeholder participation in the decision making process for urban management in MOT.

9.1.7 Weak Administrative Capacity - Findings from Previous Studies

In the Capacity Development Report, it is pointed out that MOT has little or no experience with many of the tasks that will be required by the new regulatory system proposed in 2008. The Report claims that the limited effectiveness of MOT's urban regulation and management functions is due mainly to the legal and institutional framework, and available instruments; they concern "what" MOT does regarding regulation rather than its inherent capacity to manage regulation process. In addition to this problem, MOT has faced administrative weaknesses in achieving their development goals. Table 9.1.4 summarizes causes of organizational weaknesses perceived by the municipal staff.

According to the survey, the Urban Planning Directorate and, to a lesser degree, other directorates of the General Directorate of Policy and Planning have the most acute sense of organizational weakness. These are the directorates charged with implementation of the Regulatory Plan. In these directorates, problems are recognized in the "external" organizational environment and in the "internal" capacities of the unit – i.e., staff number and qualifications. Although the Directorate of Urban Planning does not attribute much importance to the "definition of missions and tasks" or the "delineation of responsibilities" as sources of current weakness, it nevertheless ranks these factors quite high as required areas of capacity development.

Table 9.1.4 Perceived Causes of Organizational Weaknesses

Organization	Weaknesses
Urban Planning Directorate, General Directorate of Policy and Planning	The main cause of weakness has to do with inadequate inputs of information and support. Inadequate number of staff and qualifications of the staff are also perceived as important cause of weakness as is, to a lesser degree, the unclear delineation of responsibilities. Hence, the problems are both "internal" and "external" to the unit.
Other directorates of the General Directorate of Policy and Planning (i.e., Social, Economic Development, Transport and Network Engineering)	Insufficient resources and equipment is seen as the major problem, followed by inadequate number of staff and, to a lesser degree, inadequate inputs and support. The main causes of weakness are seen as "external" to the units themselves.
General Directorate of Urban and Territorial Control	The inadequacy of resources, equipment and facilities is seen as the main cause of weakness, followed by the number of staff, delineation of responsibilities and inputs of information and support. The main problems are seen to be "external" to the units in question.
Others	General Directorate of Service Management does not find a major cause of weakness in any of the areas listed. Similarly, respondents from the General Directorate of Internal Services cite no factor as an important cause of weakness. The most serious identified problems concern the link with other units – i.e., inadequate inputs of information and support, as well as insufficient resources, equipment and facilities. These causes are all "external" to the units.

Source: Urban Regulatory Plan Tirana – Capacity Development Report, Urbaplan, 2008

9.2 Coordination Issues in Municipality of Tirana

There are three kinds of coordination issues in MOT, namely, the issue of vertical coordination, horizontal coordination, and of sector coordination. This section will deal with the first two coordination issues. The issue of sector coordination will be discussed in Section 9.6: Proposed "Coordination Manual" for Planning, Implementation and Monitoring.

(1) Vertical Coordination

In terms of vertical coordination, a serious lack of vertical collaboration regarding Tirana urban development issues has brought occasional conflicts between the two levels of governments in Albania. In this context, the Territorial Planning Law, 2009 stipulates:

"Integrated planning instruments shall define the future development for the purpose of achieving a balanced and integrated development between the local and national levels, and determining objectives of local and national importance and joint interest set for one or more national and local planning authorities….." <Article 29 Integrated Planning, Territorial Planning Law, 2009>

(2) Horizontal Coordination

With respect to horizontal coordination, the lack of horizontal cooperation has prevented the promotion of coherent and efficient structuring of growth and efficient provision of infrastructure services throughout the fast growing region.

The recognition of the importance of horizontal coordination by the Government of Albania can be seen in the <Article 28: Cross-local Planning, Territorial Planning Law, 2009>. "Cross-local planning instruments shall be designed to help foster coordination among the local government units, and shall define future development across the entire or a part of the territory of two or more local government units, with the purpose of achieving certain goals of local importance or joint interest."

In addition, the Law on the Organization and Functioning of Local Government, Chapter III stipulates the right of cooperation of local government. That is:

"For the performance of specific services in the name and for the benefit of the respective communities, two or more units of local government may together exercise every function that is given to them by law, through the implementation of joint contracts or agreements, the delegation of particular responsibilities and competencies to one another or contracting with a third party."

In this way, the Albanian Law points out the importance of vertical and horizontal coordination. However, the issue is how. Laws do not give us how local governments can coordinate their activities with central government, and how they can cooperate effectively with each other. In this regard, the Team proposes concrete mechanisms to promote coordination in the following section based on the experience of Japanese local governments which have used several methods to handle these coordination problems.

9.3 Institutionalization of Effective Coordination Mechanism

(1) Vertical Coordination

In terms of vertical coordination, there are two ways MOT coordinates with the central government. First, MOT formulates its municipal development plan within the framework of the national development policy and law. Second, when MOT formulates its development plans, it establishes advisory committees that consist of representatives from central government agencies, professors, experts, private sector and civil society, depending on the issue.

Thus, if MOT needs to coordinate with a central government agency on some issue, they ask the agency to send a representative to participate in the advisory committee, so their plan can reflect the input from that central government agency. In this way, the task team of each department can promote coordination with concerned central government agencies through consultation with advisory committees. In addition, the establishment of advisory committees contributes to the promotion of stakeholder participation in the planning process including experts from universities and research institutions as well as representatives from the private sector, NGOs and civil society.

