



United States Agency For
International Development



The Hashemite Kingdom of Jordan
Ministry of Education

Jordan Schools Construction & Rehabilitation Program

Scoping Statement for Middle Governorates Schools November 2007

This Publication was produced for review by the United States Agency for International Development. It was prepared by CDM International Inc. in Association with Engicon.

USAID Contract No.: 278-C-00-06-00326-00
CDM PROJECT NO.: 3029-53947

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ACRONYMS AND ABBREVIATIONS

DOA	Department of Antiquities
EA	Environmental Assessment
EMP	Environmental Management Plan
MOE	Ministry of Education
USAID	United States Agency for International Development

1. INTRODUCTION

The Ministry of Education (MOE) of Jordan with the co-operation of the United States Agency for International Development (USAID) is implementing the Jordan Schools Construction and Rehabilitation Program. The Program aims to provide by 2008 up to 28 new schools with approximately 24 classrooms each. This will immediately benefit about 18,200 students. The Program will also renovate around 100 existing schools. For the middle governorates of Jordan, there are 15 proposed new schools in Amman, Russeifeh, Zarqa, As Salt, Ein Albasha, Madaba, and South Shouna. CDM International is managing the project in cooperation with Engicon for environmental studies.

In accordance with Jordanian and USAID regulations, an Environmental Assessment (EA) for the proposed project is being prepared. The EA process includes holding a Scoping Session to identify and discuss the significant environmental issues associated with the project activities. Participants in the session generally include representatives of government, public and private institutions, as well as other stakeholders that have expertise or interest in the project's environmental issues and uses of the school buildings, such as teachers, students, principals, parents, and non-governmental organizations. The results of the session are incorporated into this Scoping Statement, and will be included into the Environmental Assessment report.

1.1 SCOPING OBJECTIVES

The objectives of the Scoping Statement, as required by USAID environmental regulations 22CFR 216.3 (a) 4, are summarized as follows:

- Determine the scope and significance of issues to be analyzed in the EA
- Identify the significant and non-significant environmental issues that will be analyzed further in the EA, including direct and indirect environmental effects.
- Provide a schedule and methodology for preparation of the EA.
- Provide a description of the environmental analysis to be conducted and the disciplines required.

1.2 DESCRIPTION OF STUDY AREA

The study area covers a wide region represented by the middle governorates of Jordan, namely Amman, Madaba, Zarqa, and Balqa (Figure 1.15 on the following page). What follows is a brief review of the elements that will be covered in greater detail in the EA.

1.2.1 Population and Housing

The project components will be located in the middle governorates of Jordan, namely Amman, Madaba, Zarqa, and Balqa. This means that the project will serve a large portion of the population of Jordan. The table that follows summarizes the population distribution in the project area (Table 1.2).

Table 1.1: Projected Population Distribution by Area and Sex, 2007

District	Males	Females	Total	% Urban
Qasbet Amman	309,330	290,028	599,358	100
Marka	270,033	254,740	524,842	100
Sahab	32,856	29,017	61,862	77
Salt	57,697	60,906	118,603	67
South Shuneh	22,563	19,272	41,835	56
Ein Al Basha	71,577	67,612	139,189	77
Zarqa	245,310	234,030	479,340	94
Russeifeh	147,223	138,438	285,661	99
Madaba	55,972	52,569	108,541	69

Source: Based on Department of Statistics Census of 2004 and projected population growth rates.

Figure 1.1: Location Map of Jordan and the Middle Governorates



1.2.2 Climate

The climate varies in the areas under consideration, since the project includes schools that are distributed in a wide region. Table 1.3 shows the selected climatic information for relevant stations provided by the Jordan Metrological Department.

Table 1.2: Climatic Information

Parameter	Deir Alla	Salt	Sweileh	Q.A.I. Airport	Madaba	Zarqa
Mean maximum temperature (°C)	29.8	21.0	20.1	23.2	22.0	25.1
Mean minimum temperature (°C)	17.4	12.5	11.3	7.7	10.6	11.4
Total annual rainfall (mm)	283.2	551.5	488.2	176.8	350.2	144.7
Mean annual relative humidity (%)	65.7	64.4	65.1	75.6	-	71.0
Prevailing annual wind direction (°)	351	-	-	288	-	-
Mean annual wind speed (Knots)	3.9	5.0	6.2	6.6	4.9	2.3

Source: Jordan Meteorological Department, Jordan Climatological Handbook

1.2.3 Economic Activity

The economic activity ranges in the areas under concern. For example the unemployment rates in Madaba, at 15.5%, are significantly higher than those in Amman and Zarqa, at 12.1% and 12.3% respectively. Moreover, female unemployment rates are much higher than those of males (Table 1.4). It is worth mentioning that the whole Kingdom's unemployment rate is estimated at 14.

Table 1.3: Unemployment Rate by Sex and Governorate

Governorate	% Male	% Female	% Total
Amman	9.9	22.5	12.1
Balqa	12.1	22.9	14.1
Zarqa	10.7	25.7	12.3
Madaba	13	25.8	15.5

Source: DOS, Employment and Unemployment Survey – Annual Report 2006

Table 1.5 below summarizes the type of activity in the governorates of concern as for the year 2006. Numbers given are in percent distribution. It can be seen that Amman has the greatest proportion of professionals. On the other hand, it can be noticed that a high percentage of workers in Zarqa are craftsmen, plant and machine operators, and trade workers; this is expected since Zarqa is known to be an industrial city. Moreover, a high percentage of workers in the governorates of Balqa and Madaba have an elementary occupation.

Table 1.4: Activity Status by Governorate

Type of Activity	Amman	Balqa	Zarqa	Madaba
Legislators, Senior Officials & Managers	0.1	0.1	0	0
Professionals	24.2	18.4	12.6	18.4
Technicians & Associate Professionals	11.7	12.1	10.3	10
Clerks	5.4	6.6	4.9	8.5
Service Workers, Shop & Market sales Workers	17.5	10	15.5	10
Skilled Agricultural and Fishery Workers	0.8	5.4	1	3
Craft and related Trade Workers	18.2	11.9	22.2	8.8
Plant, Machine operators and Assemblers	11.8	11.9	16	12.1
Elementary Occupation	10.3	23.7	17.5	29.2

Source: Department of Statistics, Employment and Unemployment Survey, Annual Report 2006

1.2.4 Education

For the scholastic year 2005/2006, the number of students and schools for the relevant Education Directorates are found in Tables 1.6 and 1.7 below. Table 1.6

shows that the number of female students is always higher than the number of males and that the directorates in Amman and Zarqa have the largest number of students.

