E4010

Republic of Yemen

Ministry of Education

Public Works Project (PWP)

Basic Education Development Project (BEDP II)

ENVIRONMENTAL MANAGEMENT PLAN (EMP)

August 2012

Introduction:-

The Basic Education Development Project (BEDP) Phase II follows the successful implementation of Phases I. It consists of a grant from the Catalytic Fund equivalent to US$ 65 million. It is also part of several other education programs that are ongoing in Yemen such as the Education for All - Fast Track Initiative (EFA/FTI) Phase III and the Secondary Education Development & Girls Access Program (SEDGAP). All these programs are within the "National Basic Education Development Strategy" (NBEDS) supported by the Yemen Education Development Partners (DPs').

Main Objectives of BEDP II:-

Project Development objective (PDO). The overarching objective at the program level was: to assist the Government of Yemen in providing equitable learning opportunities in basic education for increased student learning achievement. Given the specific focus of BEDP II on quality issues, the proposed Project Development Objective is: to assist the Government of Yemen in improving student learning in basic education. This objective would be achieved through a mix of interventions, some at the national level and some in targeted areas or schools, organized in three components: (i) Learning environment; (ii) Quality of teaching; and (iii) Institutional capacity.

The Components:

Component 1: (Learning environment, $31 million):- The objective of this component is to provide learning opportunities while improving learning conditions in basic education in targeted areas and schools. The project will finance: (i) extension and necessary furniture and equipment to reduce overcrowding in some urban schools (about 500 additional classrooms) and improve learning environment for children through rehabilitation of about 150 cluster schools; (ii) interventions to promote equity through the recruitment and training of about 1000 rural female teachers, expansion of the BEDP CCT program, distribution of learning materials; (iii) support to the fathers and mothers councils to strengthen school-based capacity and community participation; and (iv) support to the development of an ECE policy framework and associated operational plans.

Component 2: (Quality of teaching, $29 million):- The main objective of this component is to improve students reading skills in early grades and more generally to improve teaching practices in the classroom. The MOE is planning to undertake a comprehensive curriculum reform aiming at improving student learning in languages, Math and Sciences. It was agreed that BEDP II will support the MOE in addressing the gaps in reading skills which is identified as the first priority. This component will finance a comprehensive set of activities, covering the development of curriculum, teaching and learning materials and teacher training, with a goal to improve the acquisition of key reading competencies at grades 1-3. The project will also support the MOE effort in improving teaching practices through training of teachers, supervisors, headmasters and counselors. This component includes a student learning assessment intervention aiming at: (i) establish a student reading skills testing at grade 3 which will be used to evaluate the impact of related interventions; and (ii) build the capacity of the MOE in student assessment.

Component 3: (Institutional capacity, $10 million):- Building on the interventions initiated under BEDP, the purpose of this component is to support the development of the capacity of the MOE to effectively and efficiently manage resources to deliver quality education services. More specifically, this component will support: (i) the implementation of the MOE restructuring designed under BEDP; (ii) the implementation of the EMIS developed with BEDP support; (iii) improve the capacity of the MOE evidence-based policy planning and assist in designing a comprehensive teacher policies framework; and (iv) the development and

implementation of a communication strategy for the MOE. In addition this component will finance project management costs.

Type of activities expected:-

Although an important amount of preparatory work is still needed during appraisal, the activities which may have impacts on environment would be mainly the school construction, expansion, and rehabilitation under the component 1. The MOE is expected to prepare the following to provide background rationale to some key activities, refine and specify targets for the interventions:

1) School infrastructure plan: provide a short document presenting: (i) student enrolment projections for 2013-2017; (ii) projected needs in new classrooms to respond to additional numbers of students; (iii) projected needs in new classrooms to reduce overcrowding (at the national level); (iv) projected needs in school rehabilitation; (v) estimated unit costs for school construction, furniture and equipment (new and extension) and total estimated investment.

2) Extension of overcrowded schools in selected urban areas: Based on the school infrastructure plan, the MOE will identify the governorates (**Sana, Aden, Taiz and Ibb** have been pre-identified), determine criteria to select priority/overcrowded schools to be targeted and prepare a list of such schools including basic information such as enrolment (boys/girls), grades taught, number of classrooms, number of shifts, etc.

3) Cluster Schools: MOE will prepare a note presenting the rationale behind focusing on cluster schools as well as the geographical scope and criteria for the selection of the 150 cluster schools to be supported by the project. The list of such schools will be submitted by appraisal. (See the list of activities by components in the Appendix 1)

Potential Impacts:-

The potential adverse health and environmental impacts are expected to occur as a result of school constructions, disputed land ownership, or by locating a school on a flood prone area or on adjacent to a paved main road with heavy traffic. Land ownership disputes should be settled as it is a screening criteria for approval of the sub-projects, and new schools should never be constructed near a flood prone area. If a school is to be positioned in a flood prone area, then all precautions should be taken during the design stage to ensure the safety of the structure and access to it, and the students and school personnel while being in the school or while arriving or leaving the school. Increased dust levels during excavation and preparation of construction sites, as well as increased levels of noise and vibration and a higher possibility of accidents should be addressed through proper construction procedures and requirements specified in the contract documents.