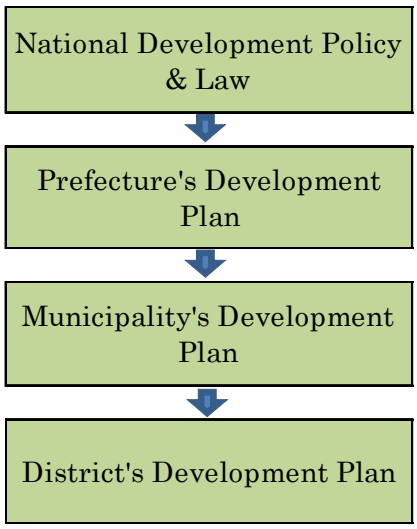


Figure 9.3.1 Vertical Coordination in Japan (1): Formulation of Municipal Development Plan based on the National Development Policy and Law

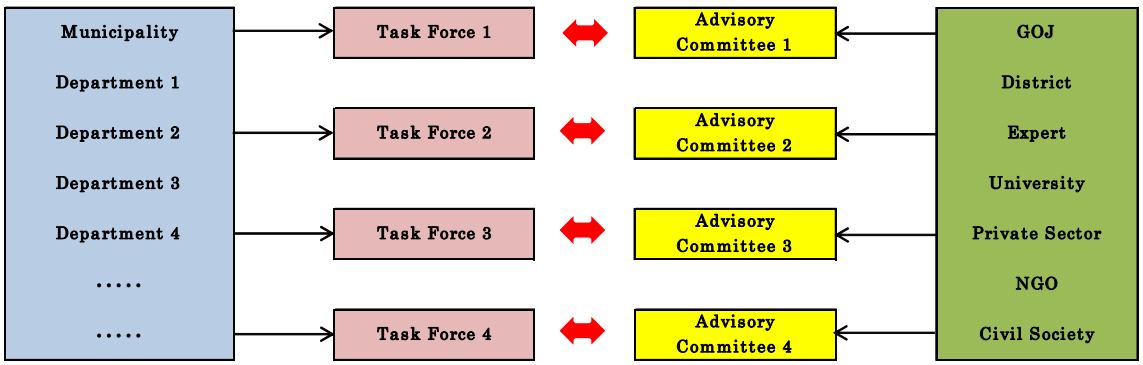


Figure 9.3.2 Vertical Coordination in Japan (2): Establishment of Advisory Committees in the Formulation of Municipal Development Plan

(2) Horizontal Coordination

The implementation of the Master Plan for MOT requires effective coordination with other local governments since the implementation of many proposed projects includes and affects areas outside their administrative boundaries. In this respect, the role of the provincial government is very critical in coordinating different interests of member municipalities and commune governments.

However, the experience of local governments' performance in Albania is not encouraging in this field. The narrow administrative boundaries of local governments combined with the limited role of provinces have led to suboptimal investment decisions from the regional and national perspectives. In this situation, there is a need to establish some kind of mechanism that effectively coordinates different interests among local governments.

In addition, some communes at the periphery of MOT cannot effectively handle their decentralized responsibilities. According to the Local Government Law, communes and municipalities shall assume responsibilities for a number of "exclusive" functions, including construction and maintenance of road, public transport, water supply, wastewater and solid waste management, urban planning and land management, park and public spaces, maintenance of facilities for pre-university education and health care (for municipalities), and so forth. The main weakness of the present system is that some local governments are too small in size, financially weak, and lack the technical expertise to pursue some of their functions effectively. In addition, most local governments in the Tirana Metropolitan Area do not fully cover the urban and urbanizing areas of their city/district. This has led to the fragmentation of urban governments, creating a political barrier against effective urban government and economical service delivery.

In order to cope with the problems of the small scale local governments, the adoption and implementation of amalgamation of governments may provide a solution for effective urban management. However, it will take some time given the movement toward decentralization in today's Albania. If there is little possibility to merge local governments, then local governments will have to learn how to do joint investment projects together to gain economies of scale, which is a new experience in Albania. An effective method to promote cooperation among local governments is the formation of local government associations (LGA) for specific objectives.

Considering the Japanese experience, the local government association should be established under the following principles:

- It is established and managed by the consent of all participating local governments.
- It has an administrative authority as a quasi-local government.
- Human resources and revenue depend on the provision of member local governments.
- Budgetary contribution of a member is determined by: 1) equal rate for fixed cost and 2) proportional rate for investment and operation cost, which is usually calculated based on population share.

The rationale for the formation of this kind of local government association is to manage trans-municipality/commune issues and to attain the scale of economy in such a way that all members

can solve their common problems with specific targets. This association also allows them to pool their funds together in order to reduce administrative costs for operation and maintenance.

At present, many local governments in Albania do not possess sufficient financial resources and technical expertise to pursue some of their functions effectively, such as solid waste and waste water management. The capital requirements needed to set up efficient and effective facilities are too costly for a single local government to afford. By establishing a common facility, each local government is able to reduce costs while achieving the same objective. In addition, managing common facilities requires sustainable cooperation among member local governments. However, this is difficult to achieve since each local government usually has different interests derived from different resources, skills, objectives and procedures. Thus, the sustainability of the cooperation depends largely upon the effectiveness of coordination among local governments. The creation of local government associations (e.g., LGA for the construction and management of final disposal sites) can contribute to handle these problems.

9.4 Proposed Organizational Structure for Metropolitan Development Administration

From the aforementioned amalgamation perspective, the form of local government association shown in Figure 9.4.1 is proposed, which is basically the same organizational structure as that of local governments in Albania. There are the legislative, executive, and accounting bodies. The Council represents the legislative body, and under the Council, there are Auditors. The executive body consists of the Chief Executive, Deputy Chief Executives and the Secretary General. Under the Secretary General, there are two divisions, namely, the administrative division and the operations division.

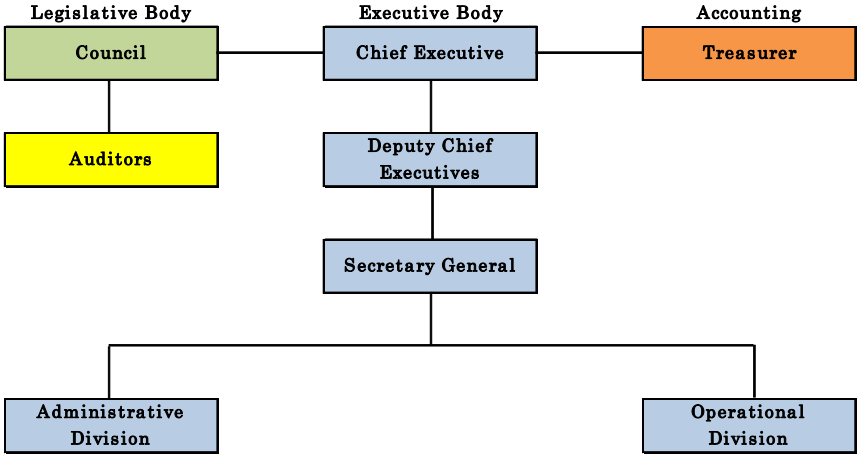


Figure 9.4.1 Proposed Organizational Structure of a LGA

The details of the Organizational Structure of Local Government Associations are as follows:

(1) Objective

To deal with a joint project concerning the construction and management of a common facility across several municipalities/communes

(2) Member Local Governments

Member local governments include a municipality/commune and surrounding municipalities/communes, or any local governments that agree to the objective and want to participate in the projects.

