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ENVIRONMENTAL ASSESSMENT
FOR

CONSTRUCTION OF NEW 9 YEAR PRIMARY SCHOOL IN PASKUQAN
UNDER
EDUCATION EXCELLENCE AND EQUITY PROJECT (EEE-P)

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1 INTRODUCTION

This document presents the Environment Assessment for the construction of 9 year school in Paskuqan, Tirana. The school will be financed under Education Excellence and Equity Project. The main purpose of this study is to assess the chosen site, identify possible impacts of the project on the environment and accordingly advice environmental mitigation measures and monitoring plan. This document ensures compliance with the Albanian EIA legislation as well as the World Bank safeguard policies.

2 DESCRIPTION OF THE PROJECT

2.1 OBJECTIVES OF THE PROJECT

The proposed EEE-P will support Government in the implementation of the first phase of Albania's National Education Strategy (NES). The objective of EEE-P is to improve quality of learning conditions for all students and to increase enrollment in general secondary education, especially for the poor. The intermediate goals are that leadership, management and governance of the education system are improved, teachers use new methods of teaching and wider variety of learning aids in schools, the quality of school infrastructure and the efficiency of its use are improved, and the initial steps of higher education reform are taken.

2.2 PROJECT PRIORITIES

The project is implemented through four priority areas.

Priority 1: strengthening leadership, management and governance of the education system, (US$ 10 million)

This priority area aims to strengthen the leadership and management capacities, and to enhance governance and accountability of the education system. This includes activities associated with the decentralization, strengthening the leadership, professional development of school principals, decision making and resource management at the school level, increasing the communities' participation, introduction of performance-based management system, and full utilization of the Education Management Information System (EMIS) for decision making. Decentralized service delivery would be piloted in 2-3 regions before deciding on a roll out plan. This is expected to form an institutional foundation to address other priority areas.

Priority 2: improving conditions for teaching and learning, (US$ 26 million)

This priority area focuses on improving quality of teaching and learning conditions in a holistic manner. Special attention would be paid to support teachers' professional development to enable them to use more effective teaching methods in their classrooms. It would also address the issues of curriculum reform, including the development of a national curriculum framework, rationalization of subjects, integration and textbook development. To implement curriculum reform, teacher education policies and practices would be closely aligned. The development of assessment and evaluation of education would continue through strengthening the capacity of the National Center for Evaluation

and Assessment, development of a national plan for evaluation in education, and improving the transparency and integrity of the national matura examination system. This priority area enables teachers and students to use a wider range of appropriate educational tools and methods in teaching and learning process.

Priority 3: improving and rationalizing education infrastructure, (US$ 32 million)

This priority area addresses more efficient investment and (re)allocation in physical infrastructure and human resources especially at the secondary education level. It would support the MoES in making investment decision based on school mapping, which takes into consideration the demographic development in Albania. Science laboratories and ICT facilities would be provided to general secondary schools in line with the new curriculum and teacher training to be supported in priority area two.

Priority 4: setting the stage for higher education reform (US$ 7 million)

This priority area focuses on supporting the initial stages of the higher education reform. It supports the MoES and universities to carry out a review of the system to identify and sequence reform activities, which include strengthening of university governance, increasing financial autonomy and accountability of universities, strengthening the quality assurance mechanism, and promoting university partnership arrangements. It also aims to expand the opportunities for students by mobilizing private financing and provision and making the use of public resources more efficient.

2.3 MAJOR PHYSICAL INVESTMENTS

The main physical investment component of the proposed project falls under the ***Priority 3 area – improving and rationalizing education infrastructure, especially in secondary education***. Location of the investments will be based on school mapping database, taking into consideration the demographic development in Albania and availability of state owned land. Because EEE-P will use a sector-wide approach, the actual scope of physical investments and their location will only be ascertained through the Annual Reform Program. The preliminary list of sub project is shown in Table 1. Activities would consist of minor civil works for rehabilitation and renovation of existing school facilities, construction of building extensions within the existing schoolyards and construction of new schools on newly allocated sites. Science laboratories and ICT facilities will be provided to general secondary schools in line with the new curriculum and teacher training to be supported in priority area two.

Table 1 Preliminary list of schools for extension and construction as of July 15, 2008

LIST OF SCHOOLS FOR EXTENSION AND CONSTRUCTION As of July 15, 2008				
School name	**Location**	**Intended civil works**	**Disposition**	**Environmental assessment documents required**
ZallMner Primary School, Kamza, Tirane	Kamez-Zall Mner	Extension of school on existing schoolyard	Public asset	EMP checklist

Ibrahim Rugova Primary School, Kamza, Tirane	Kamez Center	Extension of school on existing schoolyard	Public asset	EMP checklist
Ballsh, Mallakaster Secondary School, Ballsh, Mallakaster	Ballsh, Mallakaster	Extension of school on existing schoolyard	Public asset	EMP checklist
Beslidhja Primary School, Lezhe	Lezhe	Extension of school on existing schoolyard	Public asset	EMP checklist
Lezhe Secondary School , Lezhe	Lezhe	Extension of school on existing schoolyard	Public asset	EMP checklist
Krume 9-year Primary School , Krume	Krume, Has	Extension of school on existing schoolyard	Public asset	EMP checklist
Durres B.Curri Primary School, Durres City	Durres city	Extension of school on existing schoolyard	Public asset	EMP checklist
Kilica Secondary School, Fier City	Fier city	Extension of school on existing schoolyard	Public asset	EMP checklist
Paskuqan 9-year Primary School, Paskuqan, Tirane	Paskuqan	Construction of new school on new schoolyard site	Municipal land Pending court waivers	EA with EMP
Saranda 9-year Primary School , Saranda	Saranda	Construction of new school on new schoolyard site	Public asset Pending ownership papers and court waivers	EA with EMP
Shkoder Secondary School , Shkoder	Shkoder	Construction of new school on new schoolyard site	Public asset (former forestry state institute) Pending ownership papers and court waivers	EA with EMP
Vlora Secondary School, Vlora City	Vlora city	Construction of new school on new schoolyard site	Public asset Pending ownership papers and court waivers	EA with EMP
Qesarak 9-year School Dajt Commune, Tirane	Dajt-Qesarake	Construction of new school on new schoolyard site	Municipal land Pending ownership papers and court waivers	EA with EMP

Fushe Kruje Secondary School, Fushe Kruje, Kruje	Fushe-Kruje, Kruje	Construction of new school on new schoolyard site	Site not yet identified Pending ownership papers and court waivers	EA with EMP
Peshkopi, Diber Secondary School, Peshkopi, Diber	Peshkopi, Diber	Construction of new school on new schoolyard site	Expropriation pending. Abbreviated Resettlement Plan pending	EA with EMP
Tropoje 9-year B.Curri Primary School, Bajram Curri, Tropoje	Bajram Curri, Tropoje	Construction of new school on new schoolyard site	Expropriation pending. Abbreviated Resettlement Plan pending	EA with EMP
Bathore 9-year school, Kamza- Bathore, Tirane	Kamza- Bathore	Construction of new school on new schoolyard site	Expropriation pending. Abbreviated Resettlement Plan pending	EA with EMP
Bulcesh 9-year Primary School, Kamza-Bulcesh, Tirane	Kamza-Bulcesh	Construction of new school on new schoolyard site	Expropriation pending. Abbreviated Resettlement Plan pending	EA with EMP
Shkoder 9-year Primary School	Mar-Lulaj	Construction of new school on new schoolyard site	Expropriation pending. Property demolition on June 04, 2008. Related MoES actions pending.	EA with EMP

3 DESCRIPTION OF THE PASKUQAN PRIMARY 9 YEAR SCHOOL

3.1 THE SCHOOL AND THE SITE

The design of the new school will be based on the General Plan prepared by the local Authorities. The school will be oriented through south-east, in order for the classrooms to be illuminated naturally and be warm. This school area will be composed of several elements: school itself, the gym and two playfields. General layout is presented on figure 1.

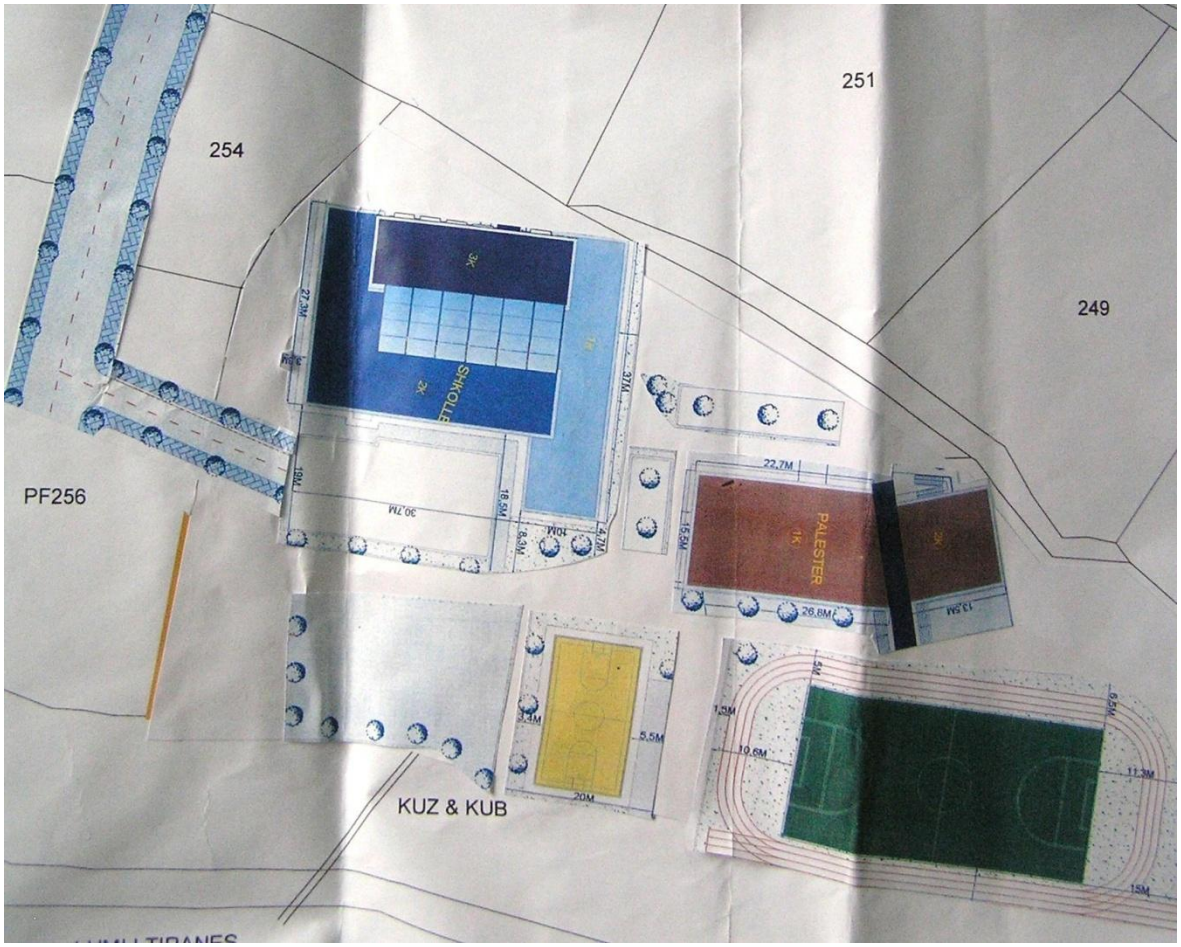

Figure 1 General layout of the school

The following table (table 2) presents planned facilities within the school itself and the gym. The general design guidelines relate to size of individual type of facilities, communication between facilities, emergency passes and access for people with disabilities, electric properties and lighting, safety requirements, telephony and internet, thermal insulation, heating outdoor landscaping, have been prepared.