Table 1.5: Distribution of Students in MOE Schools by Directorate and Sex

Education Directorates	Total	Female	Males
Amman 2	69,564	36,645	32,919
Amman 3	66,046	36,340	29,706
Amman 4	85,398	46,202	39,196
Madaba	21,284	10,804	10,480
Zarqa 1	90,082	46,950	43,132
Russeifeh	52,677	27,247	25,430
Salt district	26,639	13,806	12,833
South Shouneh	8,464	4,065	4,399
Ein Al-Basha	18,891	9,797	9,094

Source: Ministry of Education, Education Statistics for Scholastic Year 2005/2006

Table 1.6: Distribution of MOE Schools by Type and Directorate

Education Directorates	Total	Females	Males	Co-ed
Amman 2	162	41	61	60
Amman 3	103	31	42	30
Amman 4	127	43	48	36
Madaba	112	15	29	68
Zarqa 1	310	85	70	155
Russeifeh	167	29	42	96
Salt district	197	21	31	145
South Shouneh	41	6	13	22
Ein Al-Basha	113	17	26	70

Source: Ministry of Education, Education Statistics for Scholastic Year 2005/2006

Co-ed is defined as a school hosting girls and boys between the 1st and 3rd grade and girls only between the 4th and 12th grade.

1.3 PROJECT DESCRIPTION

The project under study consists of the construction of 15 new schools in the middle governorates of Jordan. The schools will be distributed as shown in Table 1.1 and are described in the sections that follow.

Table 1.7: Name and Location of Proposed Schools

Name of School	Directorate
Um As-Somaq Secondary Female School	Amman 2
AL-Bnayyat Secondary Male School	Amman 2

Name of School	Directorate
Um Qsir Basic Male School	Amman 3
Sahab Basic Male School	Amman 3
Reyadh Basic Male School	Amman 4
Dahiet Amir Hassan Basic Co-ed School	Amman 4
Saed Bin AbiWakas Basic Male School	Amman 4
Al-Qadesiah Secondary Female School	Amman 4
Aj-Jofah Secondary Male School	South Shouneh
Al-Qabesy Secondary Co. School	As-Salt
Al-Qadesiah Secondary Co. School	Ein Al Basha
Jabal Tareq Basic Male School	Zarqa 1
Safeiah Basic Co. School	Russeifeh
Shajaret Ad Dur Basic Female School	Russeifeh
Madaba Basic Co. School	Madaba

1.3.1 Amman Governorate

1.3.1.1 Um As-Somaq Secondary Female School

This school is located in Amman-2 directorate on a land of 5000 m². It is planned to be a secondary female school for grades 1st through 12th, with 24 classrooms. The purpose of constructing this school is to replace the surrounding rented schools. In addition, there is a lack of governmental schools nearby, where the nearest school is Aisha Bent Abo Baker Secondary School which is 5 km away, and students travel long distances on a daily basis seeking education.

Figure 1.2: Land Area of Proposed Um As-Somaq Secondary Female School



1.3.1.2 Al-Bnayat Secondary Male School

This school is located in Amman-2 directorate, specifically in Na'our area. It is a secondary male school which will include grades ranging from 7th till 12th, with 24 classrooms. The Ministry of Education justifies the need for this school due to the evacuation that will take place in the surrounding rented schools, in addition to the fact that the nearest school to the area under consideration is Marj Al-Hamam Secondary Male School which is 7 km away.

The school will be constructed on a land plot of 5000 m², which is suitable for a medium-size school building, and is located on a secondary street within a residential area where the cars speed is medial. The land is situated opposite Al-Bnayat Basic Male School. It is believed that there is a moderate need for constructing the school since the area is growing rapidly. In addition, the proposed location can also serve some students who are residents of Amman-3 directorate.

Figure 1.3: Land Area of Proposed Al-Bnayat Secondary Male School



1.3.1.3 Um Qsir Basic Male School

This school is located in Amman-3 directorate, specifically in Al-Mgablin area. It is going to be a basic male school for grades 4th through 10th, with 24 classrooms. The school will be constructed on a land of 9000 m². It is expected that constructing this school would solve the double shifting and crowding in surrounding schools such as Um Qsir/Mgabalin Secondary Male School. In addition, the school will have a Gymnasium.

Figure 1.3: Land Area of Proposed Um Qsir Basic Male School



1.3.1.4 Sahab Basic Male School

This school is located in Amman-3 directorate, in Sahab, on a 6000 m² land. Its type is basic male, and will include grades 1st through 10th, with 30 classrooms. The MOE intends to construct this school in order to replace the current rented school: Othman Bin Affan Basic Male. Moreover, this school will play a role in solving the crowding problem in surrounding schools such as Sahab Housing Basic Male School and Heteen Basic Male School. Therefore, it is clear that there is a need for this school, which is expected to relieve pressure from four rented boys' schools in the area.

Figure 1.4: Land Area of Proposed Sahab Basic Male School



1.3.1.5 Abd Al Moneam Reyadh Basic Male School

This school is located in Amman-4 directorate, in Marka and is planned to be a basic male school including grades 1st through 10th with 23 classrooms. It is believed that this school would help in solving the problem of crowding in surrounding schools such as Al-Kindi Basic Male and Al-Shareif Hussein Secondary Male, especially after the evacuation, which will take place in the rented schools. The suggested location for this school will serve only the mentioned schools, in addition to Abd Al Moneam Reyadh School. The school will be constructed on a 5000 m² land, where an old factory exists. This means that the structure needs to be demolished.

Figure 1.5: Land Area of Proposed Abd Al Moneam Reyadh Basic Male School



1.3.1.6 Dahiet Amir Hassan Basic Co-ed School

This school will be located in Amman-4 directorate on a 9000 m² land. Its type is Basic Co-ed, with 29 classrooms and 2 kindergartens and will include grades 1st through 10th. The school will also have a gymnasium. It is believed that this school will solve the crowding and double shifting problems in surrounding schools such as Dahiet Amir Hassan Basic Co. Female and Dahiet Amir Hassan Basic Co, as well as replace the rented schools. In addition, a new region called Dahiet Al-Aqsa nearby is growing rapidly and is in need of basic schools.