(3) Legislative Body

The Council is the Association's legislative body which shall be composed of the Presiding Officer and the regular Council Members.

The members of the Council equal the number of member local governments (each member local government has one seat).

The regular members of the Council are elected from among the members of each Council of the local government. Their terms of office are based on the terms of office at their home Council. If a member of the Council loses his/her seat in his/her home Council, he/she automatically loses his/her seat at the Association's Council.

The Council shall be presided over by a Chairman who is elected from among the vice executives of members local governments. The Chairman's term of office shall be the same as the term of office at his/her home local government. In case the Chairman has an accident or loses his seat, the Vice Chairman takes over the position.

(4) Executive Body

The Association has one Chief Executive and several Deputy Chief Executives. The Chief Executive shall be elected from among the executives (i.e., mayors/regents) of member local governments. Their terms of office are the same as the terms of office in their home local government.

The Chief Executive shall be assisted by Deputy Chief Executives who shall also be elected from among the executives (e.g., mayors/regents) of member local governments.

Under the Executive Body, a permanent office for the Secretariat shall be established for their daily administrative and operational work.

A Board of Directors can be formed instead of the Chief Executive in order to perform the functions of the Chief Executive when the Association has a number of member local governments with a wide range of activities. The Board of Directors is composed of the executives (e.g., mayors) of member local governments. In some associations, the members of their board of directors could be appointed by the executive (e.g., mayor) with the consent of the home Council.

(5) Treasurer

A Treasurer shall be appointed by the Chief Executive with the consent of the Association Council from among the treasurers of member local governments. The term of office is the same as the term of office in his/her home local government.

(6) Secretariat

The secretariat of the Association shall be headed by a Secretary General assisted by other staff members appointed by the Chief Executive. The Administrative Division and Operations

Division are under the office of the Secretary General.

The staff shall be dispatched by member local governments and, if necessary, the central government.

(7) Auditors

The Chief Executive shall appoint one auditor from experts outside the Association and, if necessary, one from among the members of the Association Council with the consent of the Council. With respect to the term of office, the external expert shall have a fixed term of office (for example, four years) while the one appointed from the member local governments shall follow the term in his/her home local government .

Auditors shall monitor the performance of the executives and their staff, and for this purpose shall be under the Council of the Association.

(8) Finance

The costs are financed by the sharing of expenses by member local governments and by other revenues.

The share of expenses per local government shall be decided by the Council. The budgetary contribution of member local governments shall be determined by equal rate for fixed cost and proportional rate for investment and operation cost. The latter may be calculated based on the population share of each member.

Part of initial costs shall be subsidized by the Central Government and, if necessary, by ODA grant/loan. The rest of the initial costs shall be provided by member local governments or through bond issued by the Association.

The involvement of mayors/executives and the legislative body of member local governments ensure the commitment of local governments and enhance coordination between and within local governments. The representation of all member local governments and the division of power between the Council and Executive Body introduce a mechanism of checks and balances within the organization to promote impartiality and, thus, contribute to consensus building among all member local governments. The existence of auditors under the Council may promote transparency of the organization's performance that is the basis for sustainable cooperation. The financial and technical support from the Central Government may enhance the capacity-building of the local government association.

9.5 Institutional Set-up for the Implementation of the Master Plan

Finally, a proposal is made for MOT regarding institutional set-up for the implementation of the Master plan.

(1) Establishment of Cross-functional Task Forces

After the completion of the JICA Study Project, a task force should be established in each directorate (in charge of road construction and transport, solid waste management, water-related facilities, land use and environment), which is in charge of the preparation of the implementation plan to mobilize necessary resources for the projects based on the Master Plan. For projects that need cooperation of other directorates, the task force could become an inter-

directorate group that consists of middle ranked officers from different departments. This kind of cross-functional task force could achieve multi-sector coordination through the participation of members from all relevant sectors in the decision making processes. Later, these cross-functional task forces can assume planning functions for the field concerned. Moreover, the task forces may also contribute to human resource development in planning and implementation of urban development plan in MOT through the participation of middle ranked officials from relevant departments/division in urban infrastructure planning processes.

(2) Establishment of Technical Advisory Groups and Steering Committee

The establishment of Technical Advisory Groups will not only provide the taskforces with technical advises, but also contribute to multi-sector coordination as well as vertical and horizontal coordination depending on the formation of the groups. For this purpose, four Technical Advisory Groups will be set up under the Steering Committee consisting of: 1) Environment and Land Use Group, 2) Urban Transport Group, 3) Solid Waste Management Group, and 4) Water Supply, Sewerage/Drainage Group. The Technical Advisory Groups are composed of stakeholders in each target area including senior officials from related fields, experts from universities and research institutes, representatives from central agencies and communes concerned, as well as representatives from the private sector, NGOs and civil society, wherever necessary. The groups will meet periodically to monitor the implementation of the projects concerned and give necessary technical advices to the task forces. The Steering Committee oversees the implementation of all projects. Thus, through these Technical Advisory Groups, the officials from related department of MOT will participate in the formulation of implementation plan based on the Master Plan, and monitor the implementation of proposed projects. The establishment of these Technical Advisory Groups can contribute to the promotion of vertical, horizontal and interdepartmental coordination as well as stakeholder participation in the process.