During the implementation of the BEDP I, it was learned that lack of sanitation scheme and lack of access to water sources could lead to the mismanagement of the sanitation facilities therefore causing negative impacts on the school environment and students especially the girls. Septic tanks were applied for the needed cases where schools have no means of sanitation. The septic tanks were followed by cesspit, or in cases of rocky areas, with either perforated pipe or another collection chamber after the septic tank. The sludge is frequently evacuated and discharged from septic tank onto sludge drying beds and used as a bio fertilizer or soil conditioner by local farmers. The collected wastewater from the collection chamber is evacuated when the septic tank is full. However, the inappropriate management of septic tanks could cause negative impacts on the environment.

The table below can be illustrated as follow:
- Note in the first column the potential impact categories which contains all the possible effects, has been developed fields of: land use (with effects accompanying in this field), community (with effects accompanying in this field), health (with effects accompanying in this field), ambient air (with effects

accompanying in this field), and safety (with effects accompanying in this field).
- In the second column method impact identification by using certain specific components listed in the sub columns (Checklist, Matrices, Networks, overlays &GIS, Professional Experience, Other).
- In the third column is the impact analysis, using certain specific components listed in the sub columns (Professional Judgment, physical models permutation, case studies & qualitative comparisons, other).
- In the fourth column is determined by the type of impact in the design phase.
- In the fifth column is determined by the type of impact in the construction phase.
- In the sixth column is determined by the type of impact in the operational phase.

For example:
we can determine the effect of land use which acts in disputes over the use of land for the building site by professional expertise.

We can analyze the impact of land use which acts in disputes over the use of land for the construction site by Professional Judgment.

We find that this effect in the design phase will be a moderate negative impact (--), while this effect in the construction phase will be neutral impact (0), while this effect in the operational phase will be neutral impact (0).

So for the rest of the components of the table from different areas to get out the type of impact in all three phases (design phase, construction phase, and operational phase)

Potential Impact Categories	**Impact identification method**						**Impact Analysis method**				**Design Phase**	**Construction Phase**	**Operation Phas**
	checklist	Matrices	networks	overlays & GIS	Professional Experience.	Other	professionl judgement	physical models perimentation	case studies & qualitative comparisons	other	+++ high positive impact ++ moderate positive impact + low positive impact 0 neutral impact - low negative impact - - moderate negative impact - - - high negative impact		
LAND USE													
Disputes over the use of land for the building site					√		√				- -	0	0
Endangered species					√					√	0	0	0
Sensitive habitats					√					√	0	0	0
Species of commercial importance					√					√	0	0	0
COMMUNITY													
Population					√					√	0	0	+
Structure					√					√	0	0	+
Employment and Labour market	√									√	0	++	+
Distribution of income, goods and services					√					√	0	+	+
Customs, aspirations and attitudes					√					√	0	0	+++
HEALTH													
Increased awareness levels	√						√				0	0	+++
Unhygienic toilet (latrine) conditions	√								√		0	0	- -
Waste disposal	√								√		0	0	-
AMBIENT AIR													
Increased levels of dust, noise and vibration					√		√				0	- - -	0
SAFETY													
More possibility of accidents	√								√		0	---	--

Environmental and Social issues:-

The BEDP II is rated as 'Category B' and The World Bank's safeguard policy on Environmental Assessment is triggered. Project activities relating to civil works are expected to be associated with minor environmental impacts which are expected to be site-specific and temporary in nature and can be mitigated with the implementation of an EMP. The Environmental Management Plan (EMP) used for FTI III has been updated and improved by also taking into consideration the EMP prepared for the PWP IV. All potential environmental issues will be considered during planning, implementation and monitoring stages. Furthermore, necessary mitigating measures to the extent possible will be incorporated in the standard bidding documents and bills of quantities for contractors. The school design prototypes will include measures for ensuring availability of water supply for students, and school hygiene at all times. Such measures could include selection of site to the extent possible near water sources, and addition of rooftop rainwater harvesting measures. Similarly, adequate sanitation systems will be included in the design including upgrading of existing system for school that are to be rehabilitated.

Bayyaras[1] continued to be the preferred option for sanitation in a majority of schools, and will be constructed as per MOE /PWP standards and specifications. A limited number of dry latrines or dehydration toilets would be experimented on a pilot basis in remote school sites where water is either scarce or unavailable. Additionally, flush-toilets will be designed for minimum water usage. The decision of adequate sanitation system will be made using the site-specific EIA checklist (Appendix 2).

Land for new construction is community owned and will be voluntarily donated by the beneficiary communities as part of their contribution. However in any specific problem cases relating to land acquisition, it could be that the World Bank's operational policy on involuntary resettlement OP 4.12 would come into effect and the Resettlement Policy Framework (RPF) that has been prepared, will be applied. Procedure of land donation will be properly documented, signed by relevant individuals from the community and stamped by legitimate authority. This documentation will be filed with the Project Administration Unit (PAU) and Public Works Project (PWP). The land acquisition process will be completed and documented before the start of any construction.

Reforestation Program:-

In line with its current practice during school implementation, the Public Works will include in the contractor's Bill of Quantities (BoQ) for new schools (and for extension and rehabilitation wherever possible) 50 – 100 saplings to be planted within the school vicinity.