Table 2 Planned facilities within the new school building

Area	Description	Number of rooms	Number of scholars	Area m^2 per scholar	Total room area	Total area of all rooms
Requirements for the areas of high schools, based on the standards and the school curricula.						
Learning areas						
	General classrooms	24	30	1.5	45	1,080
	Physics Laboratory + annex	1	30	2.5	75	75
	Chemistry Laboratory + annex	1	30	2.5	75	75

	Biology Laboratory + annex	1	30	2.5	75	75
	Computer Laboratory	1	30	2.5	75	75
	Multi-functional area	1	180	2.5	450	450
	Audio-visual room	1	30	2.5	75	75
	Library	1	30	2.5	75	75
SCHOOL LEADING BLOCK						
	Directorate	1			25	25
	Secretariat	1			16	16
	Deputy Directorate	3			16	48
	Meeting room	1			100	100
	Teacher's room (operations room)	1	43	1.6	70	52
	Teacher's room (study room)	1			30	30
	Archive	1			25	25
	Dentist	1			35	35
	Doctor	1			35	35
	Social Assistance	1			25	25
	Guardian's room	1			10	10
Ancillary areas						
	Fast Food	1			50	50
	Service + Kitchen	1			10	10
	Gym and its ancillary areas.	1			618	618
	School depot	1			30	30
	Scholar's toilet	1		6.0	162	162
	Toilets for teachers and handicaps	3			10	30
Service areas						
	Gas deposits	1			35	35
	Furnace's room	1			60	60

	TOTAL M^2 SCHOOL + GYM					**3,346**

The size of the site is appropriate for such structure (figures 2 and 3).

Figure 2 Future school site (school and gym)

Figure 3 Future school site (playfields)

3.2 SCHOOL SURROUNDINGS

The school is located within the borders of the Paskuqan village in the district of Tirana. Figure 4 shows the position of Paskuqan in Albania, while figure 5 shows satellite image of the Paskuqan area. Paskuqan is a village, former small scale agricultural area that went through demographic boom in the late ’90 when mainly population from northern Albania settled in and therefore is characterized by poor urban planning. The proposed school is to be located on potential flood plain, which will be protected through other projects mentioned in the text (see section 6.1.). Several other buildings are currently being constructed in the vicinity, like the Paskuqan polyclinic and few residential houses.

Figure 4 Paskuqan, Albania

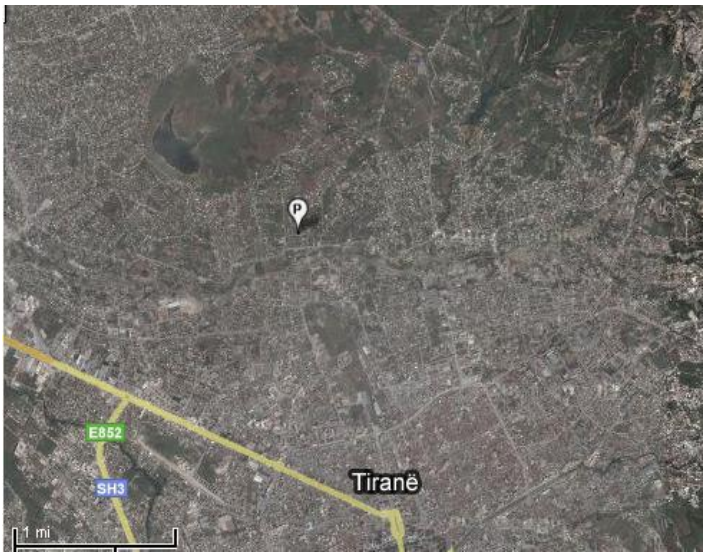

Figure 5 Satellite map of Paskuqan municipality within Tirana district

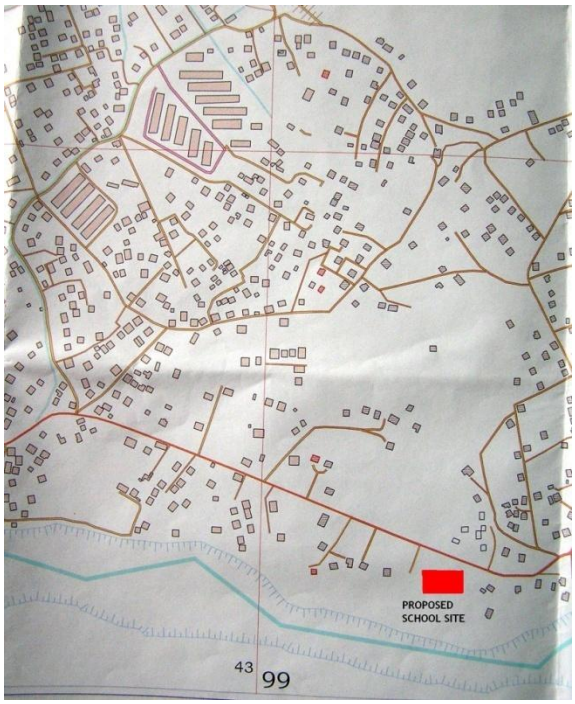

Figure 6 Proposed school site with in Paskuqan

Figure 7 Google Earth image of the site

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4 ENVIRONMENTAL BASELINE CONDITIONS

4.1 PHYSICAL ENVIRONMENT

4.1.1 Geology

The Tirana region pertains to the Neogeniane and Quaternar area and is well represented by alluvial deposits of Tirana river which are intertwined with prolluvial deposits, the latter represented in turn from coarse-grained materials to medium-sized brownish grey sands which appear to be rather thick in structure. Proceeding downstream from the river bed towards the banks these grow small in size and further beyond it they are patterned upon delluvial composition - highly sustainable elluvials. Beneath this layer one could easily strike into neogeniane deposits which are represented by sands and brownish grey color clays with weak cemented base owing to the activity of atmospheric agents and moisture, while at a depth of some 3-4 meters within the physical soil level one encounters strong clay layers intertwined with carbonic sands with the sporadic presence of flints/gravel which measure some 5-6 mm in length - which act to form the basis of the red hill in which there is considerable moisture, however, impermeable by water.

In the area under survey on the basis of the seismic regionalization of the Republic of Albania the construction site is part of the area characterized by low-intensity seismic activity on an open 8-point Richter MSK-64 scale. Any building in the area is recommended to withstand tremors of an earthquake up to 8 points on the Richter MSK-64 scale.

4.1.2 Hydrogeology

As far as the hydrology is concerned, it is safe to observe that the area under study does not have any surface waters, except of the Tirana river which is a permanent fixture in the area. The part that pertains to the river bed with widths of 15 meters and depths at 2.3 meters is saturated with water and moisture (school is distant approximately 90 m from the river bed). The Tirana river in its upper flow reaches consists of three branches feeding into it: the Mojsiti creek, the Selita one and the Zall-Bastar. The three creeks merge together to form the Shupal river. In the vicinity of some 2.5 km to the center of the Zall-Dajti commune, the river changes its name and is called the Tirana river and it continues downward its flow under this denomination until it joins with the Terkuze river and form the Gjole river. The underground waters are at low levels and depend heavily on the time of the season, which rush down the gradients and watercourses wherein the sandy and finely porous layers/strata are present. This area is part of the morpho-structural clayey silicates in the wider area of the hilly chain of the lowlands which extend from Bovilla towards the Dajti Mountain and more to the east connecting Kamza with the Babrru village. This mega-structure assumed its own initial contours with further consolidations occurring towards the middle of the *moicen tortoniane* era which gradually experienced the continental conditions in the course of the entire *poliocenic* glaciers giving rise to formation of watercourses and a markedly differentiated relief as well as other ground water seepages with precipitations moving in the direction of the Babrroi creek. However, the relief itself peculiar to the area under the ever-increasing influence of the human activity interacting with other geo-morphological factors contributes considerably to the

retention of all geo-morphological features accommodating the community which has settled down in the area.
In the area, as the studies do reveal there are not any massive underground waters to speak of. The geological and hydrological data presented here own in part a lot to the detailed studies such as "the geo-engineering" from Research Unit, Engineering Geology and A.L.T.E.A & Geo Studio 2000 ltd (Laboratory Testing for Construction Materials & Geotechnical Study).

The water resources in Paskuqan commune, as is the case in the whole of Tirana area, are almost insignificant. This statement refers to both surface and ground waters. The planned school will be connected to the water supply coming from the Bovilla impiant / plant which is also a source of potable water for the city of Tirana. The Tirana River runs close to the site under the current study; distance from future school building to the river is estimated to be 90 - 120 m. There are no major water works going on at the moment, but in 2009/2010 huge works are expected related to a project funded by JAICA- a Japanese-funded project which is expected to provide funds for the the wastewaters collection on both sides of the river, treatment along with implementing river management measures (controlling the flow and potential floods) and the clean-up efforts by trying at the same time to substantially minimize the presence of pollutants (mainly waste deposited on the river banks). In addition to above mentioned project, a road will be constructed along the banks of Tirana river (see section 6.1).

Investigation done by the Hydrometeorology Institute looking at the *maximum rain rate estimation*s concluded that at the present state (with no extra flood protection measures implemented) no flooding is expected by any rushing thunderstorms or flash floods. On the basis of the maximum water rate in which case the coefficient of rough river base was taken at *n=0035* and the stream gradient at *i=0012*, the calculations revealed that the flow rate of 550m³/s occupies an area of some 135m², which is its most unlikely maximum, belongs to the radius of 89.3m, while the extent of the school construction stands at 89.9 m. Hence the construction site where the school will be erected stands at 0.6m above the water level regarding the 100 years flood wave. The flooding measures will be improved by implementation of the JAICA project as well as the construction of the Road Babru – Bregu I Lumit (River Bank) –Kthesa e Kamzes (Kamza bend) along the banks of the Tirana river (see section 6.1.).

4.1.3 Drinking water quality

For the purpose of the project Ministry of Health, Public Health Institute has tested the drinking water from Bovilla water plant on May 22, 2009, to which future school will be connected. Physical – chemical, microbiological and toxicological (metals, PAHs and pesticides) analysis were done. The result shows that the water is suitable for drinking. No coliform or streptococci bacteria were found, as well as no PAHs or pesticides (result of the analysis is attached to this document).

4.1.4 Quality of river Tirana

For the purpose of the construction of the school, Ministry of Environment, Forestry and Water Administration has informed the MoES on the quality of River Tirana, which shows significant feacal pollution as well as from the amount of waste being deposited on the banks of the river Tirana. The surface waters monitoring program in 2008 implemented by the Agency of Environment and Forestry obtained the data on river quality on three monitoring stations: Ura e Brarit (Brari Bridge), Zona e Paskuqanit (Paskuqan area) -500 meters away from the water collector Siri Kodra) and the Kamza Bridge.

Based on the average results of analysis, (table 3) the evaluation on the quality of Tirana river water has been done, groupings for the relevant features and parameters according to the UNESCO classification,

Table 3 Classification of Tirana river

Stations	Class P, total	Class N03	Class NB05	Class NKO	Class NH4	Class 02
T1: Brari Bridge	IV (exceeds)	I	II	II	I	II
T2: after the Siri Kodra water collector	IV (exceeds)	I	V (exceeds)	V (exceeds)	IV	III
T3: Kamza bridge	V (exceeds)	I	V (exceeds)	V (exceeds)	V (exceeds)	III

From the above table it is visible that at Brari bridge the river waters are classified as second quality (fair level) with the exception of phosphorus contents, which correlates in general with the rest of the Albanian rivers.

The results of nitrate analysis do display low values along the entire length of the river in the project area. A relatively low concentration of nitrates is encountered even in other downstream stations.

By moving downstream from the Brari River (station 1) to Kamez Bridge (station 3) the Tirana river is the reception point of the urban waste water discharges from the settlements along the river banks formed in the past decade or so as well as of the urban discharges coming through the discharging collectors of the city at 'Siri Kodra' street and the "5 May" street. These discharges may be considered as the main culprits for the high values of phosphorus (in addition to already high natural concentration of phosphorus) which is attributed mostly to the use of detergents with high phosphorus contents on the part of the population as well as high contents of the organic matter (urban waters) which results in the high values of BOD, COD and NH4.

As indicated in classification table, apart from the first monitoring station, the Brari bridge, the two other stations do exhibit an alarmingly high presence of organic matter in the Tirana river waters.

Above mentioned, causes a serious situation of the eutrophycation process and the depletion of oxygen in water. The situation is also closely linked with the urban waste waters that are discharged untreated and / or the solid waste deposited on the banks of the river. The measures towards the improvement of status will have to be rigid and multiple in nature.

By comparing and contrasting the bacteriological indicators of the analysis, and specifically the fecal coliforms, against the binding norms established by the EU directive

on bathing waters quality (from 1976), on all three stations on the Tirana river monitored the value stand much higher than the permissible norms.