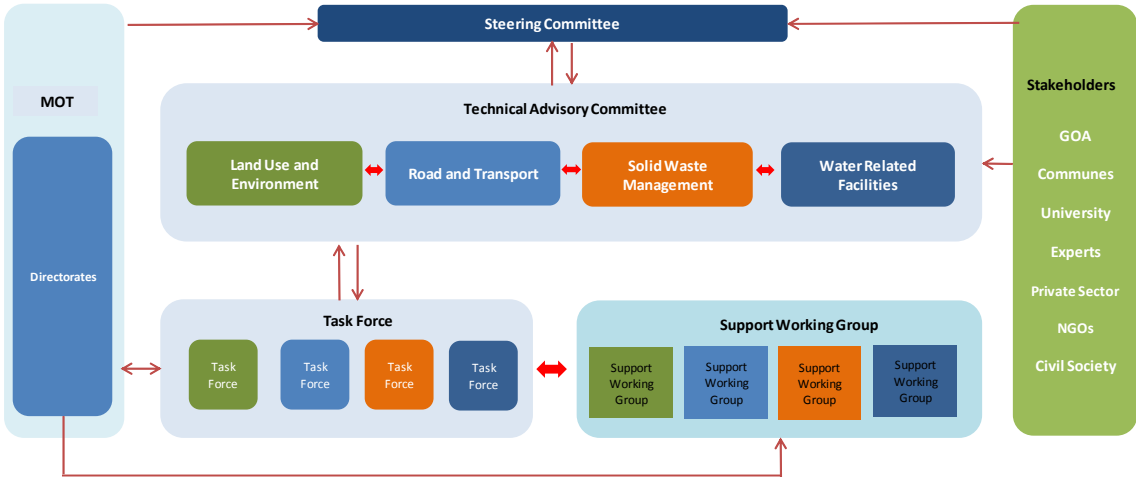


Figure 9.5.1 Institutional Set-up for the Implementation of Regulatory Plan

Main functions of each participating organizations are as follows:

1) Task forces (consisting of middle ranked staff in each four directorates)

- To prepare implementation plan to mobilize the necessary resources for projects based on the Master Plan

- To coordinate their works with other directorates

2) Working Groups (consisting of staff from relevant directorates)

- To support the task forces by providing them with necessary data and information

3) Technical Advisory Groups

- To monitor the implementation of the projects concerned
- To provide task forces with necessary technical advices

4) The Steering Committee

- To oversees the implementation of all projects

5) The Directorates of MOT

- To provide staff for their task force
- To be the implementing bodies for the projects which may establish project management units as required

6) The Government of Albania

- To oversee and approve environmental impact assessment, etc.

9.6 Proposed "Coordination Manual" for Planning, Implementation and Monitoring

(1) Urban Development Planning Process

The stage of urban development planning process includes economic assessment, strategic formulation, implementation and strategy review (See Table 9.6.1).

For a consistent and smooth flow of this process, it is necessary for MOT to have effective coordination mechanisms with relevant central government agencies and with neighboring communes. Likewise, interdepartmental coordination within MOT is imperative.

Table 9.6.1 Planning Process of Urban Development

Stages	Elements	Description
Economic Assessment	Information gathering	An effective local economy assessment will start with a preliminary review of the existing economic relationships and activities within an area. The assembly of data will include available quantitative and qualitative information that highlights existing structures and trends in business development, manufacturing, employment, skills, and other data that will help to identify the strategic direction of the local economy. The assessment need not necessarily be limited by the administrative jurisdiction or boundary of the municipality. An area might consist of a metropolitan region, a travel-to-work area, a town, city or its urban or rural hinterland. The information collected may highlight the need for specific projects and programs that will expand and diversify the local economic base.
	Economic Assessment	After obtaining this data, it will be necessary to collate and analyze the data so as to provide a profile of the local economy. Several tools including SWOT analysis, benchmarking and regional economic indicators may be used to identify key information about the local economy.
Strategic	Vision	Stakeholders' consensus on the preferred economic future of the community.

Stages	Elements	Description
Planning	Goals	Identifies key priority areas of action to meet vision; specify desired outcomes of the Local Economic Development (LED) planning process.
	Objectives	Performance standards and targets for development are set, which are time bound and measurable.
	Programs	Similar projects that collectively achieve particular objectives are defined and grouped together.
	Projects	Implements specific program components (time bound and measurable), which have been prioritized and costed.
Implementation	Implementation Plan	Lays out the budgetary, human resource, institutional and procedural implications for implementing the Strategy. This is the integration of all projects and programs within a Strategy.
	Action Plans	Provides specific details on project components including a hierarchy of tasks, responsible parties, a realistic delivery timetable, human resource and financial needs, sources of funding, expected impacts, results, performance measures and systems for evaluating progress for each project
	Institutional Frameworks for Implementation and Monitoring	Both formal and informal links with all the key stakeholders are established and maintained to support implementation and monitoring. Working relationships and trust between partners are to be built to assist in the process of managing perspectives and differing agenda.
	Availability of Relevant Inputs	It is necessary to ensure that the required inputs are available and in place prior to the start of strategy implementation. MP implementation requires a commitment of resources, time and political support, and securing and maintaining such inputs will determine effectiveness to achieve programs and projects, and therefore, the overall vision.
	Tasks in Project Action Plans	Prior to the commencement of project implementation, project managers will ideally have been selected and charged with responsibility for each project. During the implementation of the project, constant review should be undertaken to ensure that the project is delivering its stated aims and desired outputs. The collection of project data should be a priority to ensure that detailed and relevant information is available for monitoring and evaluation purposes, both during and after project implementation. The use of sound management techniques such as project monitoring and evaluation can help to avoid delays, thus ensuring the smooth implementation of a project.
Strategy Review	Monitoring	This is the continuous assessment of a strategy and/or project implementation in relation to agreed schedule, the use of inputs, infrastructure, and services by project beneficiaries. Provides managers and other stakeholders with continuous feedback on implementation. Identifies actual or potential successes and problems early to facilitate timely adjustments to project operation. Accepts the project design as given. Measures progress, which is focused on performance and occurs continuously.