Description of Institutional and Implementation Arrangements for EMP:-

Implementation arrangements for BEDP II will be the same as for FTI I & II, where the Project Administration Unit (PAU) will be responsible for overall project supervision and monitoring of all three project components. However, the civil works component for the previous two projects was implemented by Ministry of Education (MOE); while for FTI III, the civil works component will be implemented through the Public Works Project (PWP). This is a positive step as PWP already has significant experience and capacity in implementing a variety of civil works, including schools. It is currently implementing the ongoing IDA PWP-III project.

[1] This is a term used in Yemen, and is widely referred to as soak pit or leaching pit ongoing IDA

An assessment of the PWP capacity for environmental management concluded that it has a well established and staffed environment and water unit. PWP has well established Environmental Management procedures in place that are currently being adopted in all its school construction, which constitutes to more than 50% of its activities. As far as the EMP is concerned, the environmental impacts and mitigation measures are mainly for the civil works component. Most mitigation measures are taken care of within the school designs, while those for construction stages are included in the contracts of both the contractor & supervision engineer.

MoE will be responsible for selection of school site through school mapping. Specific site characteristics such as site prone to earthquakes, historical areas, and flood or on rain water channel (wadi) areas, mountainous or flat areas, noise, and other environmental issues would be identified in the school-mapping database. Site selection for new school construction as well as school designs have been developed in consultation with community representatives, and have taken various environmental and social criteria into consideration. Site identification is conducted by a school mapping committee consisting of the following individuals: community participation officer, engineer, district education officer and school mapping specialist

Lessons Learned from the Past Projects:-

1) The Ministry of Education will raise awareness of environmental and hygiene within the school and the community as part of the educational tasks, the awareness program should include the following aspects:

- Cleanliness of the classroom and the school yard.

- To take care of the trees in the school and to clarify the importance of the role of trees of the human life and the other creatures.

- Allocation of places and collectors to collect the daily garbage from inside and outside the school.

- Aware and educate the students (boys and girls) of the correct method to use the toilets, especially in elementary school, and increasing in the yearly degrees for the student who adhering by the rules of behavior and proper use of school toilets as well as correct environmental aspects at the school.

2) Ministry of Education should hire one or two persons in each school in Yemen (depending on size of school) to dispose the garbage of the school and to clean the school toilets constantly, so the clean toilet all the time is encouraged the student (especially girls) to use it in times of need.

3) Each school in Yemen (rural or urban) must contain a rain water harvesting tank, so water is available to run the toilets of schools properly, and Ministry of Education must work to provide this tank in the old school where there is no way to get the water.

4) increase the number of bathrooms in the schools does not mean solving the problem, but the social workers in the Ministry of Education must apply their duty to educate the public and students that the solution lies in the proper use of toilets and the preservation of the school and the cleanliness is the solution, to spreading the interest to everyone in the school and reflected therefore in the behavior of the community outside the school.

5) In very poor areas of water, should be considered in other types of latrine, such as dry latrine, but after test of pilot projects and measure the results of its success (operating + maintenance + environmental impact), in the case of complete success then encourage and educate students of schools of these areas to use these type of latrines in the right way.

6) Ministry of Education is responsible to carry out operation, maintenance and periodic monitoring of schools in the broad sense to include the school building and staff and materials needed, where the Ministry of Education is the official body in the short term and long term after receiving the building of the party that implement the school.

7) Issue interest of the environmental impact and how to mitigate the effect **before, during and after** the implementation of any development project, (large or small) in the planes of all the companies (either internal or external) and ministries that implement these projects in Yemen.

Mitigation Plan:-

The PWP have adopted practical steps towards the EMP implementation, which ensures compliance with the EMP. The following steps will also be adopted by BEDP II. In the tender document, item No. 71112 was introduced in table of quantities and specifications under the title of: "Mitigation measures during the implementation period". In this item the bidders are obliged to include the cost of this item as a lump sum (Appendix 3-1&3-2). Moreover during the construction, the PWP site supervisor is expected to complete a Mitigation plan (Appendix -4) which will include mitigation measures that were undertaken during the construction.

Safety measures to protect students from traffic accidents should well be considered in the design, if the school is to be located on a main road. Rails along sidewalks (should be included in the design if none exists) should be fixed along the roadsides extending at least 10 m. on each side beyond the width of the school from both sides. Signposts to inform drivers of a school existence on their way should be fixed on both sides of the road 1 km. distance from approaching the end of the school width from the two directions of the traffic. Speed bumps should be built on the road 50 m from the farthest width ends of the school building to control the speed of vehicles passing in front of the school. Zebra crossing markings should be provided on the road for the safe crossing of the students. Schools built in hot regions, with electricity services provided, should have fans installed in the rooms, and if possible, drinking water coolers can be installed to provide cool drinking water for the students. Steel mesh to protect students from escaping from the windows should be implemented as well as screen mesh to prevent against mosquitoes.

It is recommended to build toilets with new schools or with extensions, especially if the area is served with a water supply and sanitation sub-project which could be really used for that purpose. School designs should comply with design standards already established by the Ministry of Education (for the main city: one toilet/60 students (boys), and one toilet/60 students (girls), and for the ruler school: three toilets/6classrooms (boys), and four toilets/6 classroom (girls), and one toilet for the handicaps.