Table 4 Concentrations of coliform bacteria in Tirana river

Stations	**Coliform feces (average)**	**Classification**
T1: Brari bridge	1.4×10^5	Exceeding norms
T2: After the Siri Kodra collector	9.6×10^6	Exceeding norms
T3: Kamza bridge	3.1×10^7	Exceeding norms

This assessment calls for an immediate stop to the use of Tirana river water for washing purposes or other relaxation activities, at least along the length of the river under the focus of this study.

4.1.5 Air Quality and Sources of Air Emission

By all indications there are no measurements of air quality in the vicinity of the site. However, there is no thermal plant or incinerators in the immediate vicinity nor any heavy industry that could cause significant air pollution. The closest source of pollution is a brick-manufacturing factory which is distanced some 500 meters away, in the western part of the construction site across the river, however this factory is out of service and the structures are solely used for the construction material storing / warehousing. The traffic is the only major contributor to air pollution.

4.1.6 Quality of soil

For the purpose of the project Faculty of Natural Sciences, Center for Nuclear Physics took 5 soil samples in the area of future school location and analyzed it for heavy metals and radioactive isotopes. The results indicate higher values of Cr, Mn and Ni, which correlate to geological characteristics of the area (reference Geographic Atlas of Albania authored by A.Tashko, A.Mazreku, at all. 1997-1998 provided by Center for Nuclear Physics). Increase radioactivity has not been detected (report from analysis is attached to this document). The soil was not tested for oil / PAH pollution because: a) there is no history of economic activity on the proposed site or surroundings which could indicate PAH / oil pollution; b) basic (organoleptic) examination of soil samples did not indicate presence of such pollutants. (see annex). In addition, the previous use of land did not include agricultural activities; therefore testing on the presence of pesticide was not conducted.

Nevertheless, soil in the area (river banks) is burdened with large amounts of waste have been deposited on the banks of the river, therefore special measures are presented in this study.

4.1.7 Noise Emission

Currently there are no significant noise emitters close to the site, nor is there any motor-vehicle traffic since the site is well set back from the main street of the Paskuqan village

and is laid in a quiet area of the commune, which pretty much ensures the safety of students as well.
Moreover, a multi-specialty health clinic center is being constructed at the moment next to the construction site.
However as planning of the project the Road Babru – Bregu I Lumit (River Bank) –Kthesa e Kamzes (Kamza bend) moves on, a road that will be constructed along the banks of the river will have significant environmental (air pollution, noise) and safety impacts on school (described in section 6.1).

4.1.8 Meteorology

Temperature

The temperature regime is typical for the Mediterranean, characterized by hot summers and cold winters. The average annual temperature is 16°C. The absolute maximum and minimum observed temperatures are 40 °C and- 6 °C respectively.

Rainfall

The rainfall regime is also typical the Mediterranean. Only the 5-10% of the annual rainfall occurs during the dry season, and most rain falls in the winter. Average annual rainfall for the greater Tirane is 1,108 mm. The maximum observed monthly rainfall is 211 mm.

Weather averages for greater Tirana

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average high °C (°F)	12 (54)	12 (54)	15 (59)	18 (64)	23 (73)	28 (82)	31 (88)	31 (88)	27 (81)	23 (73)	17 (63)	14 (57)
Average low °C (°F)	2 (36)	2 (36)	5 (41)	8 (46)	12 (54)	16 (61)	17 (63)	17 (63)	14 (57)	10 (50)	8 (46)	5 (41)
Precipitation mm (inches)	135 (5.31)	152 (5.98)	128 (5.04)	117 (4.61)	122 (4.8)	86 (3.39)	32 (1.26)	32 (1.26)	60 (2.36)	105 (4.13)	211 (8.31)	173 (6.81)

4.2 BIOLOGICAL ENVIRONMENT

The area of Paskuqan is known for its rich flora. Although urban surrounding, one is most likely to find poplar trees planted along the greatest length of the river as well as other trees planted in the adjacent properties. Such trees are not recognized on the future school site. The area is characterized by the presence of other vegetation mostly blackberries, an area which could easily classify as a shrubbery one. The fauna, on its part, is characterized by amphibians (mostly frogs and snails). There is not any wildlife present in the area other than domesticated animals owned by the people in Paskuqan. In the biggest part of the area the bird population is somewhat considerable consisting of a variety of birds from

sparrows to doves. Yet the vegetation is not dense enough to sustain more species. The future school area is not in the vicinity of any nature protected site nor the site has protected plant species present.

4.3 SOCIO – CULTURAL ENVIRONMENT

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The most striking thing is that the Tirana city has grown to huge numbers from 1990 onwards. Hence the same increase in population boom has spilled over to the adjacent communes over the past decade. This has taken the form of many sprawling informal settlements. The Paskuqan commune was not immune to such population development trends.

The rural population with its center in Babrru, during 1989-1992 had approximately 5000 inhabitants while if compared to numbers as shown by the census of 2008 the number increased to 41000 as registered with the Civil Status Offices. In real numbers Paskuqan has some 50 000 inhabitants, this is because not all population is registered in Paskuqan (they remain registered in the areas where they originally come from). This phenomenon is common to all of the informal settlements in other areas around Tirana.

The last decade alone has witnessed population migrations that have gone totally unchecked, this from major shifts mainly from the northern remote areas towards the commune. They come from far and wide including regions of Kukës, Diber, Tropojë and Mirditë in the north to regions including Korça, Elbasani, Pogradeci. The main reason behind this spike in population shifts could be attributed to people looking for jobs and a better way of life. The main means of livelihood come from emigration and small-sized businesses in the area. The majority of houses which were constructed illegally are not yet registered with the Immobile Property Registry Office, but they are subject to the most recent Legalization undertaking. Furthermore, there is not any accurate statistics as to the unemployment level, but one thing that strikes the most is the high jobless rate among women, this because of their inability to find employment closer to their gender. Large parts of the workforce in the districts of Kamze and Paskuqan in the Tirana region are unemployed and mainly live with temporary jobs as part of the informal economy. Strikingly, unemployment strongly affects the age group of 16-34 due to lack of professional experience or skills.

Men are mostly engaged in construction or any other seasonal jobs that open up.

A good part of the inhabitants deal in vine-growing and husbandry which enables them to sustain themselves and their households.

Another good part of the population is considered to be daily commuters to the city, and their numbers could be close to 15000.

5 ENVIRONMENTAL LEGISLATION AND SAFEGUARDS PROCEDURES

According to Albanian EIA legislation, EIA for the construction of schools is not required. For that reason this Environmental Assessment is prepared and is based on the World Bank outline of the Environmental Assessment including Environmental Management Plan.

5.1 WORLD BANK SUB-PROJECT PROCEDURE/SCREENING

The Bank assesses every project against its safeguard policies. The Bank's environmental screening could classify projects as category A (significant adverse environmental impacts), Category B (potential adverse environmental impacts less adverse than the one of category A) and category C (likely to have minimal or no adverse environmental impacts The Environmental Assessment done confirmed it as the project will not have significant, irreversible, cumulative or long-term adverse impacts, and that potential A category sub projects would not be financed.

Because the anticipated adverse impacts will not be significant or irreversible, however, and because they can be prevented or reduced through appropriate preventive actions or mitigation measures, the project is classified a Category "B" project, which requires only partial environmental assessment under this policy. To ensure that these issues are duly recognized, described and addressed, EAs are prepared for individual sub-projects. This EA, with its EMP ensuring that recommended preventive actions and mitigation measures will be taken, satisfies the World Bank OP 4.01 policy on Environmental Assessment.

Project Operation Manual (POM) has been prepared, in which environmental due diligence procedure and screening of sub-projects is described. POM as well presents overall environmental management plan. The POM calls for environmental screening of the proposed sites and based on the preliminary information gathered, the MoES proposes the category of the sub projects. The POM emphasizes that category A would not be financed. The preparation of environmental assessment documents (for B category sub projects) of different scope for each type of sub project as presented in table 2, for the reason that the investments envisaged under the project might have different magnitude of environmental impacts. Therefore, for the school rehabilitation activities, the POM's EMP section defines environmental mitigation measures and monitoring, while for the extension or construction of the new schools within the existing schoolyard POM calls for the preparation of a simple Environmental Management Plan (EMP) checklist for each sub project. For the construction of new schools on new locations, Environmental Assessments with the EMPs will be prepared as the impacts will depend on the chosen location, i.e. previous activities on the site, distance from historical or nature protection sites, etc. The environmental assessment documents required per sub project are already indicated in Table 3. For the reason of the necessary land acquisition the project triggered Involuntary Resettlement (OP/BP 4.12) policy. The acquisition of land will be done according to prepared Land Acquisition and Resettlement Plan.

Table 5 Sub project environmental screening table

Types of Category B	Environmental Assessment documentation required	Applicable to:

activities		
1	Environmental Assessment (EA) with Environmental Management Plans (EMP) for each individual construction (sub-project)	New schools on new sites
2	Site-specific EMPs for each school in form of a checklist	New schools or extensions on existing schoolyards.
3	No site-specific EMPs necessary. General measures described in POM are applicable	Rehabilitation of existing schools on existing schoolyards.

5.2 ALBANIAN ENVIRONMENTAL LEGISLATION

Environmental legislation is governed by the Law on Environmental Protection No. 8934, dated September 5, 2002. This Law establishes national and local policies on environmental protection, requirements for the preparation of environmental impact assessments and strategic environmental assessments, requirements for permitting activities that affect the environment, prevention and reduction of environmental pollution, environmental norms and standards, environmental monitoring and control, duties of the state bodies in relation to environmental issues, role of the public and sanctions imposed for violation of the Law.

The Law on EIA, No.8990, was approved on January 23, 2003. It defines the rules, procedures and deadlines for identifying and assessing the direct or indirect impacts of projects or activities on the environment. The Law establishes the steps necessary to implement EIA procedures: presentation of the application, preliminary review, selection and classification criteria, public hearing and consultation, access to information, duties and rights of other bodies. The Law also provides the list of activities that should be subject to the Profound and Summary EIA process.

According to the Law on EIA, neither profound nor summary environmental assessment is required for the construction of schools.

6 POTENTIAL ENVIRONMENTAL IMPACTS

The environmental impacts of the project are expected to be of manageable, temporary and of local impact as they are related to the general construction activities on already known location. These most commonly include: a) Dust and noise due to excavation, demolition and construction; b) Management of demolition and construction wastes and accidental spillage of machine oil, lubricants, etc., c) Encroachment to a private property; d) Risk of damage to historical or cultural property or unknown archaeological sites; e) Traffic disturbance, f) impacts / damage to ecosystems, and g) impacts on hydrology of the area. Site specific impacts are in more detail described in section 6.1, 6.2, and 6.3. In the same section a special attention is given to description of the selected site and current impacts on the same.

6.1 ENVIRONMENTAL IMPACTS RELATED TO LOCATION ITSELF

The chosen site for the school, with its current characteristics might have some impact on the future activities. Several issues of concern were identified:

a) the chosen site is potential flooding area of Tirana river,

b) the banks of the river Tirana, which are approximately 100 meters distant from the future school site are highly burdened by solid waste.

c) The testing of the soil on the future site indicated higher concentration of Cr, Mn and Ni

d) Construction of the future Road Babru – Bregu I Lumit (River Bank) –Kthesa e Kamzes (Kamza bend) will have impacts on air quality, noise and safety

Flooding area

The closest point of the school site is approximately 90 - 100 m distant from the river, and for this reason, the municipality Paskuqan requested in July 2007 a hydrological opinion from the State Hydro-meteorological Institute requesting the analysis of the effect of a 100 year flood (wave). The opinion was issued in September 2007(see annex). The calculation showed that a 100 year wave is presented by flow of 550 m^3/s. This wave would reach height level of 89.3 meters, while school site is located at 89.9 m. This implies that the 100 year flood wave would not reach school, i.e. it would come to 0.6 m bellow the school site. The figure 9 shows graphically impact of the 100 year flood wave. While these calculations imply that the 100 year flood wave would not reach the school (i.e. it would stop 0.6 m below the school site), the margin of safety is small, so measures will be taken to protect the school from impacts of potential flooding.