Stages	Elements	Description
	Evaluation	Evaluation is the periodic assessment of a project's relevance, performance, efficiency, and impact (both expected and unexpected) in relation to stated objectives. Project managers undertake interim evaluations during implementation as a first review of progress, a prognosis of a project's likely effects, and as a means of identifying necessary adjustments in project design. Evaluation challenges the design of a project, draws conclusions and makes judgments, is focused on the effectiveness of the program or project, and becomes a key milestone in the project cycle

Source: JICA Study Team

(2) Importance of Stakeholder Participation

MOT has suffered from serious coordination problems: vertical, horizontal and interdepartmental. Aside from political factors, one of the main reasons of these problems seem to be the lack of participation of major stakeholders in the decision making in each stage of urban development process. This prevents consensus building among major stakeholders, which hinders smooth implementation of urban development plans.

(3) Use of Technical Advisory Group for Vertical and Horizontal Coordination

When MOT formulates its development plans, MOT should establishes advisory committees that consist of representatives from central government agencies, neighboring communes, academe, experts, private sector and civil society, depending on the issue. By including the representatives of related central government agencies and of neighboring communes as members of the committees, the decisions made by MOT can reflect the input from those organizations.

Moreover, the establishment of this kind of advisory committee contributes to the promotion of stakeholder participation in the planning process including experts from universities and research institutions as well as representatives from the private sector, NGOs and civil society. This may lead to the implementation of broad based on the Metropolitan Development Plan made by MOT.

(4) Establishment and Use of Task Force for Interdepartmental Coordination

The present sector programs and projects are planned and implemented individually and not in an integrated manner. One of the major factors contributing to this problem may be the lack of effective interdepartmental coordination within MOT.

Establishment and use of cross-sectional task forces for addressing major development issues (e.g., the formulation of annual implementation plan of Master Plan) can cope with this problem.

At the first stage, a task force should be established in each directorate for the formulation of implementation plan of Master Plan (MP). At the later stage, the task forces can be formed at least for each vital issue area, such as financial plan for Metropolitan projects, human resource development plan, formulation of training program, and plan for the establishment of a local government association for a cross-jurisdiction project. The Task Forces can also be formed in order to formulate concrete strategies on various important issues. The members and functions of cross-functional task forces are as follows.

Members

- Competent middle ranked officers from relevant departments, and
- If necessary, a task force can form its own advisory committee whose members include researchers/university professors and consultants, representatives of private sector and mass media as well as representatives of civil society.

Functions

- Formulate a strategy for each important issue,
- Promote coordination among departments and major stakeholders,
- Monitor the implementation of the strategy,
- Take lessons for the successive year and replicate the best practice,
- Promote active participation of key stakeholders in the decision making process, and
- Develop human resource in related departments.

(5) Establishment of Local Government Association as an Effective Measure for Horizontal Coordination

Proposed local government association can be effective to deal with a joint project concerning the construction and management of a common facility (e.g., a final disposal site) across several municipalities/communes.

Member local governments include a municipality/commune and surrounding municipalities/communes, or any local governments that agree to the objective and want to participate in the projects. Taking stock from the Japanese experience, the proposed LGA could be established based on the following principles.

- Management of the LGA is with the consent of all participating local governments.
- The LGA is a quasi-local government authority.
- The member local governments provide the needed human resources and operational funds.
- Budgetary requirements are raised through contributions from the members, which are determined on an equal rate for fixed cost as well as proportional rate for investment and operation costs. The proportionate rating may employ a calculation using the members' population as basis for the sharing.

10. Financial and Fiscal Management

10.1 Current Status and Salient Features

(1) Fiscal Decentralization in Albania

Fiscal decentralization in Albania is based on the Law on Organization and Functioning of Local Governments of 2000, which defines the functional responsibilities of local governments and provides local governments with autonomous revenue raising authority.

According to the law, there are three types of local government functions, i.e. exclusive functions, shared functions and delegated functions.

Table 10.1.1 Delineation of Responsibilities under the Local Government Law

Function	Explanation/ Description
Exclusive functions	This includes water supply, public transportation, public lightening and garbage collection.
Shared functions	Covers pre-school and pre-university education, health care, public order and civil protection.
Delegated functions	These are from the Central Government which were classified as mandatory and non-mandatory functions.

Source: "Fiscal Decentralization and Local Financial Management in Albania", Dorina Nikolla

In practice, however, many "exclusive" functions have not yet been fully assumed by local governments. With respect to "shared" function, the important functions of pre-university education, along with local health services and social welfare in this category are still largely under the Central Government management and, thus, resemble "delegated functions." There is lack of clear specification of "shared" functions within the legal and institutional framework.

The following revenue sources are available to local governments in Albania.

Table 10.1.2 Revenue Sources of Local Governments

Revenue Item	Sources
Local source revenues	Local taxes User charges and fees Shared taxes (often centrally collected and then shared among the parties) Other (asset revenue, penalties, sequestrations, etc.)
Central government transfers	Unconditional transfers Conditional transfers
Loans	

Source: Diagnostic Study Chap 11: Financial and Fiscal Management

After the decentralization, various measures have been taken to increase financial power of local governments in Albania.

Table 10.1.3 Measures to Expand Local Government Revenue Sources and Power

Measures	Explanation/ Description
Unconditional transfers	These were first introduced in 2001.
2002 fiscal package	Devolves the authority to set tax rates on local property tax. Establishes a local small business tax and infrastructure impact tax.
Transfer of existing taxes	The tax on the transfer of property rights and vehicles registration tax were transferred to local governments.
Simplified profits tax	This was established for small business that do not fall under the VAT system
State budget law of 2006	Made unconditional transfers available for capital investments, based on transparent criteria. A competitive grant scheme was also introduced, making it possible for local governments to compete for funds through proposed capital expenditure plans.

Source: Diagnostic Study Chap 11: Financial and Fiscal Management

As a result of these measures, total local expenditures in Albania increased from 20,420 million Albanian Lek in 2000 to 38,872 million Lek. As a proportion of GDP, total local expenditures have expanded from 3.8% in 2000 to 4.3% in 2006. While the rise is significant, Albania still takes last place in comparison with other European countries.