After the completion of a school with sanitary facilities, the school could be taken as the example for a safe sanitation system. PWP-4 can arrange with the school management to encourage the students to keep the toilets clean, through holding competitions between classes and offering "Good Conduct" marks or prizes as incentives for the winning class or students. Science and social studies classes can be utilized to convey health and hygiene education messages and the children can be active advocates carrying those messages to their homes. The health unit staff and local NGOs can be also approached to play an active role in spreading health messages on safe sanitation and improvement in general health conditions in the community.

Monitoring and Reporting:-

Monitoring of EMP implementation is through regular reporting system (on a monthly basis) in addition to regular site visits. PWP staff and supervision engineers have already received capacity building (training) for EMP monitoring & follow-up through the Public Works Project. For FTI III, contractors engaged by PWP will also be trained accordingly.

Furthermore, the PAU will also conduct regular site visits as part of its monitoring responsibilities. In terms of reporting, MOEs PAU in its bi-annual progress report will include issues related to EMP implementation with details on environmental issues encountered if any, and mitigation measures applied. The matrix in the appendix-5 shows the monitoring plan.

PUBLIC CONSULTATION:

Since this is Category "B" project, the Government of Yemen has undertaken consultation processes, informational campaigns and training sessions for some of the sub-projects as part of the implementation arrangements. All of the sub- projects are demand driven based on some form of community participation. Although the nature of these public consultations will ultimately be determined during the project design process, general guidelines and suggestions are given under this EMPs. This EMP will be disclosed by the World Bank and the PWP-PMU, and sub-project EIAs/EMPs will be disclosed locally and nationally by PWP-PMU. As a part of the EMP of the BEDP II, the public consultation workshop was held on August 13, 2012, in the main hall of Ministry of Education –Sana'a, and here below a summary of the comments/ concerns received and the list of the participants(with organization name):-

a) Summary of interventions and the opinions of the participants:-

Through discussions of the EMP submitted by the Public Works Project, here is summary of the most important key points raised by the participants, reflected in the final version:

1 –MoE must prepare a Guide system in environmental management, hygiene and safety in schools is used as a practical tool to help the school to achieve continuous improvement in environmental management, health, and safety (MoE responsibility).

2 - Environmental plan should include the safety and validity of building through the selection of environmentally appropriate location remote from floods and landslides and seismic zones and also away from the congestion of population and traffic (It is part of the EMP).

3 - Design of school should included intense security and safety in terms of fire fighting systems and emergency evacuation, emergency and safety guidelines (Design will solve the problem).

4 – The school must have permanent water source and system of rain water harvesting (Rain water harvesting tank and looking for other water sources)

5 – Add suitable facilitates for collecting the solid and liquid wastes and also remnants of school laboratories to avoid the environmental contamination (Design should solve the problem).

6 - Re-consider the design of school's bathrooms in terms of materials, shape, and site (Design should solve the problem).

7 – Selecting good quality materials for the latrines (taps, tiles...etc) (Design should solve the problem).

8 - The type of construction and design of the school is not suitable with the surround

environment, climate, and social aspects of each construction zone (Design should solve the problem).

9 – Strengthen the involvement of beneficiaries in the planning, operation and maintenance of school projects to ensure the sustainability of the project (It is part of the EMP).

10 - Adopting the term of integrated school building (Integrated intervention).

11 - Focusing on the environmental awareness to the teachers and students (MoE responsibility).

12 - The school curriculum must contain the issue of the environment (MoE responsibilities).

13 - Strengthen the role of the extension specialist in schools (MoE responsibilities).

14 - MoE must take into account the growth rates for building schools

15 - Focusing on the selection of the good contractors and inclusion of bad contractors in the blacklist (Procedures).

16 - School mapping is not distributing the school appropriately (MoE responsibilities).

17 - The type of construction and design of the school is not suitable with the surround environmental, it is required to have the suitable design for each climate and topography (mountains, coasts, deserts…etc) (Design should solve the problem).

18 - Reducing the construction costs and improving the school environment (Design should solve the problem)

19 - Learning from past to apply the environmental aspect in the construction of schools (Design should solve the problem)

20 - There is no operating budget for the schools to ensure the success of the environmental aspects (Government responsibilities).

21 -Be away from the central designs.

22 - The plan (EMP) must include the private schools (MoE responsibilities).

b) List of participants of the Public Consultation:

No	Name		position
1	Dr.Abdullah A No'oman	M	Water &environmental –Engineering Faculty –Sana'a University –Sana'a
2	Eng. Muneer M Al-gahafi	M	Ministry of water &Environment Sana'a
3	Dr.Ryadh M Al-Shamery	M	Ebb University-Ibb
4	Jaleelah M Shahan	F	Head of the Girl's teaching department-Dhamar
5	Mohamed Y Al-Fakieh	M	Head of the society participation -Dhamar
6	Fadhel M Al-Ashwal	M	Head of the fathers council of Al-Methaque school -Dhamar
7	Eng. Fadhel A Al-Shamery	M	Care organization- Hajjah
8	Eng. Mohamed H H Al-sharafi	M	General director of the design and Implementation of school's buildings
9	Eng. Abdullah Atef	M	Eng. Of Civil activities (PAU)
10	Dr. Fatemah Qahtan	F	SOUL organization
11	Nada Abdullah Fakher	F	SOUL organization
12	Radhiah H A Al-Najar	F	General director of the society participation (MoE)
13	**Wafa'a Salam Mohamed Saleh**	F	Head of Social services department
14	Tahani Ali Al-Abiadh	F	Head of the mothers council of Al-Zahra'a school
15	Hayfa'a Taher Al-Sofyani	F	Head of the mothers council of al-Aishah school
16	Eman M N Abdullah	F	Teacher -Ibb
17	Amal M Y A Saylan	F	Biology Teacher -Amran Member of the Environmental Association
18	Ebtisam Saleh Ali	F	Director of the girl's Education department - Aden
19	Rana Abdulkader Mohamed	F	Head of the fathers and mothers council of Dar Sa'ad District-Aden
20	Mohamed Ali Bin Ali	M	Head of the society participation -Aden
21	Gameel Abdoh Hizam	M	Director of procurements and tenders (PWP)
22	Najeeb Faisal Al-Himyari	M	Secretary General of the empowerment of training and sustainable
23	Amin Naji Ahmed Al-Sofi	M	Head of the service section of the society participation-Sana'a
24	Asia Abdullah Al-Mashriqi	F	Director of Comprehensive education (MoE).
25	Awadh Abdullah Hweder	M	Director of school mapping (MoE)-Lahj
26	Intesar Al-Adhi	F	Company of all Girls for development
27	Arwa Jar Allah Jawbah	F	Company of all Girls for development
28	Yahia Hassan Al-Imad	M	General director of school mapping (MoE)
29	Tahani Ahmed Al-Srori	F	Environmental supervisor
30	Ishraque A Oqbah	F	Head of the girl's education and society section (MoE) Head of the mothers council of Al-Barati school
31	Mohamed Naji Khamash	M	Deputy Director General of Basic Secondary Education
32	Abdul Rahman Al-Smawi	M	Head of the planning Department (MoE)
33	Dr. Abdulrahman Al-Sharjabi	M	World Bank
34	Eng. Abdulwali A Al-Shami	M	Water and Environment unit (PWP)

Training and Capacity Building:-

MOE staff will incorporate capacity building and awareness raising particularly in regard to health and hygiene, through public awareness campaigns and training of teachers and school administration. School staff will receive training / awareness on such issues as handling and disposing waste generated in schools and maintaining and managing the toilets in an environmentally acceptable manner.

Operation and maintenance:-

The issue of operation and maintenance of schools including sanitation facilities will be mitigated through involvement of communities at various stages especially site selection, use of standard designs and specifications and implementation of the maintenance program developed under Basic Education Expansion Project (BEEP). The plan which was developed by BEEP regarding maintenance program is as follows: First maintenance manual for school building was developed and printed, engineers for Governorate Education Office (GEOs) and District Environment Office (DEOs) were trained on implementing the school building maintenance; an operational manual (financial and administrative) was prepared and printed for use during maintenance. Training of maintenance teams (head of school teachers, head of Parents Council and teacher in the school) was conducted. All these steps were put in place for establishing the maintenance fund and programs

Appendix (1)
BEDP II - Components, Sub Components and Activities

#	Priority Activities	Cost Estimate (in '000 USD)
Component 1: Providing equitable learning opportunities in basic education to all Yemeni children		
Sub-Component 1.1: Infrastructure and Learning Resources		
1	Extension of schools by adding new 500 classrooms in governorates suffering from overcrowding among schools (identified governorates: Aden, Al Hodeida, Sana'a city, Taiz, Ibb)	13,000
2	Rehabilitation of 150 cluster schools	3,000
3	Provision of equipment and furniture of newly extended/rehabilitated schools [FIGURES AND COSTS TO BE CONFIRMED BY MOE]	3,000
	TOTAL SUBCOMPONENT 1.1	**19,000**
Sub-Component 1.2: To provide adequate/equitable learning opportunities for underserved/disadvantaged/marginalized children in targeted areas		
1	To develop framework for planning, implementation, monitoring and evaluation of incentives programs --- which entails conducting evaluations of intervention aimed at provide equal opportunities through CCT and other incentives programs	270
2	To enhance the education of girls and reinforce its importance among communities through CCT interventions	5,000
3	Rural Female Teacher Contracting (1000 teachers)	2,700
	TOTAL SUBCOMPONENT 1.2	**7,970**
Sub-Component 1.3: To improve the capacity of schools and local community in planning, implementation and monitoring for school-based management in target areas.		
1	To provide support for Fathers and Mothers Council	1,300
2	Support school management and school-based development (about 200 schools including cluster schools)	2,704
	TOTAL SUBCOMPONENT 1.3	**4,004**
Sub-Component 1.4: Early Childhood Education		
1	To develop ECE policy Framework with database	**100**
2	To develop a ECE operational plan based on the national strategy, ready for implementation	
	TOTAL SUBCOMPONENT 1.4	**100**