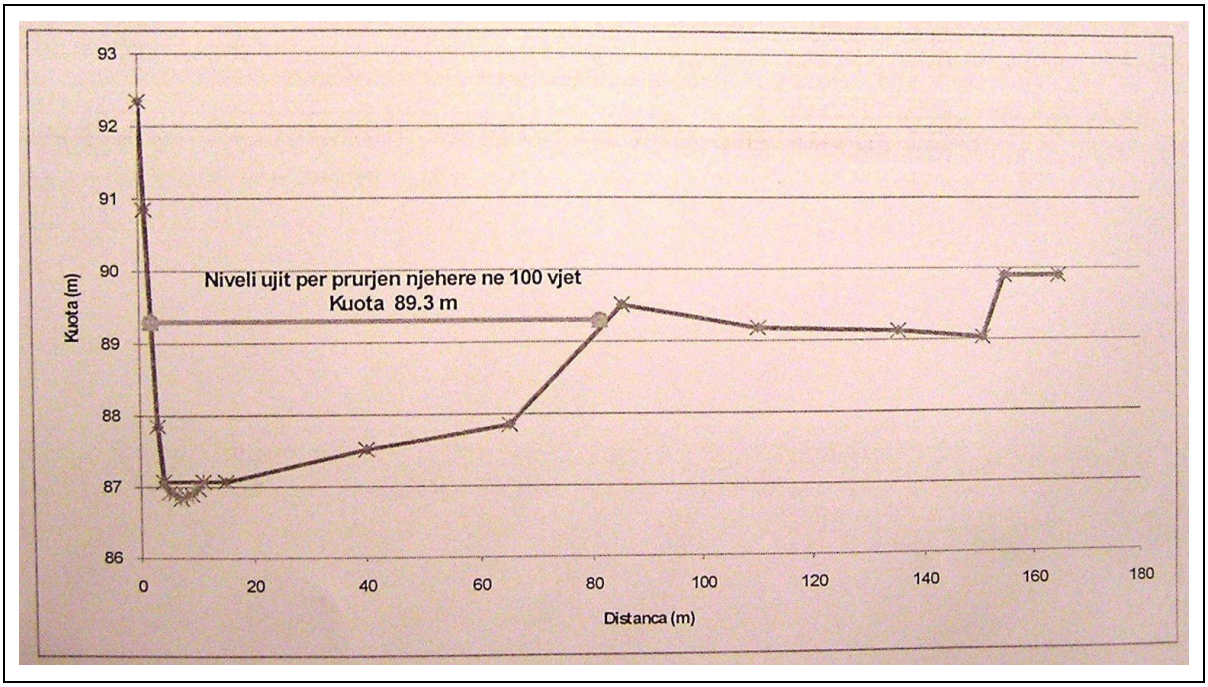

Figure 8 Flood wave

The construction of new sewage system which will include river management measures as well as the construction of Road Babru – Bregu I Lumit (River Bank) –Kthesa e Kamzes (Kamza bend) will significantly improve flooding protection, as these two will have an outcome of regulating the flow of Tirana river.

Waste on the river banks

The banks of the river Tirana are heavily burdened by solid waste. The same case is in the vicinity of the school. The following figures present the situation on the river banks. The Government of Albania through the Ministry of Transport has signed a project with the Japan Bank for International Cooperation on Greater Tirana river sewage system. This project would focus on construction on sewage system, however as well on clean up of the waste from the river banks and implementation of flood protection measures on some parts of the river yet to be determined.

The school has to be connected to the water supply system and not local wells to minimize the health risk related to drinking water supply. The school design physical plans of Paskuqan should reflect this. The Municipality should reserve the funds for the cleanup of the river banks in the proximity of schools if the project (road and sewage) do not follow the tempo of the school construction..Letter of commitment from the mayor of Paskuqan is presented in annex.

Figure 9 The view on river Tirana banks from the Paskuqan bridge

Figure 10 View from the right bank to the left side of the Tirana river (distance from school cca 100 m)

The soil quality

The soil analysis around the future site showed increased levels of Mn, Ni and Cr. According to Faculty of Natural Sciences these results correlate to natural geological characteristics of the area (see annex). Because of the potential health hazard from dusting, prevention and containment measures should be implemented like removal of topsoil,

installing a cover of clean topsoil or sealing surfaces to prevent dust generation and ingestion, and avoiding the installation of a well on the site and the use of groundwater for drinking or watering edible plants. Whether the designers' team will choose soil stripping (cca 20 cm) or sealing of the soil will depend on the purpose of the surface. For example all green areas should be stripped and soil replaced. For the paths, access roads sealing of the surface with other type of material will suffice. The design should be approved by the environmental consultant in MoES. The stripped soil should be as well deposited in a safe way away from the school site.

Future road

The Albanian Government through its arm the General Directorate of Roads has allocated a budget for the years 2008-2009 and has awarded a contract no. 10234/6 dated 31.12.2008 with the " J.V Klodioda & Sphaera & G & K " ltd for the designing of road "Babru-Bregu i Lumit- Kthesa e Kamzes" The greatest part of the road will be built along its existing river banks. The road project will facilitate cleanup of the banks as well as regulation of the Tirana river, which will minimize the flooding chances.

The parameters of the road will be as follows: a width of the existing trace 7.5 m (2 X 3.75); kuneta with width of 0.5 m, parking lane with width of 2.5 m; pavements with width of 3 and 5 m; green belts of 2-3 m; general width of the road 21 m or 29 m; general width of the object crown 105 m or 120 m; the speed limit based on the geometric prospect of the road will be 80 km/hrs (this speed might be further limited by the Paskuqan authorities in the proximity of the school site).

The school sports area (see figure 1), which are closest to the future road, is 50 m distant form the road, which implies that school building is some 80 m away. Because of the proximity of the road to a school site, the additional safety measures should be applied to minimize the impact of the noise and increase safety. These measures should include noise protection wall, fencing and preventing the access to the road as well as the limitation of speed on that road section. To minimize the impact of the noise on school staff and children a *Noise Reduction Elaborate* should be prepared. The *Noise Protection Elaborate* should identify technical measures (type of insulation, noise protection walls, etc) to maintanin the maximum noise levels of 35 – 40 dB at school premises. These technical measures should be incorporated into Main design and reviewed by environmental consultant in MoES. In addition, when choosing building material for school, materials with better sound insulation should be preferred.

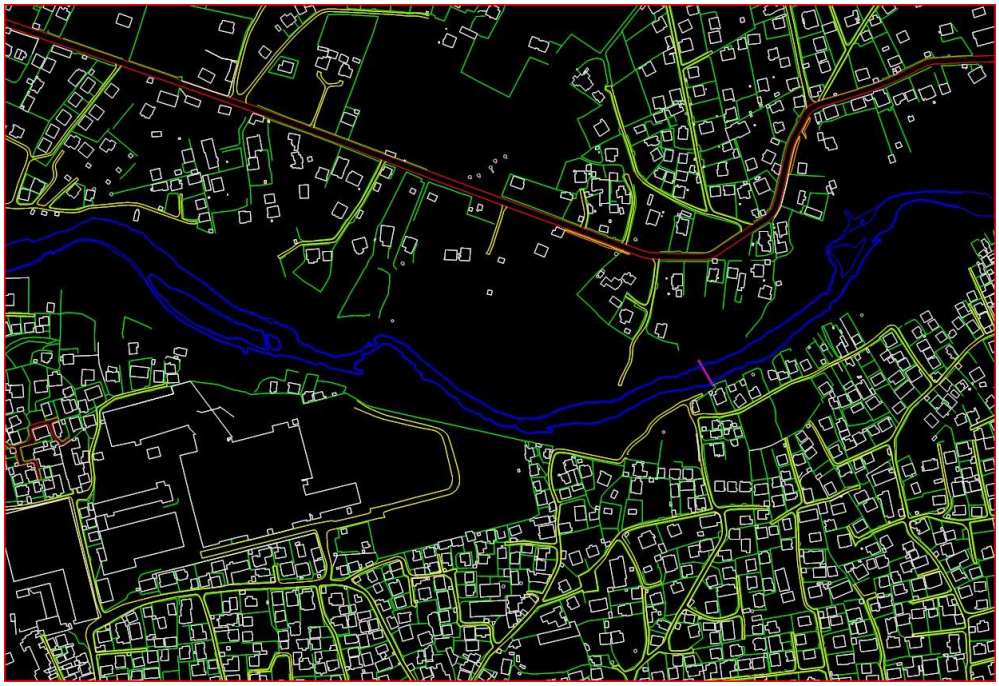

Figure 11 Tirana river as it is in the future school vicinity

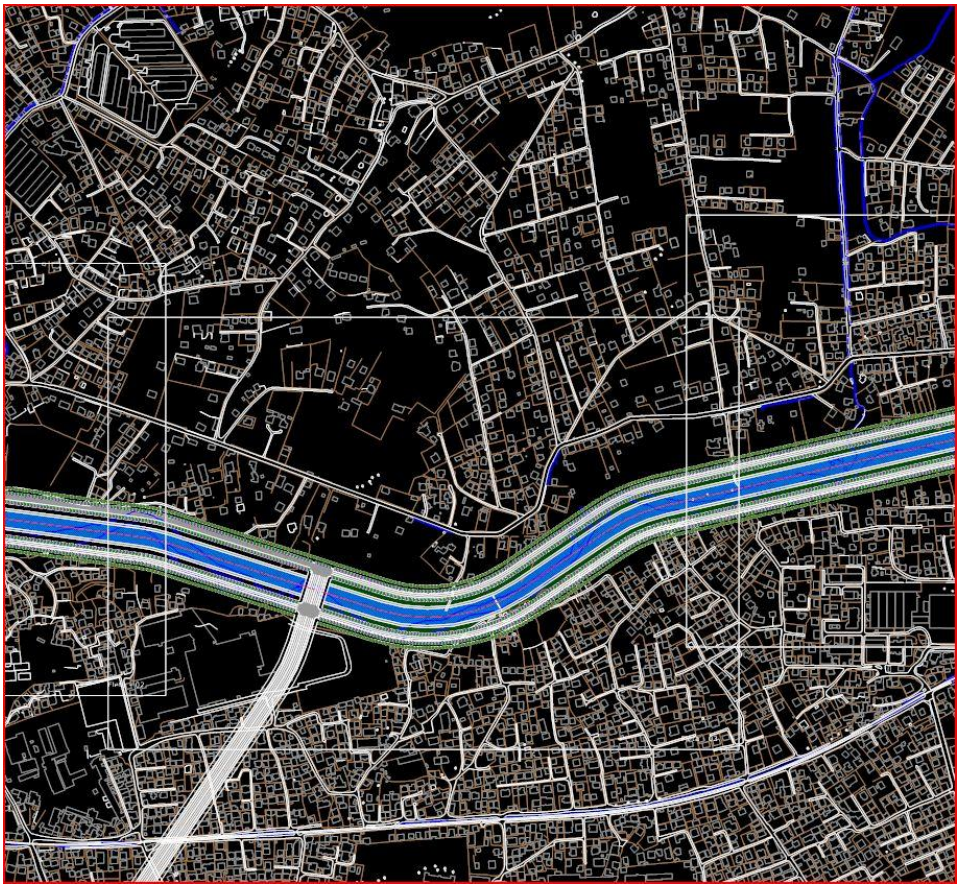

Figure 12 Future road in the school vicinity

6.2 ENVIRONMENTAL IMPACTS DURING CONSTRUCTION PHASE AND RELATED MITIGATION MEASURES

The environmental impacts during construction phase are related to the typical building construction, such as impacts related to air pollution, waste generation, noise, soil and water pollution and potential safety hazards.

6.2.1 Air pollution

The construction activities can cause dispersion of dust in the atmosphere and a significant reduction in local air quality mainly due to dust from the passage of vehicles over unpaved surfaces, passage of vehicles with uncovered dust prone cargo and through emissions from poorly operated or maintained machinery. These impacts can be reduced to minor levels through the adoption of standard good site management practices, such as water sprinkling to limit the dust emissions in the area near the construction materials and non-asphalted roads, covering the surfaces with plastic covers during storage and transportation of materials, limiting the speed of the vehicle on the site and access roads, periodical cleaning of the construction yard and relevant access roads, efficient use of modern construction machinery to minimize emissions which are fitted with exhaust silencers and maintained in good and efficient working order. During the earthworks special attention should be put to the protection of workers due to the higher concentration of Cr, Ni and Mn in the soil.

To minimize dust from stockpiling of the construction material reduction of stockpiling period should be set to a minimum, to minimize exposure to wind erosions.