Fiscal autonomy of local governments has increased significantly since 2001. Total local revenues have expanded by 50% between 2001 and 2006 (Table 10.1.4). In the same five-year period, local governments expanded locally generated revenues nearly 400%. Discretionary revenues, a measure of fiscal autonomy (the locally generated revenues plus unconditional transfers from central government) have increased, as a share of total local revenues, from just over 30% in 2001 to 58%. Net local discretion as a percentage of local revenues, revenue over which local government has complete spending authority (comprise locally generated revenues plus unconditional transfers, minus "unfunded mandates", or functions, delegated by central government, that must be paid out from local revenues) increased from 22.9% to 53.4% in the same period.

Table 10.1.4 Local Source Revenues and Net Local Discretion[1], Albania 1996-2006

	1998	2001	2006
Total local government revenues (million Lek)	15,673	25,464	38,232
Total source revenues (million Lek)	658	1,996	9,825
Local source revenues as a percent of total local revenues	4.2%	7.8%	25.7%
Unconditional transfer (million Lek)	-	5,659	9,800
Shared taxes (million Lek)	-	345	2,534
Total discretionary revenues (million Lek)	658	8,000	22,159
Discretionary revenues as percent of total local revenues	4.2%	31.4%	58%
Unfunded mandates[2]	-	2,178	1,740
Unfunded mandates as a percent of total local revenues	-	860%	460%
Net local discretion as percent of total local revenues	4.2%	22.9%	53.4%

[1]Amounts are in Albanian Lek

[2]Payments from local discretionary revenues for functions mandated by the central government.

Source: "Albania: Decentralization and Local Government Finance: Key Successes and Future Challenges", Pigey, Juliana, H. et. al., The Urban Institute, 2007

Unconditional transfer has contributed towards greater equity local revenue. After unconditional transfers, Tirana's total per capita revenue was only about three times higher than that of all communes and municipalities, and twice that of all municipalities. Average unconditional transfers from central government amounted to over 60% of the total local revenue of all municipalities and communes, but only about 10% of Tirana's total local revenue.

Table 10.1.5 Mean Per Capita Local Revenues of Albanian Local Governments[1], 2003

	Total taxes	Fees and non-tax	Own source	Unconditional transfer	Total Local Revenues
All municipalities & communes	755	514	1,268	2,064	3,332
Municipalities only	1,970	1,296	3,266	2,005	5,272
Tirana Municipality	7,763	1,767	9,530	1,031	10,561

[1] All numbers are in Albanian Lek per capita

Source: Albania Fiscal Decentralization Policy Study, Schroeder, Larry. The Urban Institute, May 2004, p47

(2) Decentralization and Tirana's Financial Situation

As a result of decentralization in Albania, Tirana Municipality has increased both total revenues and relative fiscal autonomy. Table 10.1.6 shows total and own sources revenues of Tirana Municipality in 2000, 2005 and 2007. Tirana's total local revenues have roughly doubled from 3,804 million Albanian Lek (2000) to 7,605 million Lek or 62.4 million Euros (2007). In the same period, local source revenues expanded by nearly seven times while unconditional transfers advanced from zero in 2000 to 7.7% in 2007. Tirana's discretionary revenues (own source plus unconditional transfers) have risen to 65% of total revenues, slightly higher than the national average of 58%.

Table 10.1.6 Total and Own Sources Revenues of Tirana Municipality 2000, 2005, 2007

	2000	2005	2007
Total revenues (million Lek)	3,804	7,387	7,605
Local source revenues (million Lek)	654	4,248	4,365
Local source revenues (in percentage)	17%	58%	57%
Unconditional transfers (in percentage)	0%	5%	8%
Conditional transfers (in percentage)	82%	38%	35%
Discretionary revenues (in percentage)	17%	63%	65%
Total revenues in Euros (million)	28.99	60.94	62.44
Local source revenues in Euros (million)	4.99	35.04	35.84

Sources: 2000-2005: "Financing Metropolitan Government, Tirana City, Background Processes", Dhimitri, A., Ikonomi, B., M., Tirana Municipality, 2007; and 2007: Tirana Creditworthiness Enhancement Program, Report 9: "The city's Debt and Debt repayment analysis2, Studio Galli Ingegneria, Febriaru 2008, p40

However, in spite of impressive advances in recent years, Tirana's revenues are still extremely low compared to that of South East European countries. In per capita terms, Tirana's total per capita revenue in 2007 amounted to 11,800 Lek or just below 100 Euros per capita. This is roughly twice as high as the average level for Albanian municipalities (about 50 Euros). On the other hand, the average per capita revenue of Slovenian and Romanian municipalities is about 500 Euros (522 Euros and 474 Euros, respectively), and that of Bucharest is about 1,100 Euros. Thus, the per capita revenues of Albanian municipalities are still only about one-tenth as high as those selected countries of South East Europe.

Table 10.1.7 shows the composition of Tirana's total local revenues in 2007. The main

characteristics include (Diagnostic Study p199):

- Local source revenues comprise 57.4% of total local revenues.
- Most central government transfers are conditional at 35% of total; unconditional transfers at 7.6% constitute a small portion of total local revenues.
- Local taxes comprise roughly 40% of total local revenues.
- The most important local taxes, the small business tax and infrastructure impact tax, each comprise about 15% of local revenues.
- Property tax accounts for 540 million Lek, just 7.1% of total revenues.