	TOTAL COMPONENT 1	**31,074**
Component 2: Imroving the quality of basic education and enhancing students' preformance		
Sub-Component 2.1: Reading and writing skills for grades (1-3)		
1	Prepare the language skills curriculum document and references for grades (1-12) and prepare books, teachers' manuals and activities booklets and educational resources for grades (1-3).	447
2	Providing technical training support and assistance for teachers and educational supervisors	14,769
3	Design updated textbooks, manuals and assessment tools during the period March-December 2013	399
4	Improve the services of provision, production and use of tools and techniques to meet the educational requirements for teaching reading and writing skills for students in grades (1-3).	916
	TOTAL SUBCOMPONENT 2.1	**16,531**
Sub-Component 2.2: Improve teaching and learning practices in basic education		
1	Support and develop policies, standards and references for school educational and teaching practices	437
2	Develop and implement training and professional development programs for teachers and support staff according to specialization and need	6861
3	Training of rural female teachers	3720
	TOTAL SUBCOMPONENT 2.2	**11,018**
Sub-Component 2.3: Development of educational evaluation system		
1	Assessment of early reading skills (Grade 3)	730
2	Grade 9 Examinations enhancements to Science, Mathematics and Arabic	892.5
3	Assessment of Science, Mathematics and Arabic	150
	TOTAL SUBCOMPONENT 2.3	**1,773**
	TOTAL COMPONENT 2	**29,321**
Component 3: Developing the Institutional Capacity		
Sub-Component 3.1: Re-structuring of MOE and building the capacity of staff		
1	Finalize the the organizational structure of the Ministry and implement accordingly	500
2	Build the capacity of leadership and administrative cadre at the Ministry at all levels (central and local)	1,000
	TOTAL SUBCOMPONENT 3.1	**1,500**
Sub-Component 3.2: The development of the Educational Management Information System		
1	Finalize and operate the EMIS and build capacity of staff	2645
	TOTAL SUBCOMPONENT 3.2	**2,645**
Sub-Component 3.3: Development of educational evaluation system		
1	Build institutional capacity in planning, monitoring and evaluation at central and local levels (micro-planning and school mapping)	646
2	Annual joint review	150
3	Develop annual plans and build/strengthen financial systems to support educational planning	349
4	Build capacity of staff in planning, monitoring and evaluation for performance improvement	400

5	Development a teacher policy framework	200
6	Develop, implement and monitor a comprehensive communications strategy for the education sector	500
	TOTAL SUBCOMPONENT 3.3	**2,245**
Sub-Component 3.4: Project Management		
	TOTAL SUBCOMPONENT 3.4	**4,028**
	TOTAL COMPONENT 3	**10,418**

Appendix-2 **Public Works Project (PWP)**

Environmental Category "B"-WB Policy 4.01

1- EIA Screening Checklist for Schools (New, Extension, Rehabilitation)

Project Name : ……

Project ID:……

Aspect of EIA	F1s	Checklist questions Will the school(New, Extension, Rehabilitation)	Yes	No	Additional data needed
Sources of Impact		1. be a **New School, or Extension, or Rehabilitation** of an existing one	□	□	□
		2. raise land ownership problems	□	□	□
		3. be close to a market place or a heavily crowded area (attach copy of sketch of proposed location)	□	□	□
		4. be closed to a flood passage	□	□	□
Receptors of Impact		5- improve the health and education conditions for the Students.	□	□	□
		6- enhance the female enrollment in the school.	□	□	□
		7- affect water sources	□	□	□
		8- affect sites of historical or cultural importance	□	□	□
		9- affect the life of surrounding human settlements	□	□	□
		10.affect agricultural land or the life of plants or animals Of special importance.	□	□	□
		11-require the building of toilets	□	□	□
		12. be a source of unpleasant orders .disease transmission due to the improper use or disposal of wastewater from toilets.	□	□	□
Environmental Impacts		13. during construction, present a significant pollution hazard to workers and local communities	□	□	□
		14. once operational, present a significant pollution risk to potable water supplies	□	□	□
		15. not disturb the social structure of the surroundings	□	□	□

Mitigating measures

16. be likely to require mitigating measures that result in the project being financially or socially unacceptable

Comments

I recommend that the subproject will have no significant adverse

~~**- I recommend that the subproject will have no significant adverse**~~ **environmental impacts.**

-I recommend that the subproject may have significant adverse environmental impacts and requires further analysis ☐

All the required mitigating measures have been included within the design and contract conditions for the construction and operation phases.

***REQUIRED NUMBER OF TOILET: ……..**

Name and signature of PWP engineer date

Name and signature of environmental specialist date

APPENDIX 1

PWP Typical Bill of Quantity
Sub-Project Code & Title
Implementation Period

Item 71112 has been added to the BoQ for Environmental Mitigation Measures
(Translation)

Total	Unit price	Qtty	Unit	Item Description	
			Lump Sum	**Mitigation measures during implementation period.** i. The construction site will be defined and protected with temporary wall made of zinc sheets or wooden boards, etc. No persons other than workers or those with permission will be allowed to enter. ii. Construct temporary WC made of zinc sheets or wooden boards with door, and ensure availability of water at all times and maintain cleanliness. All employees and workers on site will use this WC. iii. Each material type will be stored in separate stacks with adequate distance in between to allow movement, ensure removal from site during construction of unwanted material such as pieces of wood, steel, etc. All hazardous material will be stored in a safe place away from workers & visitors. iv. Using equipment producing unwanted/ high level noises will be only during times that are acceptable to the neighbourhood / public. Oil change for equipment will not be left on site. v. Contractor will maintain general cleanliness and avoid collection of water or create swamps by backfilling immediately, dispose garbage & debris regularly. vi. In case of damage of water pipes or any utilities during excavations, the contractor will ensure immediate repairs so that residences are not affected. vii. For sub-projects in sanitation & stone paving of roads, the contractor will take all necessary measures to ensure ease of movement of traffic by organizing work in sections, safety precautions, proper marking and fencing and inform local authorities and neighbourhoods of their plans.	