6.2.2 Waste generation

Waste generation is expected to have the most important environmental impact. The envisaged works under the project will produce several types of waste. These are classified according to the European waste catalogue and hazardous waste list as the Republic Albania harmonized the waste legislation with the EU legislation. In this chapter only the group names have been presented, marked with numbers as in European waste catalogue. Under each group, types of the waste can be marked with asterisk (*) which represents hazardous waste. The exact subgroup of the waste with its key / identification number will be identified on site.

Types major groups of waste that can be expected on the site may be as follows but others are not excluded:

08 Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), sealants and printing inks

13 Oil wastes and wastes of liquid fuels (like waste hydraulic oils from the equipment)

15 Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified

17 Construction and demolition wastes (including excavated soil from contaminated sites)

20 Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions

Waste management prevention measures

Hazardous waste is expected in small quantities. In new construction it will include different residues of varnishes, paints, finishes, as well as waste oils from the equipment. This waste should not be mixed with solid waste. The contractor is obliged to provide special labeled containers for these types of waste.

For hazardous waste contractor has to follow procedure for separating hazardous waste on the site. The contractor has to handle over the waste to authorized company for hazardous waste management and fulfill accompanying documentation which should be kept as proof of good practices in waste management.

It is highly recommended to separate different waste types (plastic and glass packaging) for which separate collection/ recycling system exist in the country from non recyclable waste and taken to appropriate collection points with accompanying documentation.

Non recyclable waste has to be taken to an approved landfill.

The building site will be cleaned and all debris and waste materials will be disposed of in accordance with clauses specified in the bills of quantities

Burning or illegal dumping of waste is strictly forbidden.

Municipal waste and other waste have to be collected in containers specially designed for that purpose and regularly conveyed away.

Excavated soil from the site, due to the high content of Cr and Ni should be removed and disposed on the site which will be agreed with the Ministry of Environment and authorities in Paskuqan. Prior to the disposal of the excavated soil, the site should as well be visited by MoES environmental consultant who will inform the Bank on the choice, providing short justification for the site.

6.2.3 Noise

The noise is an inevitable environmental impact during construction. The noise could be limited by following good management practices (calibrated equipment) which implies that works can be performed solely during regular daily shifts / working hours.

Construction equipment shall meet the applicable standard in EU Directive 2000/14/EC of May 2000. This Directive applies to the manufacturer of the noise emitting equipment. All equipment should be maintained in good working order.

The transportation of construction materials on the existing roads will be carefully scheduled to avoid any disturbance to the local traffic. The operation of the site will be prohibited from 19.00 - 7.00 each day.

6.2.4 Soil and water pollution

Soil and water pollution is not expected as it can be prevented. However, some increased pollution loads into water and soil may be caused by direct or indirect contamination due to accidental spills or mishandling of hazardous materials like fuels, lubricants from the equipment, paints, varnishes, etc.

The potential impacts and resulting effects on surface water during construction comprise: incorrect storage of contractors' fuel storage and site activities which could lead to the accidental spillages of liquids or contaminated runoff, and the subsequent deterioration in surface water quality. .

The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby channel.

Stockpiling of construction material should be avoided. If temporarily required, proper storage conditions should be implemented at the construction site like using covers for protection where possible against weathering. Hazardous materials (lubricants, oils, etc.) should be kept on impermeable surface, and adsorbents like sand or sawdust should be available for quick handling of small accidental spillages. All materials should be handled in line with instructions included in the Material Safety Data Sheets (MSDS) present at the construction site. Training of the operation staff as well as construction staff should be continued.

If there will be need for installing fuel storage tanks they will have secondary containment with sufficient volume contain a spill from the largest tank in the containment structure. The containment area will have a means (pumps) of removing accumulated water.

Only licensed quarrying operations, asphalt base, sand and gravel pits will be used for material sources.

Stripped top soil should not be thrown, but kept on the site for restoration after completion of works. Any prevailing trees and valuable vegetation should as well be stored and used later for restoration.

6.2.5 Chance finds

The areas of archaeological significance are not in the proximity of the site, therefore specific archaeological protection measures are not required. However if during the excavations some archaeological remains are found, works will immediately be stopped and the local competent authority will be informed. The works will resume only after appropriate measures have been taken as requested by the appropriate authority and confirmation has been received from them that works can continue.

6.3 ENVIRONMENTAL IMPACTS DURING OPERATION PHASE

Environmental impacts during operation phase which are related to the project investments primarily relate to waste generation and handling of the hazardous chemicals in the laboratories.

6.3.1 Waste generation

Waste generated during operation is related to maintenance activities and regular operation activities.

Potential types of waste are classified according to the European waste catalogue and hazardous waste list as the Republic Albania harmonized the waste legislation with the EU legislation. The waste marked with asterisk (*) in the catalogue represents hazardous waste.

The waste (hazardous and non-hazardous) should be separately stored and collected according to Law on Waste.

Hazardous waste (which includes laboratory chemicals and its packaging – group 15 according to waste catalogue) present the primary concern. Special signs and MSDS should be clearly posted in the laboratory and in the vicinity of sinks to avoid pouring of the chemicals in the sink and dangerous mixing of the chemicals. At the beginning of the school year a science teacher should dedicate one school hour on chemical handling.

Special marked containers should be provided in the lab where chemicals in its packaging should be disposed. The handling of waste chemicals should be done by science teachers. In addition special containers should be available for collection eventually spilled chemicals.

The waste should be handed to the hazardous waste authorized company which should provide the school documentation on the methods of disposal.

Municipal waste should be collected by the city municipal company and disposed at landfill.

The major groups of waste expected may be as follows but others are not excluded: waste packaging, waste chemicals and municipal waste.

7 ENVIRONMENTAL MANAGEMENT PLAN

The present Environmental Management Plan (EMP) includes measures to address the potential impacts during preparation of the site, the construction activities and operation of school. The Mitigation Plan with identified impacts, measures and responsible parties is presented in table 4, 5 and 6 while the Monitoring Plan for these mitigation measures are included in table 7.

During the construction, the contractor will enforce all environmental mitigation measures. The MoES will advise with the World Bank team on the acceptance of the design and the proposed measures expected to be implemented prior to construction. The MoES, Municipality and the Supervisor Engineer (consultant hired by the MoES) will monitor the implementation of the EMP during the construction phase. During operation phase, environmental mitigation measures will be enforced by school staff. Supervision during operation will be done by science teachers and REA inspection. Overall potential environmental and safety impacts are readily avoidable and can be easily mitigated by adopting good engineering practices.

MoES will ensure that the contract documents include the relevant environmental protection clauses and that EMP will be integral part of the contract. The Contractor that will perform the civil works will also follow the requirements of the current Albanian construction and environmental regulations. To assure a degree of leverage on the Contractor's environmental performance an appropriate clause will be introduced in the works contracts, specifying penalties in case of noncompliance with the contractual environmental provisions, e.g. in the form of withholding a certain proportion of the payments, its size depending on the severity of the breach of contract. For extreme cases a termination of the contract shall be contractually tied in. The site supervising engineer monitoring report would be a condition for full payment of the contractually agreed remuneration, the same as technical quality criteria or quantity surveys. Compliance with the Albanian regulations and the terms of the present EMP will be monitored and verified during regular site visits by Supervising engineer and site visit from the environmental consultant hired by the MoES and representatives of the municipality. The Supervisor Engineer will supervise the construction works and implementation of the EMP. The Supervisor Engineer will conduct provide bi- weekly reports on the implementation of EMP to MoES: eto: a) ensure it is up to date and relevant to the situation on the ground; b) ensure that non-compliance and corrective actions are appropriately documented; c) review implementation status; and, d) evaluate corrective responses of the contractor. The findings of these visits will be reported in supervision reports submitted on a bi-weekly basis by the Supervision Engineer, based on consultations with the Contractor. The Supervision Engineer will pay attention to any new critical issues that may come up during the civil works and will inform MoES and suggest actions for various agencies. MoES will report regularly on the progress of implementation to the Bank. Semi annual reports on the compliance will be submitted to the Bank.

The MoES together with School management and maintenance team should implement the EMP mitigation measures during operation.

Relevant Government authorities will be involved in auditing project performance and will receive copies of monitoring reports. Tables 4, 5 and 6 summarize the proposed monitoring activities under the project and specify the location of the monitoring sites, frequency and duration of monitoring.

Table 6 Environmental Mitigation Measures and actions required prior to Construction Phase

Impact due to:	Impact Mitigation Measure	Place and time of performance	Implementation Funds	Person in Charge	Control functions performed by:
Siting of the school in potential flood plain	Although siting of the school l is not expected to be affected by a 100 year flood wave, the design has to incorporate flood protection measures, from choice of material and type of foundation to minimize risk of damages, diversion (outflow) channels, design of emergency access routes. Prior to determining the type of flood protection measures, during the design a site investigation will be done to determine the exact need and the extend of the measures. Detailed emergency evacuation plan should be prepared prior to construction and a design should reflect the emergency exits and paths.	Design phase, prior to construction	Cost can be significant, should be borne by the designer or Municipality of Paskuqan and included in the design phase.	Municipality of Paskuqan, designer	MoES, REA Inspection, Civil engineering inspection
Proximity of the Road Babru – Bregu I Lumit (River Bank) – Kthesa e Kamzes (Kamza bend)	Because of the proximity of the road to a school site, the additional measures should be applied to minimize the impact of the noise and increase safety. Noise measures should be designed to reach 35 – 40 dB level at the school premises. These measures, presented in the noise reduction elaborate, could include noise protection wall, fencing and preventing the access to the road as well as the limitation of speed on that road section.	Design phase, prior to construction	Cost can be significant, should be borne by the designer or Municipality of Paskuqan and included in the design phase.	Municipality of Paskuqan, designer	MoES, REA Inspection, Civil engineering inspection
Higher concentration of Cr, Ni and Mn in the soil	Prevention and containment measures could include removal / stripping of the soil, installing a cover of clean topsoil or any surface sealing to prevent dust generation and ingestion, and avoiding the installation of a well on the site and the use of groundwater for drinking or watering edible plants. Whether the designers' team will choose soil stripping (cca 20 cm) or sealing of the soil will depend on the purpose of the surface. For example all green areas should be stripped and soil replaced. For the paths, access roads sealing of the surface	Design phase, prior to construction	Cost can be significant, should be borne by the designer or Municipality of Paskuqan and included in the design phase.	Municipality of Paskuqan, designer,	MoES, REA Inspection, Civil engineering inspection, The design should be approved by the environmental consultant in MoES.

	with other type of material will suffice.				
Proximity of the waste disposed on the river banks	Although there is a project in preparation which will facilitate clean up of the river banks, preventive measures should be implemented. The design should include fence around the school as a safety measure, to prevent children accessing river bank. The Municipality should support the cleanup of the river banks in the proximity of schools if the project (road and sewage) do not follow the tempo of the school construction (see letter of intent in annex 5). In addition, due to the obvious pollution of river Tirana, school has to be connected to the water supply system and not local wells.	Design phase, prior to construction	Cost can be significant, should be borne by the Municipality of Paskuqan.	Municipality of Paskuqan	MoES, REA Inspection, Civil engineering inspection

Table 7 Environmental Mitigation Measures for the Construction Phase

Impact due to:	Impact Mitigation Measure	Place and time of performance	Implementation Funds	Person in Charge	Control functions performed by:
Air pollution related to transfer of the material, stockpiling and poorly operated vehicles	Dust from transportation of construction material and waste will be minimized by use of water, by minimizing speed of vehicles and enclosement of cargo when supervising engineer requests. On the access roads transport should be avoided during peak hours. Dust from stockpiling should be prevented, by covering the material and reduction of stockpiling period The sidewalks and roads should be kept free of debris to minimize dust All vehicles should be maintained in good condition and posses attests. During soil excavation work, workers should be equipped with masks. To minimize dusting during excavation soil should be lightly watered.	During construction	Could be significant Contractor obligation transferred to the contractor by the agreement with municipality of Paskuqan / MoES	Contractor	Site supervising engineer, MoES REA Inspection,