Figure 1.6: Land Area of Proposed Dahiet Amir Hassan Basic Co-ed School



1.3.1.7 Saed Bin Abi Wakas Basic Male School

This school will be located in Amman-4 directorate. It is a basic male school which will include grades from 1st through 6th, with 24 classrooms. The purpose of this school is to solve the crowding problem in surrounding schools such as Abo Obaida Basic, Naifa Secondary, Muthana Bin Muslim, and Bab Al-Wad Secondary. Moreover, the fact that Hashmi area nearby is growing rapidly, and since there are no vacant plots to build schools, selecting this plot of 5000 m² for building the school adjacent to Abo Obaida Basic seems convenient.

Figure 1.7: Land Area of Proposed Saed Bin Abi Wakas Basic Male School



1.3.1.8 Al-Qadesiah Secondary Female School

This school is going to be located in Amman-4 directorate in Tareq. It is a secondary female school, which will include grades 7th up to 12th, with 28 classrooms. The

school will solve the crowding problem in surrounding schools such as Nahawand. Moreover, some existing classrooms in Al-Qadesiah Secondary School building is quite old and needs replacement.

The school will be constructed on a 5000 m² land plot, where some buildings belonging to the existing school are located and must be demolished. The school currently serves 450 students and is overcrowded. The existing school will therefore be turned into a basic one while the new one will be secondary. It is worth mentioning that the location of the proposed school is strategic as it is located in the center of a highly populated area.

Figure 1.8: Land Area of Proposed Al-Qadesiah Secondary Female School



1.3.2 Balqa Governorate

1.3.2.1 Aj-Jofah Secondary Male School

This school is located in South Shouneh in Aj-Jofah region on a 10,400 m² land. It will be a secondary male school, devoted for grades 1st up to 12th, and it will have 22 classrooms. The school is intended to solve the crowding in surrounding facilities such as Aj-Jofah Secondary Co. In addition, there is lack of schools in the area such that the nearest school, Aj-Jofah Secondary Co., is 3 km away. Moreover, this school is necessary in the region since the rented schools are planned to be replaced; these are Aj-Jofah Basic Co. and its extension and Aj-Jofah Basic Co. Secondary.

Figure 1.9: Land Area of Proposed Aj-Jofah Secondary Male School



1.3.2.2 Al-Qabesy Secondary Co. School

This school is located in Al-Buhairah area in Salt on a 6597 m² land. It is a Secondary Co. School that will include grades 1st through 12th, with 24 classrooms. The justification for selecting the school is to replace a nearby rented school and reduce crowding in Maimouna Bent Al-Hareth Secondary Female School nearby.

Figure 1.10: Land Area of Proposed Al-Qabesy Secondary Co. School



1.3.2.3 Al-Qadesiah Secondary Co. School

This school is located in Ein Al-Basha specifically in Safot on a land plot with an area of 5,385 m². It is a secondary co-ed school which will include grades 1st through 12th, with 27 classrooms and 2 kindergartens. The MOE justifies the high need for

this school in the location proposed with the fact that the area is in a process of rapid growth. Moreover, the nearest basic co-ed school in Safout is Fatima Al-Zahra', which is 2 km away. In addition, a donated school within a Mosque building in a nearby area needs to be evacuated from females and males from grades 1st and 4th to make way for a basic male school. The evacuated students will therefore need to be transferred to another school.

Figure 1.11: Land Area of Proposed Al-Qadesiah Secondary Co. School



1.3.3 Zarqa Governorate

1.3.3.1 Jabal Tareq Basic Male School

This school is going to be located in Az-Zarqa-1 / Jabal Tareq on a land plot of 8000 m². Clearly, it is a basic male school which will include grades from 1st up to 10th, with 23 classrooms. As other schools, it is expected that building this school will help in solving the crowding issue in surrounding schools such as Um Kolthoum and Al-Jaheth Secondary. Moreover, this school is essential for the residents of the area since the nearest school to the area in concern is 2 km away. Nevertheless, it is important to note that the site of the school is quite steep, which will probably have an impact on construction cost.

Figure 1.12: Land Area of Proposed Jabal Tareq Basic Male School



1.3.3.2 Safeiah Basic Co. School

This school is located in Ar-Russeifeh / At-Tatwer 3rd area on 6,000 m² of land. Its type is basic co-ed, and it will include grades 1st through 3rd, with 24 classrooms and 2 kindergartens. It is believed that building this school could solve the crowding in surrounding schools such as Zainab Bent Saddam Secondary School and Al-Bayrouni 2nd Basic School, in addition to solving the double shifting issue in Fatima Az-Zahra' Basic School and Fatima Az-Zahra' Basic Co. School.

Figure 1.13: Land Area of Proposed Safeiah Basic Co. School



1.3.3.3 Shajaret Ad Dur Basic Female School

This school is located in Russeifeh on a 4,131 m² land. It is a basic female school which includes grades 1st through 10th, with 29 classrooms and 2 kindergartens. The school is needed to help solve the problem of double shifting in Jabal Al-Ameer Faysal 1st Basic and Jabal Al-Ameer Faysal 2nd Basic Schools.

It is worth mentioning that the large slope of the land where the school will be built will increase construction costs.

Figure 1.14: Land Area of Proposed Shajaret Ad Dur Basic Female School



1.3.4 Madaba Governorate

1.3.4.1 Madaba Basic Co-Ed School

This school is going to be located in Madaba on a 5,200 m² land. It will include grades 1st through 6th, with 24 classrooms and 2 kindergartens. The nearby rented school will be replaced. Moreover, it will solve the crowding in the surrounding school, which is Ameera Basma Secondary, located 300 m away, where the plot is small, and neither vertical nor horizontal extensions can be added.

Figure 1.15: Land Area of Proposed Madaba Basic Co-Ed School



2. SIGNIFICANT AND NON-SIGNIFICANT ENVIRONMENTAL ISSUES

This section presents the environmental issues for the Project, which were identified prior to and following the Scoping Session. These issues, as well as the methods used to evaluate their significance, are described herein, along with comments made by the participants during the discussion.