Appendix -2

Environmental Management Plan for Schools During Construction Phase

Monitoring & Reported by Construction Supervisor on site	Mitigation measures	Potential Negative Impact	Item	
	Making Clear pathways according to site layout design	Movement on site	Safety of Workers & Pub	
	Make suitable fencing	Protect from trespassers		
	Protective clothing, helmets, Proper storage of material, proper support to trenches, good quality scaffolding, keeping site tidy all times.	Accidents to workers & public/ visitors		
	Inform community, avoid working at night, regular maintenance of equipment	Increased noise levels to community	Noise	
	Cover equipment when not using	Affect equipment performance	Dust	
	Spraying site regularly with water especially during excavations and backfill, provide masks	Affect workers health		
	Proper storage or disposal of used oil in cans	Polluting water sources, general health hazard	Spillage of oil during maintenance of equipme	
	Backfill all trenches and low areas that could accumulate water. Ensure all taps are secured	Health risks to workers & community especially malaria	Stagnant water	

	Stop excavating, inform community and PWP head office for further action.	Damage to artifacts, distress to community	Archeological finds / Bur yards	
	Clean site regularly. Remove all debris inside and around site to a safe place as agreed with communities or other distant locations. Construct temporary WC for workers. Provide clean water during construction. Plant No. of trees as per BoQ from beginning of construction and water them regularly	Safety & Health risks & unpleasant appearance	General cleanliness & Appearance	

SCHOOLS				
Item	**Potential Negative Impact**	**Mitigation Measure**	**Implementation Responsibility and Cost**	**Monitoring Responsibility**
Design Phase				
Land use	Disputes about designed project site on privately owned land, or disconcerting areas of public, touristic interest, disturbing wildlife etc.	Discuss the planned site with landowners to get approval or purchase land, or change the design to communal owned land or to land with less expected conflicts.	Local authorities PWP-4 design engineers	PWP Environmental specialist
Health	Lack or failure of sanitation facilities	Add sanitation facilities to the design or upgrade existing facilities.	PWP-4 design engineers	PWP Environmental specialist
Site Selection	**Encroachment/Reduction of green areas**: Site with mature trees and other vegetation that should be saved;	Select location of buildings to avoid the need to cut mature trees and other natural vegetation. Planting new	MoE (school mapping) and PWP-4 design engineers	MoE (school mapping) and PWP-4 design engineers
	Flooding: Site prone to flooding	Avoided through proper site selection criteria. Or address the problem with appropriate site design	MoE (school mapping) and PWP-4 design engineers	MoE (school mapping) and PWP-4 design engineers
	Earthquakes: sites prone to earthquakes	Address the issue with appropriate engineering for seismic resistance.	MoE (school mapping) and PWP-4 design engineers	MoE (school mapping) and PWP-4 design engineers
Sanitation	Proper attention to sanitary services for building occupants and students. Current issues include: lack of toilets in design, shortage of water, odors due to poor engineering of the system, risk of underground water contamination due to poor design of Septic tanks, etc. furthermore, it is now established that availability of toilets is a factor in girls' attending school.	The standard school designs being developed would include toilets for new as well as for rehabilitated schools. The new designs would include appropriate solution to the various sanitation problems currently experienced based on the prevailing conditions at the school site.	MoE(design and Implementation of school's buildings department)	PWP-4 design engineers
Construction Phase				
Noise	Increased levels of noise and vibration	Inform nearby houses. Avoid work during night hours.	Implementing contractors	PWP Environmental specialist

Archaeo-logical find	Damaging important and/or precious archaeological finds	Training will take place for crew/supervisors, to spot potential archaeological finds. In the event of a potential find, liaise with the archaeological department at MoC or a local university for quick assessment and action.	PWP supervisors	PWP. MoC
Air	Increased dust during excavation and burial of pipes.	Inform nearby houses. Protect excavation works with proper shielding scaffolds. Spraying water during excavation might reduce the dust. Workers wear protective masks	Implementing contractors Local authorities, the community (BoQ)	PWP Environmental specialist
Safety	More possibility of accidents	Protect work zones with portable scaffold sheets. Provide proper support for trench sides to protect against their collapse. Improve the readiness of health facilities in the region to deal with emergency cases. Provide workers with protective clothing.	Implementing contractors Local authorities with MoPHP	PWP Environmental specialist
Asbestos products:	Insulation, roofing materials, pipes etc may be found in old facilities.	Asbestos products would be barred from use in new project sites. Asbestos in existing buildings would be removed and replaced by concrete structure.	PWP	PWP
Potentially toxic lead-based paints:	It is generally believed (but not yet verified) that old schools used lead-based paints and products (grazing putty).	In existing schools where lead-based paints have been used, special caution would be taken to neutralize the exposed lead paint by an appropriate method. In new sites, lead-based paints would not be used.	PWP	PWP
Spillage of oil during maintenance of equipment	Polluting water sources, general health hazard	Proper storage of disposal of used oil in cans	PWP (BoQ)	PWP
Stagnant water	Health risks to workers & community especially malaria	Backfill all trenches and low areas that could accumulate water. Ensure all taps are secured	PWP (BoQ)	PWP