	Temporarily stockpiled material should be covered.				
Waste	Waste collection and disposal pathways and sites should be identified for all major waste types expected from and construction activities. Different type of waste should be separated and stored in appropriate containers on the site. Waste should be collected by licensed collectors The records of waste disposal will be maintained as proof for proper management as designed. Whenever feasible the contractor will reuse and recycle appropriate and viable materials. Hazardous waste is expected in small quantities and it has to be separated from solid waste, i.e. collected in separate containers. The hazardous waste can include but is not limited to varnish and pain residues, spilled or waste lubricants from the equipment, batteries, etc. For hazardous waste contractor has to follow procedure for hazardous waste management, this implies collection, handing over the waste to authorized company for hazardous waste management and fulfilling accompanying documentation Burning or illegal dumping of waste is strictly forbidden Excavated soil from the site, due to the high content of Cr and Ni should be removed and disposed on the site which will be agreed with the Ministry of Environment.	During whole time of construction	Could be significant Contractor obligation transferred to the contractor by the agreement with Municipality of Paskuqan/MoES	Contractor	Site supervising engineer, MoES REA Inspection
Noise	Limit the work from 7.00 a.m. to 7.00 pm Meet general precautionary measures for noise mitigation on construction site (equipment attest). Construction equipment shall meet the applicable	During all time of construction	Part of the contractor regular practice	Contractor obligation transferred to the contractor by the	Site supervising engineer, MoES

	standard in EU Directive 2000/14/EC of May 2000.			agreement with Municipality of Paskuqan /MoES	
Accidental spills to water and soil	If there will be need for installing fuel storage tanks they will have secondary containment with sufficient volume contain a spill, or 110% of the largest tank, or double sheeted container will be installed. The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby channel.	All the time during construction period	Contractor obligation transferred to the contractor by the agreement with Municipality of Paskuqan/MoES	Contractor	Site supervising engineer, MoES REA Inspection,
Toxic material management	All materials should be handled in line with instructions included in the Material Safety Data Sheets present at the construction site. These can include, but is not limited to paint thinners, varnish, solvents, etc.	During construction period	Contractor obligation transferred to the contractor by the agreement with Municipality of Paskuqan/MoES	Contractor	Site supervising engineer, MoES REA Inspection,
Degradation of historical or culturally important finds	If encountering archaeological finds during preparation of the site, the contractor should stop the works and follow the procedure to notify authorized bodies	During earthworks	Contractor obligation transferred to the contractor by the agreement with Municipality of Paskuqan/MoES	Contractor	Site supervising engineer, MoES REA Inspection,
Traffic disturbances	It is important that traffic management is prescribed and performed in accordance with the local laws with appropriate measures and signaling systems (e.g., appropriate lighting, traffic safety signs, barriers and flag persons) that are easily seen or easy to follow Road speed should be clearly posted	During construction period on access roads	Part of the contractor regular practice	Contractor	Site supervising engineer, MoES

Table 8 Environmental Mitigation Measures for the Operation Phase

Impact due to:	Impact Mitigation Measure	Place and time of performance	Implementation Funds	Person in Charge	Control functions performed by:
Waste generation (municipal waste and chemicals from the laboratories)	Special signs and guidance on chemical handling should be clearly displayed in the chemical lab and vicinity of sinks. Pouring of chemicals into sinks is strictly forbidden as well as mixing the chemicals. A special container for waste chemicals (bottled) should be identified and marked clearly. Special containers for spills should be available at the lab. Different type of waste should be separated and stored in appropriate containers in the school. Hazardous waste is expected in small quantities and it has to be separated from solid waste. Waste should be collected by licensed collectors The records of waste disposal will be maintained as proof for proper management as designed.	During operation period	Funds for regular maintenance, should be borne by school	School maintenance Science teachers	MoES, REA Inspection
Hazardous material management	All materials should be handled in line with instructions included in the Material Safety Data Sheets present at the laboratories. The instructions should be clearly written and posted in the chemical labs and in the vicinity of sinks.	During operation	Funds for regular maintenance, should be borne by school	Chemical lab teacher	MoES, REA Inspection
Potential flooding of the river Tirana	School should prepare Emergency Management Plan and implement regular training drills	During operation	Funds for regular maintenance, should be borne by school	School manager	MoES
Heating system and storage for crude oil or diesel for	Fire protection measures have to be implemented Emergency Operation Plan has to be done if fuel storage exceeds mass of 5000 kg (crude oil) and / or	Cost included in the operation of schools	Minor cost Cost included in the	School maintenance	MoES, REA Inspection

emergency generators	500 kg of gas		operation of schools		

Table 9 Environmental Monitoring Plan

Phase	What *parameter shall be monitored ?*	Where *shall the parameter be monitored?*	How *shall the parameter be monitored?/ type of monitoring equipment*	When *shall the parameter be monitored? (at what intervals or continuously)*	Required Funds /Cost/	Organization in charge of Monitoring
Pre construction	Site organization	On site	By checking proper fencing, security measures, installation of temporary sanitary facilities	Prior construction works commence	Contractor bears full cost, usually is not identified as separate category	Supervising site engineer Municipality of Paskuqan MoES Ministry of Environment (inspection)
Construction	Air quality (dust)	On the site	Visual observation	Continuous, however special attention should be put during tracking of material and excavation works	Contractor bears full cost, usually is not identified as separate category	Supervising site engineer Municipality of Paskuqan MoES Ministry of Environment (inspection)

Construction	Source of construction materials (asphalt, stone quarry, borrow pits, sand/gravel)	On site	Checking that quarries, etc. have valid operating permit Copies should be kept on site	At the start of the contract	Contractor	Supervising site engineer Municipality of Paskuqan MoES Ministry of Environment (inspection)
Construction	Noise	On the site and neighborhood	Sound level detector	In the first week of the construction and after any complaint from local population	800 Euros / measurement Contractor should bear the cost	Supervising site engineer Municipality of Paskuqan MoES Ministry of Environment (inspection)
Construction	Water and soil pollution due to spills improper storage, management and use of materials	On the construction site	Visual observation	Continuously (on a daily basis)	Part of the supervising engineer contract Contractor	Supervising site engineer Municipality of Paskuqan MoES Ministry of Environment (inspection)

Construction	Waste generation	On construction site	Waste accompanying documentation that is submitted to Ministry of Environment in which type and quantities of the waste are identified	Continuous during construction, i.e. each time waste is taken from the site	Part of the supervising engineer contract during construction Contractor	Supervising site engineer Municipality of Paskuqan MoES Ministry of Environment (inspection)
Construction	Chance finds	On site	Full supervision by site inspector during excavation works	During excavation works for foundations	Part of the supervising engineer and contractor cost Contractor	Supervising site engineer Municipality of Paskuqan MoES Ministry of Environment (inspection)
Construction	Toxic / Hazardous material	On site	Proper handling and storage is checked according to MSDS material sheets	Continuously (on a monthly basis, and on random site visits)	Part of the regular contractor cost	Supervising site engineer Municipality of Paskuqan MoES Ministry of Environment (inspection)

Construction	Workers safety	On site, checking weather protective gear, safety helmets, safety belts, ear protection when needed is worn, checking the fencing and warning signs.	Visual observation	Continuously (daily) checking that appropriate protective equipment is used	Part of the regular contractor costs	Supervising site engineer Municipality of Paskuqan MoES Ministry of Environment (inspection)
Construction	Hazard to public traffic and pedestrian safety	On site and on roads permitted to use for accessing site	Visual observation and potential complaints from the public	Daily checking the signs, fences, accesses and traffic signalization and patterns	Part of the regular contractor costs	Supervising site engineer Municipality of Paskuqan MoES Ministry of Environment (inspection)
Operation	Toxic / Hazardous material management	In school laboratories	Proper handling and storage is checked according to MSDS material sheets	Continuously, on a weekly basis	Part of the operating costs	Laboratory teacher and Work safety Inspection, MoES
Operation	Waste management (municipal waste and lab chemicals)	In school and schoolyard	Waste accompanying documentation that is submitted to Ministry of Environment in which type and quantities of the waste are identified	Continuously during operation	Part of the regular operation costs	Ministry of Environment (inspection), MoES

8 STRENGHTENING OF THE INSTITUTIONAL CAPACITY

The Ministry of Education has no experience in environmental management. For that reason a clear allocations of the responsibilities and duties will be assigned within the Ministry and environmental consultants will be hired to facilitate the environmental management. Secretary General of the MoES will be responsible for the coordination and monitoring of activities at the technical level, including environmental planning and management. The directors of relevant departments of the MoES, mainly Department for Budget Planning and General Directorate of Supporting Services) and heads of the institutes will be responsible for the implementation of activities. The MoES would be responsible to hire and oversee the required environmental consultant, architects, engineers and contractors. In the context of the rehabilitation, extensions and constructions of schools, the MoES's role is to manage the design, bidding, supervision of projects (including civil works, goods and services). The MoES's responsibility includes the following activities related to environmental safeguards activities:

The MoES's responsibility includes the following activities:

- hire the environmental consultant that will prepare environmental due diligence documents for individual sites in coordination with the MoES and municipalities and will during the project implementation phase supervise the implementation of the EMPs and report on the same (the municipality will hire its own site supervising engineer that will be present at the specific site all the time during the construction);

- Supervise the work performed by the environmental consultant, engineering / design companies to ensure that they are applying adequate standards and are following agreed procedures, as well as the agreed environmental plan.

- Organize tendering procedures, review tender evaluation performed by the architectural/ engineering firms, and arrange for the contracts to be signed in accordance with agreed procedures.

- Ensure that the environmental consultant is providing adequate site supervision, particularly the supervision of carrying out the environmental management plan.

- Designate a team for the construction and environmental issues in the Department of Budget Planning within the MoES

The Ministry does not have a separate environmental unit. For the reason that implementation of EEE-P will have a direct impact on the environment through school rehabilitation, extension and construction, a team in the Department of Budget Planning will be responsible for coordination and supervision of the environmental plans and risk mitigation measures undertaken in the Project and cooperate with territorial departments for environment protection. To compensate the lack of the capacity within the Ministry, an environmental consultant will be hired by the Ministry that will report directly to the team in the Department for Budget Planning, the General Directorate of Supporting Services and Secretary General in the Ministry on implementation of the EMPs. The World Bank will provide no objection to the ToE for the environmental consultant. The environmental consultant will have significant experience in EIA process and should be fluent in English.

The environmental consultant will be hired full time during the duration of the program and will be responsible for the preparation of EAs / EMPs, supervising the implementation of the same, reporting to MoES and WB. He will also be involved in the training. In the first report on the project progress implementation a team in the Budget Planning Department with the advice from the environmental consultant will propose a training program for technical staff team in the Department of Budget Planning, the members of municipalities that will supervise the work, supervising and site engineers. The team in the Department of Budget Planning will work in close cooperation with the General Directorate of Supporting Services that will be in charge of procurement and legal aspects of the project and Secretary General responsible for coordination of program. The team with the support of environmental consultant will:

- coordinate environmental training for staff, designers and local contractors;
- disseminate existing environmental management guidelines and develop guidelines in relation to issues not covered by the existing regulations, for implementation, monitoring and evaluation of mitigation measures;
- ensure contracting for construction and supply of equipment includes reference to appropriate guidelines and standards;
- coordinate / do environmental screening of the sub projects;
- help organizing public consultations of EAs / EMPs
- conduct periodic site visits to inspect and approve plans and monitor compliance with the EMPs
- prepare its own and consolidate reports received from the Municipalities and site supervising engineers on the implementation of the EMPs

The Municipalities will be responsible for supervising construction to ensure, inter alia, full compliance with the environmental guidelines contained in this POM and individual EMPs.

Municipalities where new schools will be built on existing schoolyards or new locations will be responsible for procuring and supervising all related works. The Municipalities will be responsible for:

- procuring works relating to the construction of the new schools funded under EEEP as well as the site supervising engineer;
- ensuring that the measures and monitoring in the individual Environmental Assessments / EMP become part of the agreement with the contractor and site supervising engineer; and
- supervising construction to ensure, inter alia, full compliance with the environmental guidelines contained in this POM and individual EMPs

After finalizing the construction the main responsibility of monitoring will fall under the School staff, especially the teachers of science labs, who will be responsible for waste management originating from the laboratories and school maintenance staff responsible for municipal waste management.

In addition to structure in the Ministry of Education and Municipalities, the Ministry of Environment with it's inspection unit can participate in the supervision of the individual sub project implementation.

The control of the state of the environment is the duty of the Environmental Inspectorate, assigned by the Minister of Environment, and Regional Environmental Agencies.

Environmental Inspectorate from time to time visit the project site and check are the activities conducted in accordance to the environmental legislation. The inspection has the power to close down, to suspend, to partially or totally stop the activity of the physical and legal persons, who have caused environmental pollution or damage and defines the relevant tasks for the improvement of the situation. Description of duties of state bodies related to environmental control is described in annex 1.