Table 10.1.7 Composition of Local Revenues of Tirana Municipality in 2007

(Unit: 1,000 Lek)

Budget Item	2007	Percent
A. Total own revenues	4,361,710	57.4%
A.I. Local taxes	2,982,400	39.2%
Property tax	540,000	7%
Small business tax	1,100,000	14.5%
Infrastructure impact tax (on construction)	1,100,000	14.5%
Other (green, hotel, hotel/restaurant income, etc.)	242,000	3.2%
A.II. Local user charges and fees	975,610	12.8%
Local user charges	767,500	10.1%
Cleaning	597,000	7.9%
Parking	74,000	1%
Other (dormitories, kindergarten, crèches)	96,500	1.2%
Local fees	208,110	2.7%
A.III. Asset Revenues	13,500	0.2%
A.IV. Penalties and sequestrations	40,200	0.5%
A.V. Grants and Sponsorships	0	0.0%
A.VI. Shared Taxes and Fees	350,000	4.6%
Simplified profits tax on small businesses	0	0.0%
Immovable property transaction tax	150,000	2.0%
Vehicle registration fee	200,000	2.6%
B. Transfers from State Budget	3,242,820	42.6%
B.I. Unconditional transfer	582,319	7.6%
B.II. Conditional transfer	2,660,501	35.0%
Operative	2,660,151	35.0%
Investments	350	0.0%
Total Income	7,604,530	100.0%
Remaining cash from previous year	345,946	4.5%
Total Cash Income	7,950,476	104.5%

Source: Tirana Creditworthiness Enhancement Program, Report 9: "The city's Debt and Debt repayment analysis", Studio Galli Ingegneria, February 2008, pp36-37

(3) Allocation of Local Expenditures in Albania and Tirana City

Table 10.1.8 outlines the functional allocation of operating and capital expenditures on local public services by all local governments in Albania. The Diagnostic Study points out the following characteristics of allocation of local expenditures in Albania:

- Overall, capital expenditures comprise about one-fifth of total expenditures.
- Regarding conditional transfers, pre-university education accounts for more than one-third of the total operating expenditures and social assistance, about one-fifth; this indicates the extent to which central government has employed local government as an agent of the state in delivering these social functions.
- Capital expenditures for public works, 43% of the total, have been largely determined by Central Government through conditional transfers.
- General administration, nearly one-half of capital expenditures from discretionary sources, have devoted to general administration; this indicates the importance that local governments have considered increasing their administrative capital.

Table 10.1.8 Allocation of Local Expenditures on Local Public Services in Albania

	Conditional transfers	Discretionary sources	All sources
Current Expenditures (1,000 Lek)	37,565,717	13,397,698	50,963,415
General administration	14.5%	40.0%	21.2%
Education	39.2%	8.6%	31.2%
Health	6.8%	3.3%	5.9%
Social assistance	20.8%	0.0%	15.3%
Public Works	10.5%	29.3%	15.4%
Cleaning and solid waste	4.6%	12.9%	6.8%
Others (culture, parks, transport, cleaning, etc.)	3.6%	6%	4.2%
Capital Expenditures (1,000 Lek)	7,614,348	3,213,713	10,828,061
General administration	20.9%	48.1%	29.0%
Education	15.6%	1.5%	11.4%
Health	4.9%	0.6%	3.6%
Social assistance	0.0%	0.0%	0.0%
Public Works	43.1%	18.5%	35.8%
Cleaning and solid waste	7.0%	16.6%	9.8%
Others (culture, parks, transport, cleaning, etc.)	8.5%	14.7%	10.3%
Capital Expenditures as Percent of Total	16.9%	19.3%	17.5%

Source: "Albanian Fiscal Decentralization Policy Study", Schroeder, Larry, The Urban Institute, May 2004, p41-42

Table 10.1.9 indicates Tirana's municipal budget proposed for 2006-2008. The following aspects are noteworthy:

- The budget of Tirana Municipality has grown strongly in recent years, with an increase of 28% from 2006 to 2008.
- In terms of allocation, the municipal budget has changed only slightly in the same period.

- Current expenditures are composed mainly of personnel costs (about 30%), operation and maintenance (34%) and social assistance payments (24%).
- In terms of functional responsibilities, education accounts for about 35% of Tirana's current expenditures (salaries plus operation and maintenance costs) while social assistance payments account for 17%. This functional allocation of current expenditures corresponds roughly to the national average (31% and 15%, respectively).
- Capital investments, accounting for about 40% of Tirana's total budget, are above the national average. For 2008, Tirana's total proposed budget was 64 million Euros; Capital expenditures amounted to 26 million Euros. The largest share – about 70% - is devoted to road construction. The construction of educational facilities is the second largest investment item.

Table 10.1.9 Tirana's Municipal Budget, Proposed 2006-2008

Budget (proposed)	2006		2007		2008	
Current expenditures	(1000 Lek)		(1000 Lek)		(1000 Lek)	
Personnel (salaries & social insurance)	1,087,189	29.5%	1,162,805	29.2%	1,448,094	31.5%
Operating expenses	1,272,221	34.6%	1,355,803	34.1%	1,553,863	33.8%
Water supply transfer	267,870	7.3%	317,980	8.0%	413,287	9.0%
Social assistance	893,350	24.2%	958,600	24.1%	1,049,585	22.8%
Funeral/burial expenditures	26,500	0.7%	17,000	0.4%	0	0.0%
Subsidies	27,000	0.7%	25,000	0.6%	5,000	0.1%
Reserve funds	109,662	3.0%	140,000	3.5%	124,600	2.7%
Total Current Expenditures	3,685,792	100.0%	3,977,188	100.0%	4,594,429	100.0%
Capital Expenditures	(1000 Lek)		(1000 Lek)		(1000 Lek)	
Traffic infrastructure	1,784,485	74.9%	1,634,172	71.4%	2,271,895	71.9%
Educational facilities	307,076	12.9%	308,418	13.5%	207,424	6.6%
Others	290,872	12.2%	345,796	15.1%	678,796	21.5%
Total Capital Expenditures	2,382,434	100.0%	2,288,287	100.0%	3,158,215	100.0%
TOTAL BUDGET	6,068,226		6,265,575		7,752,644	
Capital expenditures (in percent)	39.3%		36.5%		40.7%	
Total budget in million Euros	49.6		51.4		64	

Source: Bashkia e Tiranes, Buxheti I Vitit 2007, p49; Bexheti 2008, p32

(4) Municipal Debt and Debt Repayment

The Local Government Law allows local government to borrow on capital markets. Local government lending considerably increased the municipality's capacity to participate in and shape developments in the city. At present, MOT has been the beneficiary of three major loan packages in recent years.