2.1 SCOPING PROCESS

The scoping process serves to identify the significant and non-significant environmental issues that will be addressed in detail within the EA. Based on the results of a preliminary Environmental Review, a list of significant environmental issues for the Project was developed. A Pre-Scoping Brief available in English and in Arabic (Appendix A) was distributed to all participants in the Scoping Session. The Brief described the proposed project, as well as the relevant environmental issues that were identified during the preliminary investigations

Invitations to the Scoping Session were sent out to 47 agencies, such that a total of 88 people attended, amongst which were students of grades ranging from 1st till 10th (Appendix B). The session was held on September 3, 2007, from 9.00 am to 2.00 pm, at the Holiday Inn Hotel in Amman. The session was attended and supervised by the Mission Environment Officer, Dr. Amal Hijazi.

Following opening remarks by the MOE and USAID, the Project Manager, CDM, presented the Project Description, focusing on the new learning system and the concept design of the proposed schools. After that, a presentation on the identified environmental issues associated with the project was made by Engicon. This was followed by a discussion period designated for technical issues. The session was held in Arabic language in order to maximize participation of all attendees and remove any obstacles to communication.

The environmental issues presented were divided into three categories: Construction, Socio-economic, and Public Health & Safety. Following an open discussion, the participants met in three breakout groups to discuss the relevant issues in greater detail. The breakout group topics were devoted to the three categories presented earlier. Following presentation of the conclusions in each of the breakout groups, the participants filled out an Environmental Issues Questionnaire (Appendix C).

The Scoping Session allowed people who have an interest in or expertise on the environmental issues pertaining to the Jordan Schools Project to learn more about the project and to voice their opinions on the identified as well as other issues of concern.

2.2 PRELIMINARY LIST OF ENVIRONMENTAL ISSUES

The following is a list of the environmental issues related to the proposed schools that were identified prior to the Scoping Session. The list contains the issues described in the Pre-Scoping Brief and the Environmental Issues Questionnaire:

Construction Issues	Socio-economic Issues	Public Health and Safety Issues
<ul style="list-style-type: none"> Occupational safety and health Worker sanitation Traffic Noise Dust pollution Water demand Soil and water pollution Water stagnation Waste generation Employment opportunities 	<ul style="list-style-type: none"> Interaction between students / classes Student psyche inside the classroom Monitoring of student behavior by supervisors Employment and economic development Land use Archaeological resources Traffic Travel time to and from school 	<ul style="list-style-type: none"> Communicable disease prevention Potable water supply and distribution Sanitary facilities Indoor and outdoor safety issues for students Injury from car accidents Protection from intruders Safety in workshops for males and females Provisions for physically challenged students Earthquake protection measures

2.3 DETERMINATION OF ISSUE SIGNIFICANCE

At the end of the Scoping Session, participants were requested to fill out an Environmental Issues Questionnaire in which they were able to evaluate the identified issues pertaining to the Project, during both construction and operation.

The level of significance of each issue was rated according to an evaluation scheme ranging from "Irrelevant Issue"(0) to "Strongly Agree" (5). The responses were given by filling in from 0 to 5.

Sixty five (65) questionnaires were collected at the end of the Session, compared to a total number of eighty eight (88) participants (excluding the presenters and organizers). However, all the participants of the Scoping Session had the opportunity to voice their opinions on the environmental issues, whether during the open discussion or the breakout group sessions or by handing in written notes. This Scoping Statement incorporates the opinions expressed during discussions and

breakout groups, in addition to the results of the questionnaires, aiming at determining each issue's significance.

In summary, all of the issues that were identified in the Pre-Scoping Brief were rated by the participants as significant, either during construction or operation. Appendix D contains the detailed minutes of the Scoping Session as well as a summary of the questionnaire responses.

2.4 RESULTS OF THE ANALYSIS

Due to the large number of schools under discussion as well as the similarity of the study methodology, the session focused on general issues pertaining to all the schools. Therefore, the sections that follow show the results of the 14 schools together.

2.4.1 Construction Issues

The environmental impacts during the construction phase of a project are usually negative. Fortunately, most of these impacts are temporary and can be mitigated by taking the necessary precautions.

2.4.1.1 Occupational Safety and Health

Seventy five percent (75%) of the respondents agreed and 14% strongly agreed that there are possible risks to the health and safety of the workers onsite, while 6% were neutral concerning this issue.

One respondent thought that workers are exposed to danger regularly. Another pointed out to the importance of communicable diseases if workers were foreigners and that they should have a health clearance in addition to health and safety insurance. Another said that it is essential that the contractor would stick to the general conditions of safety onsite and to provide the workers with all safety equipment. In summary, all respondents agreed on the fact that workers must be provided with the equipment and provision that guarantee their safety

The breakout group concluded the following:

- Assuring the presence of a waste bins for the workers.
- Compliance with the general and special conditions.

- Activate the item of public safety in the contracts of schools by adding it to the specifications.

2.4.1.2 Workers Sanitation

Around 58% of the participants agreed (40% of them strongly) that workers' hygiene on site does have an impact on the environment. In addition, one respondent stated that personal hygiene is important because it could transport diseases and pollution as well. Many respondents emphasized that the lack of sanitary facilities onsite causes pollution and turns the area into an unhealthy polluted environment where insects and rodents can gather and affect the neighbours living there.

The breakout group participants agreed that sanitary facilities should be provided onsite to the workers during construction.

2.4.1.3 Traffic

Ninety four percent (94%) agreed (46% strongly) that generated traffic from construction activities will negatively affect the normal traffic in the area. One respondent stated that the movement generated from traffic will not be exceptional, while another suggested that the negative impact from traffic could be minimized by specifying certain hours for the construction vehicles' movement during the construction period. The rush hour should therefore be avoided. Another suggestion made was in setting up a time schedule for supplying and transporting materials to the site in order to control the traffic situation.

Most respondents agreed that the construction will cause traffic jams especially in the crowded residential areas. One respondent suggested employing a person who can organize the movement of cars during construction.