General cleanliness & Appearance:	Safety & Health risks & unpleasant appearance	Clean site regularly. Remove all debris inside and around site to a safe place as agreed with communities or other distant locations. Construct temporary WC for workers. Provide clean water during construction. Plant No. of trees as per BoQ from beginning of construction and water them regularly	PWP (BoQ)	PWP
Operation Phase				
Health	Improper waste disposal can cause spreading of diseases Sanitation components and school's Latrines are not working (blocked, dirty, damaged….etc)	Instruct staff and student on the use of the proper way of waste disposal. and Ministry of Education should hire one or two persons in each school in Yemen (depending on size of school) to dispose the garbage of the school and to clean the school toilets constantly	MoE	Environmental Specialist(MoE) Local NGOs
School Environment (trees and green cover)	Trees and the green cover are disappeared	The Ministry of Education must raise awareness of environmental and hygiene within the school and the community as part of the educational tasks, the awareness program should include the following aspects:- (1)Cleanliness of the classroom and the school yard. (2) To take care of the trees in the school and to clarify the importance of the role of trees of the human life and the other creatures. (3)Allocation of places and	MoE	Environmental Specialist(MoE) Local NGOs

		collectors to collect the daily garbage from inside and outside the school. (4) Aware and educate the students (boys and girls) of the correct method to use the toilets, especially in elementary school, and increasing in the yearly degrees for the student who adhering by the rules of behavior and proper use of school toilets as well as correct environmental aspects at the school .		

Appendix -5 **Monitoring**

						Cost		Responsibility	
Phase	**What** **Is the parameter to be monitored?**	**Where** **Is the parameter to be monitored?**	**How** **Is the parameter to be monitored/Type of monitoring equipment?**	**When** **Is the parameter tobe monitored-frequency of measurement or continuous?**	**Why** **Is the parameter to be monitored (optional)?**	**Install**	**Operate**	**Install**	**Operate**
Site selection	**<u>Removal of mature trees</u>**: this is possible if the site is too small with mature trees in the way.	At existing school sites in need of expansion, or at new sites.	Site inspection and surveys of sites	Prior to the selection 'of a school site or commencement of works.	To ensure protection of mature trees that would take years to grow back. In extreme cases where trees must be removed, they should be replaced by any new planting.	Minor costs for new planting to be included in BoQ	NA	MoE and District education office	NA
	<u>Flooding</u>	District maps and land survey records.	Records of flooding.	During the site selection process.	Sites prone to flooding are too costly to render usable.	BoQ	NA	MoE and District education office	NA

	Earthquake:	District maps and land survey records.	Official records of earthquakes.	During the site selection process.	Earthquakes can cause buildings to collapse unless proper design has been applied	During the building design specification stage.	NA	MoE	NA

						Cost		Responsibility	
Phase	**What** **Is the parameter to be monitored?**	**Where** **Is the parameter to be monitored?**	**How** **Is the parameter to be monitored /Type of monitoring equipment?**	**When** **Is the parameter to be monitored- frequency of measurement or continuous?**	**Why** **Is the parameter to be monitored (optional)?**	**Install**	**Operate**	**Install**	**Operate**
Design	Sanitation: Appropriate and Functional design.	Architectural Drawings and specification.	Checked by experienced engineers for compliance with appropriate practices.	During the preliminary design stage	Improper sanitary Engineering can cause contamination of ground water. Students will not use the facilities unless they are functioning properly.	MoE financed through the BEDP	NA	Private firms	NA

Construction	Use of hazardous materials: (lead-based paints, asbestos products) Lead-based paints and painted materials:	Specifications in construction documents For old and new buildings on site during construction	Checked by MoE engineers approving the specifications Ensure proper supervision by experienced site engineers.	Before construction documents are completed and issued to contractors During construction activities.	To ensure that hazardous materials are not used	Local Authority and Schools Included in construction contracts	NA	Contractors should follow instructions	Supervision Engineers of MoE

						Cost		Responsibility	
Phase	**What**	**Where**	**How**	**When**	**Why**	**Install**	**Operate**	**Install**	**Operate**
	Is the parameter to be monitored?	**Is the parameter to be monitored?**	**Is the parameter to be monitored /Type of monitoring equipment?**	**Is the parameter to be monitored- frequency of measurement or continuous?**	**Is the parameter to be monitored (optional)?**				
Construction	appropriate disposal of wood and other materials painted with lead-based paints (old). Lead based paints will not be used in construction activities under the project.	and during site selection activities (for new buildings). In the bidding document specifications for all buildings.	Strict penalties for violators.	Before construction documents are completed and issued to contractors During construction activities.	Lead paints are toxic and have been known to cause brain damage to children	Asbestos was moved from old school buildings and therefore there are no schools with Asbestos.		in the specifications and construction documents by the project unit.	and consultant recruited by the PAU

	Proper execution of sanitary facilities: To ensure proper installation of sanitary facilities and sewage system	At existing school sites in need of rehabilitation - expansion, or at new sites.	Proper supervision works during construction	During construction, particularly the excavation stage of the works.	To ensure proper design engineering and installation to avoid spillage and water contamination	PWP (supervision, Management and control costs will be covered by BEDP II)	None	MoE and DEOs	
Operation	Hygiene check for sanitation facilities	Sanitation components and school latrines	Visual inspection	One year after the start of operation	To ensure that we have good school Environment	Environmental Specialist MoE Local Authorities Local NGOs The community	MoE	-	MoE