Implementation of the EMP provisions will be regularly reported in the semi annual progress reports. The input for the reports will be provided from the site supervising engineer, consultant supervising project implementation, municipality and environmental consultant hired by the Ministry.

Table 10 Responsibilities for environment during construction and operation

Responsibilities for mitigation and monitoring	***Environmental information flow (reporting)***	***Decision making chain of command for environmental management (to take action, to authorize expenditures, to shut down, etc.)***	
		Activities	***Responsibility Institution or person***
During Construction:			
Environmental Consultant and the team in the Department for Budget Planning within the MoES Municipality Contractor	Site Supervisory Engineer to MoES environmental consultant / MoES environmental consultant to General Secretary, General Directorate of Supporting Services and Department of Budget Planning Environmental Inspectorate of the Regional Environment Agency	Monitoring of the Implementation of the EMP and provisions of the EA	Site Supervisory Engineer, Environmental consultant Environmental Inspectorate of the Regional Environment Agency
During Operation:			
Team in the Department	School / Municipality to	Monitoring of the	Appointed person from

for Budget Planning within the MoES Municipality School	General Secretary at MoES	Implementation of the EMP and provisions of the EA	school maintenance Environmental Inspectorate of the Regional Environment Agency

9 PUBLIC PARTICIPATION

Public participation for the Education Excellence and Equity Project will follow World Bank procedures.

According to the World Bank policy on Environmental Assessment, for all Category B projects proposed for IDA financing, during the EA process, the borrower consults project-affected groups and local nongovernmental organizations (NGOs) about the project's environmental aspects and takes their views into account at least once. The borrower initiates such consultations as early as possible. In addition, the borrower consults with such groups throughout project implementation as necessary to address EA-related issues that affect them.

The project and the report of impact assessment on environment have to undergo a public consultation. The consultation should be organized by the local government where the project will be implemented and the proposer. The local government will invite stakeholders, make available the EA report, decide on the date for the debate and notify the participants for the day, time and location of the meeting. EA should be available to the stakeholders two weeks before the presentation.

The proposer of the sub project, the municipality, informs the public on the following: a) Project implementation site/location; b) Type of activity; c) if possible raw material, energy, water to be used; d) Project duration; e) Waste to be generated, type and if possible quantity; f) Negative impact on health and environment (water, air and soil/land discharges) g) Measures that will be taken for reducing possible impacts.

The proposer will address all the questions raised and the minutes of the meeting will be attached to this document. Only than the EIA can be considered final.

10 ANNEXES

10.1 ANNEX 1 ROLES AND RESPONSIBILITIES OF THE STATE BODIES RELATED TO ENVIRONMENT

Environmental institutional network

All the specialized bodies, entitled by law with the environmental protection in the Republic of Albania, represent the environmental institutional framework of the country.

The environmental institutional framework comprises of the Ministry of Environment, REA-s, Environmental Inspectorate, environmental bodies under the main central and local authorities, as well as inter-ministerial bodies, approved by the Council of Ministers to follow on important environmental issues.

The governmental central and local bodies, as legitimate administrators of various environmental elements, realize the protection of the environment through the implementation of this function.

The Ministry of the Environment

As a central institution specialized in environmental protection and as a technical supporting body to the Minister of the Environment, the Ministry of Environment performs these main duties:

- Cooperates and coordinates with central and local government institutions, with the public and non—profit organizations, to increase the level of enforcement of the environmental legislation.
- Prepares the bilateral or multilateral draft agreements, protocols, projects and programs of cooperation with governments, with international bodies and organizations for the environmental protection and follows their implementation.
- Studies the country needs for specialists and coordinates the qualification and specialization activities of the personnel dealing with environmental protection, in cooperation with the Ministry of Education and Science.
- Supports projects about the scientific research, the improvement of the state of the environment, the introduction of ecologically clean technologies and the promotion of non-profit organizations activities.
- Assists the local government bodies on environmental protection and on the preparation of the local environmental action plans.

Regional Environmental Agencies

The Regional Environmental Agencies (REA-s) are specialized bodies in environmental protection, depending on the Ministry of Environment and which operate on prefecture level. While implementing the objectives and priorities of the Ministry of Environment, the REA-s:

- Realize the enforcement of legislation for the protection of the environment on local level;

- Assist the local government bodies in the field of environmental protection and management within their jurisdiction; cooperate with the local government for the development of local environmental actions plans, programs and projects;
- Promote the use of clean technologies and introduction of environmental management systems;
- Are involved in the process of the approval of the environmental permit and declaration, by performing the duties defined by the Minister of Environment in a special regulation. They provide the environmental consent and authorization for local activities
- Undertake awareness activities for the protection of the environment and cooperate with the community, the public and environmental NGO-s and professional business organizations.

Environmental Inspectorate

The Environmental Inspectorate functions within the Ministry of Environment, as a specialized body on environmental control. The Environmental Inspectorate is composed by: the Chief Inspectorate, inspectors of the Ministry of Environment and inspectors of the REA-s. The inspectors of the Ministry of Environment exercise their control activity in all the territory of the Republic of Albania, while the inspectors of the REA-s operate within the prefecture's territory.

The Environmental Inspectorate:

- Exerts continuous control on the environment and the polluting activities in order to guarantee the protection of the environment through the enforcement of the environmental legislation and the conditions of the environmental permit and declaration.
- Requests the participation of the local government authorities, of the representatives of the municipalities, of the non-profit environmental organizations and of the media during the controls on the environment.
- Creates the environmental file for every activity dotted with an environmental permit. The Minister of Environment defines the detailed rules on the format, content and the administration of the environmental file.
- Assists the physical and legal persons to realize the self-monitoring, the verification and the implementation of the integrated management systems and controls their implementation.
- Orders for the implementation of obligatory measures to be taken for the improvement of the state of environment, for the mitigation of the pollution and the damage of the environment.
- Informs regularly the local authorities on the state of environment, on the approved activities, projects and installations, according to the dispositions of this law.
- Controls the pollutant's register, the inner, technical and technological regulations and other documents related to the activity and the risks of pollution.

- Imposes sanctions, according to this law and other legal acts that protect special constituents of the environment.
- Publishes the results of every exerted control.

Public media

The public media assist in:

- the protection of national interests in the field of environmental protection;
- the rising of the contemporaneous knowledge and culture on the environment;
- the realization of the public's right to be informed on the state of the environment;
- the diffusion of the technical and scientific achievements in the field of environment and of the national activities in this field.

The local government authorities

The local government authorities represent the most important governmental structure for the administration and the protection of the environment that they have under jurisdiction, by implementing the responsibilities, rights and duties given to them by the law No.8652, of 31.07.2000 "For the organization and the functioning of the local government". In the field of environmental protection, they have the following duties:

- realize the implementation of the environmental legislation;
- draft local plans for the environmental protection and plans for the territory adjustment;
- publish the programs and measures for the protection of the environment;
- inform the public on the state of environment and local activities that are subject to the environmental impact assessment;
- promote and support the activities of the non-profit organizations for the environment, by drawing their opinion in the environmental decision-making process;
- define the sites for the collection and elaboration of the production and human life wastes, in accordance with the environmental criteria and development plans;
- organize the deposit of the wastes and hazardous substances as well as the protection of green areas in urban centers and around them;
- administer the urban wastes, the waste water treatment and solid wastes plants; and
- discipline the transport and the constructions in the urban environment.

10.2 ANNEX 2 DRINKING WATER ANALYSIS

Republic of Albania

Ministry of Health

Public Health Institute

Tirane

No. 1094 Prot Tirane, on 24.06.09

Analysis Report No 74

Type of Sample: Drinking water (after treatment) from Bovilla water plant

Forwarding entity: Ministry of Education and Science

Sent under: Request paper no. 656 prot, dated 12.05.2009

Entity receiving sample: Specialists of Public Health Institute

Date of receiving sample: 22.05.2009

Kind of evaluation: Physical-chemical analysis, microbiological, and toxicological analyses

Microbiological evaluations

No.	Microbiology index	Water after treatment of Bovilla plant	Norms
1	Coliforme total	0	0/100 ml water

2	Coliforme faeces	0	0/100 ml water
3	Faece Streptococci	0	0/100 ml water

Physical-Chemical evaluations

No.	**Chemical indicators**	**Water after treatment of Bovilla plant**	**Norms**	**Permissible maximum levels**
1	Taste and odor (number of dilution)	Normal	0	2 in 12^{o} C in 25^{o}C
2	Color and outward appearance (mg/1 degree Pl/Co)	Normal	1	20
3	p^{H} (unit p^{H})	7.9	6.5-8.5	9.5
4	Electricity conductivity (µS/cm	320	400	
5	Calcium (mg/l)	45.09	75	200
6	Suspending matter	0	Not permitted	
7	Murkiness (Unit FTU)	0	0.4	4
8	Alkalinities Total (mg ekv/l)	3.6		
9	Carbonates (mg/l)	0		
10	Bicarbonate (siHCO^{-}_{3}	219.16	Water should not $CaCO_3$	
11	Ammoniac (mg/l)	0	0	0.05
12	Nitrate (mg/l)	0	0	0.05
13	Nitrate (mg/l)	0	0	0.05
14	Total sturdiness(^{0} German)	9.24	10.15	20
15	Phosphate (mg/l)	0.29	0.4	2.5
16	Organic matter (mg/l)	0.32	1	3
17	Clorure (mg/l)	28.36	25	200
18	Sulphate (mg/l)	24	25	250
19	TDS (mg/l)	160	500	
20	Total lead (µg/l)	n.d	50	300
21	Magnesium (mg/l)	12.76	20	50
22	Mangan (µg/l)	n.d	20	50
23	Chrome (µg/l)	n.d	20	50
24	Lead (µg/l)	n.d	0	10
25	Cadmium (µg/l)	n.d	3	5
26	Copper (µg/l)	n.d	100	1000
27	Nickel (µg/l)	n.d	20	50
28	Mercury (µg/l)	n.d	0	1
29	Arsenic (µg/l)	n.d	10	50

Results of the analysis of Aromatic Policiclyce Hydro fuels (PAH)

No.	Denomination of Component	Water from Bovilla Plant
1	naftalen	n.d.
2	acenaftilen	n.d.
3	acenaften	n.d.
4	fluoren	n.d.
5	fenantren	n.d.
6	antracen	n.d.
7	fluoranten	n.d.
8	pyren	n.d.
9	benzo (b) antracen	n.d.
10	chrysen	n.d.
11	benzo (b) fluoranten	n.d.
12	benzo (k) fluroranten	n.d.
13	benzo (a) pyren	n.d.
14	dibenzo (a,b) antracen	n.d.
15	benzo (g,h, i) perylen	n.d
16	Indeno (1,2,3 –Cd) pyren	n.d
	Norms 0-0.2 (µg/l)	

RESULTS OF ANALYSIS FOR CLOROORGANIC PESTICIDES

No	Component	Concentration (µg/l)
1	α –Heksaclorocikloheksan (α-HCH)	n.d.
2	Heksablorobenzen (HCB)	n.d.
3	β-Heksaclorocikloheksan (β-HCH)	n.d.
4	Y-Heksaclorocikloheksan (lindan)	n.d.
5	δ-Heksaclorocikloheksan (δ –HCH)	n.d.
6	Heptaklor	n.d.
7	Heptacloroepoksid B	n.d.
8	Kaptan	n.d.
9	0,p'-DDE	n.d.
10	α-Endosulfan	n.d.
11	P,p'-DDE	n.d.
12	Dieldrin	n.d.
13	0,p'-DDE	n.d.
14	Endrin	n.d.
15	β-Endosulfan	n.d.
16	p,p'-DDD	n.d.
17	0,p'-DDT	n.d.
18	p,p'-DDT	n.d.
19	Metoksiklor	n.d.
20	Mireks	n.d.

Conclusions: From the above microbiological, physical-chemical and toxicological analysis(heavy metals, pesticides and aromatic polycyclic hydro-fuels) of the water sample it **turns out that**: All of the parameters analyzed are within the norms and the current standards in effect in Albania for the drinking water.

Note: 1. n.d –means not detected

Report: The analysis is valid only for the sample brought in and analyzed in the laboratory.