2.4.1.4 Noise

For noise resulting from construction activities, 55% of the participants agreed (32% strongly) that this issue will drastically affect the residents of the neighbouring areas. Several respondents stated that specifying particular working hours might minimize the negative impact, for example by avoiding the night hours for drilling. A lot of respondents agreed that excavation activities will cause noise pollution; therefore, it should be required that appropriate hours are allocated for this kind of work. A respondent pointed out that well functioned equipment can reduce the effect of noise.

During the breakout group discussion, the participants agreed that solutions for reducing noise must be considered and that timing the process of bringing and taking away the materials to and from the site is essential.

2.4.1.5 Dust Pollution

Regarding the issue of dust, over 90% agreed (50% strongly) that dust generated from excavation and construction related activities will have a high negative impact on neighbouring areas.

During the breakout group discussion, the participants suggested that mixing of materials on site be forbidden

2.4.1.6 Water Demand

About 51% agreed (22% strongly) that there would be a burden on water resources as a result of the construction activities. Many showed concern that there may occur water shortage in the neighbourhood surrounding the construction site, especially if they do not have a reserve source such as a well. Therefore, it was proposed that the contractor should be required to obtain water from tankers or other sources outside the region.

In the breakout group discussion, it was reiterated that the contractor should be required to supply water to the site and not use the water allocated to the surrounding areas, on condition that the water would be from safe sources.

2.4.1.7 Soil and Water Pollution

Over 54% of the respondents agreed (15% strongly) that there would be a chance of soil or water pollution due to construction activities.

One respondent stated that pollution to water and soil is a natural process that occurs during construction. Another stated that it is important to study the site thoroughly before construction in order to check if there exists any surface or ground water nearby so that pollution can be prevented.

One of the respondents mentioned that chemicals used in construction are a cause of concern. Another thought that this issue is mostly significant if sanitary units were not provided to the workers onsite.

A participant pointed out that surface water could get affected in case of breaking a water pipe and that groundwater can be negatively affected if disposal of wastewater was not appropriate.

2.4.1.8 Water Stagnation

Regarding water stagnation, which may occur especially during curing and mixing of cement and near the sanitary facility, 54% agreed (28% strongly) that it will provide a breeding place for disease-carrying insects.

One respondent suggested a mitigation measure to this negative impact which is draining the water immediately once it forms a pond. Others suggested covering these ponds on a regular basis, and that this issue is significant because the stagnated water can cause diseases and bring in algae and bacteria, in addition to the possibility that children in the area might play with them or even drown. Other suggestions included stirring these ponds continuously and draining them properly so that swamps do not form.

In the breakout group discussion, it was also stated that this impact should be avoided and a suggestion was made, which is encircling the holes resulting from construction so that they do not transfer into ponds.

2.4.1.9 Waste Generation

Almost 55% of the respondents agreed (38% strongly) that construction waste will pose a nuisance on the neighbouring areas of the new schools. Only 2% disagreed.

A respondent stated that waste must be disposed of on a regular basis at designated sites. Other respondents pointed out that there should be a specialized company that takes care of the construction debris especially that sometimes this constitutes huge rocks. This type of waste should therefore be immediately removed.

In the breakout group discussion it was agreed that the disposal of the construction waste should be done on a regular basis.

2.4.1.10 Employment Opportunities

Regarding employment, 54% of the respondents agreed (29% strongly) that job creation will present a positive impact in the surrounding areas during construction; 8% were neutral and only 5% disagreed.

Many respondents pointed out that creating employment opportunities during construction is possible provided that foreign workers are not relied upon; although most respondents agreed that construction is usually handled by Egyptian workers and that Jordanians refuse to handle this kind of work. However, many respondents stated that it is important to encourage local employment and to create new opportunities.

One participant mentioned that, in general, employment opportunities encourage a project and make it more accepted by the local community.

2.4.2 Socio-economic Issues

A development project can produce many socioeconomic benefits for the community that will house its facilities. These could range from job creation to decreasing the daily transport time to the school. The following are the socio-economic issues identified and discussed during the scoping session.

2.4.2.1 Interaction between Students

Eighty nine percent (89%) of the respondents to the questionnaire agreed (42% of them strongly) that there are concerns regarding interaction between students and the different grades.

One respondent stated that the interaction between students is important once the students share similar goals; however, it is important to monitor the students to ensure their safety and provide a convenient learning environment. Another respondent thought that interaction is important in terms of the student's social relations, and that it would be beneficial to have extra-curricular activities after school hours. Others stated that interaction plays a big role in improving the student's personality, which in turn can serve the community.

Throughout the breakout group discussion the following points were raised:

- Separating primary schools from the secondary to accommodate the children's growth process.
- Separating the males from females for two main reasons; the first is the different build/body size of students according to gender and the second is to avoid social contact between them. In fact, a lot of heated discussion occurred regarding this issue as some participants argued against separation while others wanted to

separate even the youngest classes. Some even went as far as proposing that schools for different genders should not be located close to each other.

- Consider the distance between the student's home and his/her school.

2.4.2.2 Student Psyche

Over 97% of the respondents agreed (66% strongly) that the student's psyche inside the classroom is important. This is reflected in the color of the walls, lighting, temperature, and the amount of dust in the room.

One respondent stated that once the student is psychologically comfortable then his/her academic performance will be better. Many of the respondents mentioned that a good ventilation system, lighting, temperature, and comfortable colors are all essential elements that reflect the student's academic behavior, and that traditional colors such as grey should be avoided because it causes boredom. One student stated that yellow is a color that creates incentives for students to better concentrate and study.

Moreover, other participants pointed out that it is very important to take care of the classroom temperature in winter and summer because it has a major effect on the concentration of the student.

In the breakout group, the participants made the following suggestions:

- One student proposed the use of yellow since it is believed to increase concentration, while another proposed the use of green.
- Paint used should be easy to clean.
- Distributing the lighting in a way that it does not reflect (Neon could be the best option).
- Abolishing the use of chalk.
- Avoiding the places with only sand since these are dusty places, therefore, asphalt might be needed.
- Windows should be designed to be proportionate with the area of the classroom.
- Sound insulation.
- Some thought that there is no need for the heater inside the classroom, while others said that the cold might bother the students.

- Provide one desk per student for ergonomic purposes.
- The cleanliness of the building affects the psyche of students.
- The ability to change the interior of each classroom.
- The height of the board should take into consideration the age of students.
- Use of central air conditioning. This, however, might be expensive so it may be better to look for alternative sources such as the solar energy or insulation.