Table 10.1.10 Loan Packages Received by Tirana Municipality

Year	Lender	Content
2005	The Council of Europe Development Bank (CEB)	12.4 million Euros To finance the construction of schools. The project value is 18.9 million Euros; 6.5 million Euros is contributed by the Ministry of Education. The CEB loan disbursal schedule is: 2005 (2 million Euros); 2007 (4 million Euros), 2008 (4.9 million Euros); 2009 (1.5 million Euros). Repayment starts in 2009 and is to be completed by 2018
2006	European Bank for Reconstruction and Development (EBRD)	8.2 million Euros To finance road construction The total loan is 14.6 million Euros and the beneficiary is the Central Government, which is on-lending to Tirana and other municipalities. The disbursal schedule runs from 2006 to 2009. Repayment would be made from 2009 to 2020, (3- year grace period and 10-year repayment).
2008	CEB	5.685 million Euros To finance social housing in the city. The project value is 9.475 Euros; 3.79 Euros being the local contribution. The Central Government is the borrower, with one-lending to the Municipality.

Source: The Diagnostic Study: Chap 11 Financial and Fiscal Management

10.2 Sustainable Measures for Local Governments Financing Capacity for Urban Development

(1) Strengthening tax collection capacity

Major efforts are required to raise the level of local revenues. The greatest potentials for revenue enhancement lie in the areas of property taxes and the small business tax. According to an extensive study of "Tirana Creditworthiness Enhancement Program" (2008), both taxes are found to have a potential increase – optimistic scenario – of over 200%.

At present, the yield of property tax in Tirana is negligible: property tax accounts for 540 million Lek, just 7.1% of total revenues. Even after an increase of 200%, Tirana's property tax yield, extrapolated to the national level, would be less than 0.3% of GDP.

This would still be negligible by European comparison: in Romania, for example, property tax revenues amount to 0.5% of GDP.

This low level of property tax revenues is a result of the incomplete property registration, very poor coverage, low valuation and low collection efficiency. Therefore, concerted efforts would be required to expand the tax base, adjust rates and improve collection efficiency.

(2) Public debt financing

Initial investment on public services can be made through a variety of loans sourced from the commercial banks, capital market and/or external aid money, i.e. ODA (Official Development Assistance).

The Local Government Law allows local government to borrow on capital markets. Local

government lending considerably increase the Municipality's capacity to participate in and shape developments in the city.

The capacity to take credit to expand the municipality's capacity for capital investments is at least as important, particularly in view of the enormous current service gaps and the backlog of deferred investment and maintenance efforts. In this respect, Tirana has greatly expanded its loan-financed investment activities in recent years.

At present, MOT has been the beneficiary of three major loan packages in recent years:

- 12.4 million Euros from CEB to finance the construction of schools;
- 8.2 million Euros from EBRD to finance road construction; and
- 5.685 million Euros from CEB to finance social housing in the city. This is a very positive development that will increase the Municipality's capacity to play a leading role in the development of priority areas of the city.

10.3 Introduction of "PPP Model" for Urban Infrastructure Projects

As seen above, the budgetary capacity is so limited that MOT has faced a difficulty in self-financing strategic projects, which shall be delineated in its regulatory plan. Therefore, a scheme of "Public Private Partnership (PPP)" has been pursued under the current administration in order to solve such a budgetary issue. It is informed that three strategic projects are currently targets to seek for practical PPP schemes for their implementation. These are:

- Development of the intermodal terminal with a new railway station, bus terminals and truck terminal;
- Development of two lines of new tram systems (North-South Line and East-West Line); and
- Development of a new technology center to accommodate new high tech- and ICT (Information and Communications Technology) - based industries.

Concrete mechanisms for respective projects are to be examined in the course of their feasibility studies, being supported by international donor agencies such as EBRD and European Investment Bank (EIB). A basic concept on the PPP scheme is based on a concessionaire system so that MOT shall issue a concession to a private entity whose proposal is selected as the best, through an international competitive bidding process.

However, it should be noted by MOT that the most important key for success is whether or not MOT will be able to offer attractive incentives and/or governmental guarantees to minimize anticipated risks for investment and operation by the private sector entities.

Needless to say, the PPP scheme is applicable for not only three projects above but also some projects related to enhance the solid waste management system. In order for MOT to pursue a practical mechanism, a legal framework in the form of municipal bylaw or ordinance, should be thoughtfully developed in line with the national policy on application of PPP models for provision of public service facilities and infrastructures. It is obvious that since a huge amount of initial investment is required to develop such cost-heavy projects such as tram systems, international investors shall be called for participation in the PPP scheme. For this sake, or in order to issue bonds, MOT as well as Albania needs to be evaluated for its financial capacity

and reliability of the governance at the international finance market, because international money is very sensitive to governmental credibility.

Department of Strategic Project and International Investment, MOT, shall be chiefly responsible to pursue a new funding scheme to materialize a number of strategic projects. To this end, top priority needs to be placed on the development of the effective legal framework with right knowledge on both the central and municipal governments' power and responsibilities to make a PPP scheme practically operable. A clear-cut demarcation with the public and private sectors are also formulated, based on experiences in other countries, because the PPP is not a way that the governments' burden is lessened to implement projects.

10.4 Listing of Priority Actions

The institutional, organizational and financial capacities should be further strengthened to effectively manage the implementation of the regulatory (master) plan of the Tirana Metropolitan Area. For this purpose, three priority actions are recommended as follows:

- Establishment of "Local Government Association" as an effective measure for horizontal coordination for the implementation of related urban development projects as well as urban policies and strategies among member local governments in the Tirana Metropolitan Area.
- Implementation of actions proposed by the study, titled "Tirana Creditworthiness Enhancement Program (2008)" supported by EBRD, to strengthen the local government's financing capacity for project execution, focusing particularly on the reform of tax collection system for local taxes such as property tax.
- Preparation of the legal basis and legislative framework for PPP projects and strengthening of the governance of MOT to make clear its administrative powers, roles and responsibilities, and enhancement of capacities for financing and arbitration of disputes, etc.