Director

Dr. Alban Ylli

10.3 ANNEX 3, SOIL TESTING

A REPORT OVER THE SOIL POLLUTION STATUS IN THE AREA WHERE THE SCHOOL IN PASKUQAN IS TO BE ERECTED

At the request of Ministry of Education and Science dated May 22nd, 2009 the soil sampling was administered in the Paskuqan area. The purpose of the sampling was to closely monitor the presence of heavy metal and radio-active matter pollution of the area of land in which the school has been projected to go up.

Five soil samples (see fig 1) from an area of land measuring 35 X 35 cm were obtained in order to realize a better coverage of the area under survey. The samples were exposed to the drying process, were cleared away from plant roots or grains of stones and then ground.

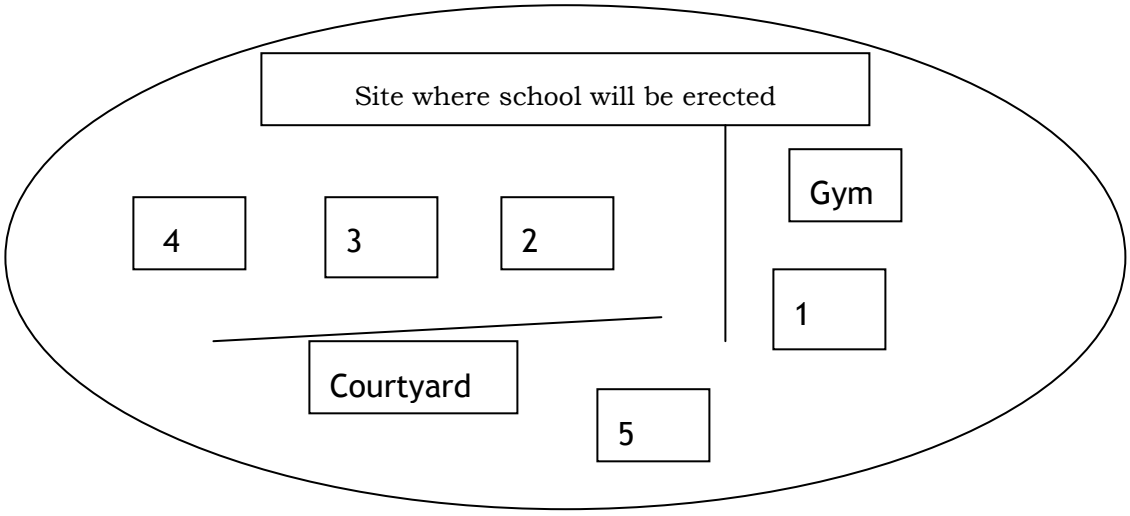

Fig. 1: Schematic display of site where sampling occurred

Upon the initial processing, the samples, based on further specific procedures, were subject to analysis to detect any radioactive pollution or any other pollution attributed to presence of heavy metals

Results over heavy metals

The analyses of heavy metals were conducted based on the *Fluorescence Radiation X (FRX) method*, which is an analytical method with limits of detection suitable for the better part of heavy metals.

The outcomes, aggregated and displayed in the following table, indicate that we are not encountering any type of pollution from any of the analyzed elements. The estimated values of the metals and particularly of those elements such as **Cr**, **Mn**, and **Ni** rightly point to the geological characteristics of the area. We also

have to add that through the method FRX being applied the total amount of metals in the soil samples have been determined, not considering the dissolved amounts which might enter into the life cycle.

Elements	**Area of measured concentrations**	**Limit values (Directive 86/278 EEC)**
Fe (%)	4.5-5.0	-
Cr (mg/kg)	350-400	-
Mn (mg/kg)	770-920	-
Ni(mg/kg)	230-270	30-75
Cu(mg/kg)	30-70	50-140
Zn(mg/kg)	90-115	150-300
Pb(mg/kg)	30-50	50-300
As(mg/kg)	<10	-
Cd(mg/kg)	<5	1-3

As for the ***As*** and ***Cd*** elements which have had values sliding below the detection limits of FRX method the samples are being analyzed by way of spectro-meter method of atom absorption. These results will be made available once the analysis is completed.

Results over radioactive pollution

In the area under question the CANP (**center of applied nuclear physics**) team, as the first step towards the final goal, did the radioactive relieve exercise by measuring in all of the spots across the area the very power/strength of the environmental dose. From the results obtained it is noticeable that in all of the observed spots the power of dose dips below the 100nSV/hour value, which represents the average value of environmental dose power for the region.

The second step is mostly concerned with the administration of gamma spectro-meter measurements collected by way of lab system of the CANP. The preliminary measurements indicate the presence of natural radio-nuclides such as ^{226}Ra, ^{238}U, ^{235}U, ^{232}Th, ^{40}K, while the presence of radionuclide ^{137}Cs, which is held to be one of the indicators of the radioactive pollution is well below the detection limits.

The presence of natural radio-nuclides with a relatively long half-dismantling period which is characteristic of and consequence to chemical composition of soils under the focus of the study constitutes the main contribution of the *natural fon (?)*.

A far more detailed analysis of such specific exercises of the afore-mentioned nuclides would most likely take some 25 days in the minimum and, if and when necessary, the results might be made available upon the completion of the analysis.

As a conclusion, we might fully assert that no radioactive pollution has been found in the area save for the *natural fon* which is within the value considered as quite normal in our region.

Persons responsible for the analysis

Dr. Durim Kryeziu **Prof.Assoc. Nikolla Civici**

TIRANA UNIVERSITY

FACULTY OF NATURAL SCIENCES

CENTER OF APPLIED NUCLEAR PHYSICS

Prot.no 1053 Tirana, September 28, 2009

Subject: Response to your letter

To the attention of: Mrs.Antoneta LULI

General Secretary

MINISTRY OF EDUCATION AND SCIENCE

TIRANA

In response to your letter no. 2876/8 dated 24.09.2009 requesting additional information on soil analysis in the zone where Paskuqani School will be built, please be informed as in the following:

The statement that the rather high concentration of elements such as Ni, Cr, Mn in the soil of the referred area has natural origin actually, which besides its basis on the analytical experience is also based on the lack of information on pollution sources in the area. Anyway, you can use as reference the Geographic Atlas of Albania authored by A.Tashko, A.Mazreku, etc published in period 1997-1998. The Atlas includes maps of different elements 'distribution in soils and sediments in the whole country's territory.

We consider it as very useful that you meet Mr.Salvatore Bushati, the scientific secretary of the Academy of Sciences.

Chief of the center

Nikolla CIVICI

Dean of the Natural Sciences Faculty

Ilirjan MALOLLARI

TIRANA UNIVERSITY

FACULTY OF NATURAL SCIENCES

CENTER OF APPLIED NUCLEAR PHYSICS

Prot.no 1143 Tirane, 14.10.2009

Subject: Response to your letter

To the attention of: **Mrs. Antoneta LULI**

General Secretary

MINISTRY OF EDUCATION AND SCIENCE

TIRANA

In response to your letter no.2876/8 dated 24.09.2009 on the additional information on the soil analyses in the construction site of Paskuqani school, we are herewith sending you some data obtained from the sensory inspection of samples taken for analysis.

1. All the samples were taken in the normal vegetation area. These soils have grey color and do not contain small stones;
2. The samples have low humidity, can be easily granulated and tableted and seem to have no oily composition.
3. The samples have no characteristic smell which would make them suspicious of any PCB pollution, etc

Finally, we can acknowledge that the sensory inspection provides no signs of any potential pollution.

Center chief

Nikolla CIVICI

10.4 ANNEX 4, QUALITY OF TIRANA RIVER

REPORT ON THE ENVIRONMENTAL STATUS OF TIRANA RIVER, PASKUQAN AREA, BASED ON THE MONITORING PROGRAM REPORT WITH 2008 IN MIND

In the context of the monitoring program of the water discharges peculiar to the ground waters for 2008, the **Agency of Environment and Forestry** has administered the monitoring process over the ground water of Tirana river along three monitoring stations: *Ura e Brarit* (Brari Bridge), *Zona e Paskuqanit* (Paskuqan area) -500 meters away from the *water collector* Siri Kodra) and the Kamza Bridge.

Below we are presenting the results of this monitoring process.

The Paskuqan Area (500 meters away from the Siri Kodra water collector): It pertains to an area, considered as polluted, because of the discharges of the urban water collectors and because of the urban wastes dumped on both banks of the river. The spot picked out for the collection of samples is found at a distance of some 500-600 meters away from the main collector for the discharge of urban waters.

[in the original copy there is an obscure image of the river]

Image of the Tirana river in the Paskuqan area after the discharge of collectors.

Evaluation of quality based on the physical-chemical indicators:

Based on the average results of analysis, as depicted in the aggregated table " Tirana" below, based on the UNESCO classification, the evaluation on the quality of Tirana river water has been done, entering it into groupings for the relevant features and parameters.

Stations	Class P, total	Class N03	Class NB05	Class NKO	Class NH4	Class 02
T1: Brari Bridge	IV	I	II	II	I	II
T2: after the Siri Kodra water collector	IV (exceeds)	I	V (exceeds)	V (exceeds)	IV	III

T3: Kamza bridge	V (exceeds)	I	V (exceeds)	V (exceeds)	V (exceeds)	III

From the above table one is able to discern that the in the water area of *Brari* bridge the river waters are classified as pertaining to second quality (fair level) with the exception of phosphorus) contents, which generally speaking, as to come out further below, is an indicator pointing to high phosphorus) content with the waters of our river.

The results of nitrate analysis do display low values along the entire length of the river under consideration. A low concentration of nitrates will be encountered even in other stations as we are going to see further below.

By moving down from the *Brari* River (station 1) to *Kamez* Bridge (station 3) the Tirana river is the reception point of the urban discharges of the populations which has settled itself along the banks of the river in the past decade or so as well as of the urban discharges coming through the discharging collectors of the city at '*Siri Kodra'* street and the "*5 May*" street. These discharges may be considered as the main culprits for the high values of phosphorus)s which is attributed mostly to the use of detergents with high phosphorus) contents on the part of the population as well as high contents of the organic matter which finds an expression in the high values of NBO, NKO and NH4.

As one is able to read from the classification table, apart from the first monitoring station, the *Brari* bridge, the two other stations do exhibit an alarmingly high presence of organic matter in the Tirana river waters.

As a conclusion, we might fully state the high concentrations of the feeding matter (phosphorus)) and the heavy presence of the organic matter do express a serious situation of the *eutrofication* process and the balance of oxygen in water of the fish population in these waters. The situation might also be linked closely with the urban liquid wastes, that go untreated, discharged into these waters. The measures towards the improvement of status will have to be rigid and multiple in nature.

The bacteriological indicators

Stations	**Coliform feces (average)**	**Binding norms (EU)**	**Classification**
T1: Brari bridge	1.4×10^5	2000	Exceeding norms
T2: After the Siri Kodra collector	9.6×10^6	2000	Exceeding norms
T3: Kamza bridge	3.1×10^7	2000`	Exceeding norms

By comparing and contrasting the bacteriological indicators of the analysis, and specifically the *feces coliform*, against the binding norms established by the EU directive on washing waters, we notice that in the three stations along the Tirana river monitored the value stand much higher than the permissible norms.

This assessment calls for an immediate stop to the use of Tirana river water for washing purposes or other relaxation activities, at least along the length of the river under the focus of this study.

10.5 ANNEX 5, LETTER OF COMMITMENT

REPUBLIC OF ALBANIA

PASKUQAN COMMUNE

TIRANA

No. 3796 Prot 05.November.2009

Subject: Confirmation letter

To: Ministry of Education and Science

CC: Albania-based World Bank Office

Acting upon your request concerning the progress scored on the environmental assessment of the site upon which the new school will be built under the project " *Equity and Excellence in Education*" we provide you with the following confirmation:

1- We have already made available to you a total area of land , state-owned one, that comes to approximately 5000-7000 meters;
2- We take upon ourselves all of the responsibilities in relation to the environment for the elimination of all urban solid wastes by also taking care of all other issues around the solid wastes;
3- The Paskuqan Commune issues a guarantee that all of the urban wastes around the school will be cleaned up prior to the commencement of the works on the new school;

Environment is a top concern and priority to us not only for the territory intended for the school but also for the entire territory of the commune.

As things stand at the moment, we have already made improvements in this respect and by the start of the next year we plan to organize such a thing on the basis of a well-conceived project.

Mayor of Commune

Fatos Rexha