2.4.2.3 Monitoring Student Behavior

Almost 94% of the respondents agreed (around 51% strongly) that monitoring student behavior by the supervisors is an important issue. Proposals made by the participants during discussions include having the primary classrooms separated from the higher grades, providing cameras and monitoring rooms, having a monitor's room in each floor or distributing the administrative rooms between the floors and that the structure should preferably not be more than two floors. All these issues will contribute in creating a well organized environment ensuring that students follow the rules thus reducing conflicts between them.

In the breakout group discussion, more issues were raised, such as:

- The courtyard should be open.
- Reducing the number of floor levels in the school building.
- The duty teachers or supervisors should be full timers.
- Benches should be available for students in the courtyard.
- Desks, table with wooden pulleys to make the monitoring process easier.
- A cafeteria with a canteen to reduce crowding.

2.4.2.4 Employment and Economic Development

Over 60% of the respondents agreed (18% strongly) that building the schools will contribute to employment and economic development in the area. This may happen if the staff at the school is selected from the local communities including secretaries, teachers, principals, counselors, administrative employees, and supervisors. Others stated that economic development can take the form of commercial shops, restaurants, or bookshops in the area. This will also increase employment opportunities and activity for the area's residents.

In the breakout group, the following was suggested:

- Provide a nursery for teachers' children, one that is separate from the kindergarten.
- Teachers should be residents of the region.
- Employment opportunities can be increased outside the school through restaurants, bookshops, commercial shops, and transportation business.

2.4.2.5 Land Use

Fifty five percent (55%) of the participants agreed (20% strongly) that building the schools will affect land use in the surrounding areas. Suggestions made regarding this issue were that constructing the project will affect other projects surrounding the school. It will also cause the area to prosper, and create many economic opportunities such as supermarkets and libraries. It might raise the price of the lands surrounding it. However, in the breakout groups some positive and negative aspects were raised:

- The school could cause noise disturbing the neighbors.
- The school will result in turning the area into a residential one since people would prefer living near the school.
- Moreover, trade and commercial development will also take place in the area.

2.4.2.6 Archeological Resources

Forty percent (40%) of the respondents agreed that school construction will cause damage to archaeological resources while around 23% were neutral and 15% strongly disagreed. Many participants stated that a site survey must be done in the proposed locations by the Department of Antiquities (DOA), and that specialized equipment must be used in investigating the areas where the schools are going to be constructed. All this has to be done prior to construction.

In the breakout groups it was mentioned that archaeological issue is a major issue in selecting the location of the school and that heritage sites have to be conserved.

2.4.2.7 Traffic

Around 84% of the respondents agreed (38% strongly) that there will be traffic congestion during drop off and pick up hours around the schools. The extent of the

traffic will depend on the location of the entrance and the exit of the school, i.e. whether it is on a main or a secondary road.

Many participants mentioned that it would be beneficial to have the street leading to the school or where the school is at as one direction street. Others mentioned the importance of direction signs, and having pedestrian bridges or underpasses to ensure the safety of the student. Many stated that traffic congestion will depend mainly on the location of the school.

During the breakout group, the following suggestions were made:

- The gate of the school should be placed on a secondary street and not a main one.
- The street should be one way direction (entrance differs from exit).
- Parking lots for teachers should be provided.
- Pedestrian pathway and a traffic light to reduce the speed of the cars.
- Speed bumps and direction signs should be installed.
- Provide an entrance specified for parents to bring in their children, but it should be outside the school premises.
- Provide an extra service road that can be used for picking up and dropping off the students.
- Convert the street near the schools being constructed into a one-way direction to avoid traffic jam.

2.4.2.8 Travel Time

Seventy two (72%) of the respondents agreed (26% strongly) and only 20% were neutral regarding the fact that the new schools will decrease the travel time for students. Many said that this issue depends on the location of the proposed school and whether it is constructed in a residential area and on the distance between the school and the students' homes. It was suggested that it would be better if the schools were located in the center of a neighborhood.

2.4.3 Public Health and Safety

An essential requirement for building any school is to provide a safe and healthy environment for the students, teachers, and all workers at the school.

2.4.3.1 Communicable Disease Prevention

An overwhelming 89% of the respondents (around 40% of them strongly) believe that there is a relation between the school facilities and the spread of disease.

Suggested reasons that might be a cause for transferring diseases are the lack in the number of sanitary facilities or the coolers, the lack of soaps in the restrooms, mis-use of the sanitary facilities, the proximity of restrooms to the classrooms, the crowdedness at the cafeteria, and having an unsanitary cafeteria. The respondents believed that the specified space for each student also has an effect.

In the breakout group, the participants considered the following issues:

- Infrastructure.
- Sanitary facilities.
- Location should be .away from factories.
- Ventilation
- Classroom area.
- Number of students per class.
- Type of chalk used.
- Type of food material.
- A special nursing room with a resident nurse.

Common types of diseases are chicken pox, measles, lice, mange, and influenza. Proposed measures for communicable disease prevention include cooperation with the Ministry of Health for providing injections and another reason for the spread diseases is that the number of workers who are responsible for the restrooms is insufficient.

2.4.3.2 Potable Water Supply and Distribution

Sixty seven percent (67%) of the respondents believe that the method of potable water distribution may pose a risk on the student. Many participants stated that water unmonitored reservoirs that are not cleaned on a regular basis will have detrimental effects on students' health; moreover it can be a good environment for insects and animals. Many suggested the need for checking not only the water reservoirs but

also the network. One respondent pointed out that the number of coolers must be proportional to the number of students.

In the breakout group, the participants mentioned the following issues:

- The filtration of drinking water.
- The maintenance and safety of the water reservoirs.
- Checking the drinking water continuously and the safety of the installations.
- Providing soaps.
- Convenient coolers for drinking water.
- It is preferable to have the coolers indoors.
- Monitoring over the companies who clean the reservoirs.

2.4.3.3 Sanitary Facilities

Almost all the respondents (94%) agreed (over 55% of them strongly) that sanitary facilities may be a cause of odors and contamination in the schools.

Participants' opinions ranged between the causes of the contamination and the mitigation measures for preventing the negative impact of this issue. Many stated that contamination can be caused from lack of cleaning, mis-use of the facilities, improper drainage. Therefore, many suggested that a good design can prevent this impact, having fans with exhausts can solve the problem of odors, having the sanitary facilities placed opposite the prevailing wind will help in reducing the odor, as will placing the facilities outside the school building.

In the breakout group the participants also stated important issues such as:

- Location of the facilities should be opposite to the prevailing wind direction.
- Facilities should be away from any staircase and preferably outdoors.
- The availability of water on a daily basis, new and well functioning installations.

Regarding sanitary facilities, the advantages and disadvantages for both Oriental and regular toilets were presented as follows:

Regular:

- Pros: Useful for physically challenged students.

- Cons: Might be a cause for transferring diseases due to lack of cleanliness.

Oriental:

- Pros: More sanitary and easier to clean.
- Cons: Flush might be a bit high for the students.

However, the entire group agreed on the fact that different types of toilettes may be used for different age groups. For example, all participants agreed on using the regular type for the younger children (kindergarten and primary).

Other issues that were raised include:

- Wastewater disposal.
- Providing liquid / hard soap.
- Designing the septic tank in a manner that can prevent the leakage of water to the groundwater.

2.4.3.4 Indoor and Outdoor Safety Issues

Over 88% of the respondents agreed (37% of them strongly) that there is a risk of accidents to students in their school. Many respondents agreed on the point that schools with a wide age range have a higher possibility of students tripping down or falling, especially when they are crowded together. Therefore, it is preferable to separate students of different age groups. It is also better to have wide corridors. Selecting appropriate material for the floors, whether indoor or outdoor, can also prevent this impact. Moreover, it is important to have a convenient cafeteria to serve during winter and summer, such that it would be well covered to prevent sunstrokes or provide shelter from the rain.

In the breakout group, the following points were discussed:

- The school fence should be designed in a manner that would prevent students from passing through. In any case, the Code of the Protection from Fires specifies the spacing and the distances that should be used and all the specifications.
- The designers should obtain the approval of the Civil Defense for their preliminary design upon choosing entrances and exits, in addition to the requirements of fire extinguishers, lighting, alarm system, and bell.

- Taking into consideration when designing the cafeteria the crowding of students.
- Pathways and corridors for physically challenged students. This is specified within the Construction Code for the Physically Challenged.
- The location of the schools should not be selected on a sloping land or close to ponds and channels.
- First aid equipment should be available in workshops, gymnasiums, classrooms and laboratories and staff trained in first aid should also be available.
- Emergency exits must be carefully selected.
- The electricity sockets should be kept away from children's reach.
- A fully dedicated health supervisor must be available in the school premises.
- The height of walls and retaining walls must be considered.
- Sharp equipment should be supervised.
- Providing shades and umbrellas in the courtyard.
- The entrance of schools should not be at a main street.
- Protecting the school from the torrential streams. This issue should be considered upon selecting the location.
- Ensure that all the temporary electrical links that had been used during construction were disposed of.

2.4.3.5 Injury from Car Accidents

Eighty seven percent (87%) of the respondents believe that there is a risk of injury from car accidents for the students. The respondents agreed that it is essential not to have the gate of the school at a main street and that speed bumps, bridges, underpasses, and signs need to be provided where the school is located. One respondent suggested having a policeman working during school hours.

The breakout group have also added the following:

- Traffic awareness should be provided to children in coordination with the Public Security Directorate.
- Speed bumps, pathways for pedestrians, bridges, or underpass must be provided for the students, in addition to direction signs and a traffic light that can be manually controlled from inside the school.

- Construct a pavement that can be enough for the number of students exiting.
- Having the students leave the school at different times and not all at once to avoid the gatherings.

2.4.3.6 Protection from Intruders

Among all participants, 54% agreed and 32% strongly agreed that intruders to the school are a cause for alarm.

Participants had different ideas regarding the protection issue. Some suggested having a guard for the school, and that no one enters the school unless the principal is informed and that his/her identity has to be known. An alarm system has to be installed and it should be connected with the nearest police station. Others suggested raising the fence walls and having high retaining walls.

The breakout group had also reached the following points:

- Raising the fence walls to prevent strangers from getting in.
- Cooperating with the Public Security Directorate.
- A guard must be available day and night.

2.4.3.7 Safety in Workshops

Over 83% of the respondents (31% of them strongly) agreed to the significance of safety in workshops. A lot of respondents pointed out that the reason for this impact is the materials used in laboratories, and that students should not be alone in workshops without any supervision. Measures suggested included awareness made to the students and also having first aid equipment on hand, as well as having a trained supervisor at all times.

Other points stated by the breakout group are:

- Training the students on first aid operations.
- Applying the requirements of public safety in laboratories (gas installations and ventilation).
- Entrances, exits, floors, sinks, drains, and showers that are specifically designed for the laboratory.
- Fume hoods should be available at the laboratories.

- Sound insulation system is also essential in laboratories or workshops.
- Public safety in laboratories (gas, electrical installations)
- Separating the laboratories from classrooms.

2.4.3.8 Provisions for Students with Special Needs

Ninety six percent (96%) of the respondents to the questionnaire (63% of them strongly) agreed that there should be facilities in the new schools for students with special needs. Most of the participants suggested that special provisions must be provided to facilitate the movement of those students.

Issues suggested by the breakout group were:

- Abiding by the Construction Code for the Physically Challenged.
- Constructing special pathways such as ramps for blind students and people who are physically disabled.
- Special resource rooms for physically challenged students.
- An elevator with a control key to prevent other students from using it.
- Providing data show and lap tops for classrooms.
- On the other hand it would be worth it to consider provisions for talented students to help them develop their talents.

2.4.3.9 Earthquake Protection Measures

Ninety three percent (93%) of the respondents (around 61% of them strongly) believe that there is a need for earthquake protection measures in the schools. Many participants suggested that students must be provided with the necessary training for evacuation.

The breakout group discussion raised the following issues:

- Abiding by the special Code of Earthquake Prevention during the design phase.
- Abiding by the instructions and directions of the Civil Defence during earthquakes.
- Providing areas for evacuation and training people on the procedure. These areas should be away from the school building as specified in the code.

- Reducing the number of floors in the school.
- Placing signs for the location of exits.

2.5 OTHER ISSUES OF CONCERN

During the Scoping Session, a number of issues that had not been previously identified were raised. These issues came up during open discussions and breakout group meetings. The following sections describe these issues..

2.5.1 Fostering a Learning Environment

Some interesting issues were raised regarding the improvement of the learning process. Suggestions made were concentrated on making the students care more about the earth and land, installing halls for art that are provided with the necessary infrastructure, spacious teachers' room which is expected to have a positive impact on the students, specifying special classrooms for certain subjects such as math and English, taking care of the talented and creative students, involving the students in environmental activities within the region of the schools, and not imitating the traditions but reflecting them.

2.5.2 Building Maintenance

The participants mentioned that several issues must be considered during the operation phase in order to maintain the school building. It was stated that maintenance should be conducted throughout the whole scholastic year and that the major maintenance activities should take place during the summer holiday. Others suggested that students should contribute to building maintenance in simple tasks to promote a sense of ownership. In addition, grants and donations for maintenance should be encouraged.

2.5.3 Conservation of Natural Resources

Important issues regarding the conservation of various natural resources were raised. These include installing solar panels, energy-saving light bulbs, automatic electrical system that turns off once the students leave (with timer), and water saving devices. In addition, the re-use of water overflowing from coolers can be used for landscaping. Rain water harvesting wells may also be used for that purpose. Other suggestions included separating the trash in each classroom for the purpose of recycling and installing infrared taps.

2.5.4 Noise during Operation

During the general discussion, some participants raised the point that noise pollution will not only result due to construction activities, but it will be generated during the operation of the schools. This is especially true during the morning queue from speakers used outdoors, and during recess time when students have their break when they play outdoors.

2.5.5 Waste from the School

To avoid the nuisance that schools might cause during operation, it was suggested to provide special places to collect and get rid of the waste of the schools, especially waste generated from the laboratories. It is preferred that these places be located inside the school premises and are planned for during the design period.

3. CONCLUSIONS OF SCOPING

Most of the environmental issues were considered to be significant while others were added. Only few were considered as insignificant. However, all of the issues that were considered insignificant will be further addressed in the Environmental Management Plan (EMP). Tables 3.1, 3.2, 3.3, and 3.4 below summarize the findings the scoping process and determine the significance of each of the issues discussed according to the relevant category, as well as whether they will be subsequently addressed in the EMP.

Table 3.1: Significance of Construction Issues

Issue	Significance	Will be addressed in the EMP
Occupational health and safety	Significant	Yes
Workers sanitation	Significant	Yes
Traffic	Significant	Yes
Noise	Significant	Yes
Dust pollution	Significant	Yes
Water demand	Significant	Yes
Soil and water pollution	Significant	Yes
Water stagnation	Significant	Yes
Waste generation	Significant	Yes
Employment opportunities	Significant	Yes

Table 3.2: Significance of Socioeconomic Issues

Issue	Significance	Will be addressed in the EMP
Interaction between students/ classes	Significant	Yes
Student psyche inside the classroom	Significant	Yes
Monitoring of student behavior by supervisors	Significant	Yes
Employment and Economic development	Significant	Yes
Land Use	Significant	Yes
Archaeological Resources	Significant	Yes
Traffic during operation	Significant	Yes
Travel time to and from school	Significant	Yes

Table 3.3: Significance of Public Health & Safety Issues

Issue	Significance	Will be addressed in the EMP
Communicable disease prevention	Significant	Yes
Potable water supply and distribution	Significant	Yes

Issue	Significance	Will be addressed in the EMP
Sanitary facilities	Significant	Yes
Indoor and outdoor safety issues	Significant	Yes
Injury from car accidents	Significant	Yes
Protection from intruders	Significant	Yes
Safety in workshops for males and females	Significant	Yes
Provisions for physically challenged students	Significant	Yes
Earthquake protection	Significant	Yes

Table 3.4: Other Issues

Issue	Significance	Will be addressed in the EMP
Fostering and learning environment	Significant	Yes
Building maintenance	Significant	Yes
Conservation of natural resources	Significant	Yes
Noise during operation	Significant	Yes
Waste from the schools	Significant	Yes

4. PROPOSED ENVIRONMENTAL ASSESSMENT METHODOLOGY

The EA will deal with all the issues identified as significant throughout the Scoping Process. These issues will be analysed and discussed for the fourteen schools separately. The results of the EA will be incorporated into the engineering study in order to contribute to the design process.

4.1 DATA SOURCES AND ANALYSIS

Most of the data pertaining to the environmental conditions at the project site and vicinity have been collected during the scoping stage. Further details on socioeconomic conditions and climate will be obtained for the EA.

Original sampling or fieldwork such as soil samples or water samples are not considered to be necessary for the purposes of the EA, which will rely on existing data already collected.

4.2 DISCIPLINES REQUIRED

The following experts are expected to participate in the preparation of the EA:

- Environmental Assessment Team Leader.
- Project Manager / Architect.
- Environmental Scientist / Geologist.
- Field Assistant.

4.3 PROPOSED EA REPORT OUTLINE

The following proposed EA Report Outline is based on the guidelines in USAID Handbook 3, Appendix 2D, Part 216.6 (c):

The resultant EA report will incorporate all the findings of the environmental investigations described thus far. The report structure will be as follows:

Executive Summary: This section summarizes the report's conclusions, any areas of ongoing discussion and any outstanding issues to be resolved.

1. Introduction

1.1. Objective and Scope of Work

1.2. Environmental Assessment Requirements

2. Project Description

3. Environmental Laws & Regulations: This section will include the applicable institutional and regulatory framework in Jordan, including related standards, laws and regulations, in addition to US regulations for foreign country assistance.

4. Environmental Setting: This section provides a brief description of the environment in the project area, which will be affected by the proposed project or any of the alternatives. The amount of data and analyses included in this section will be in keeping with the relative significance of the impact. More general, background information will be summarized or referenced. The following are the subsections:

4.1. Biophysical Environment

4.1.1. Location and Climate

4.1.2. Geomorphology and Geology

4.1.3. Land Use

4.1.4. Archaeological Findings

4.1.5. Biodiversity System

4.1.6. Prevalent or Adaptive Vegetation

4.2. Socioeconomic Context

4.2.1. Population and Major Economic Activities

4.2.2. Quality of Life and Infrastructure

4.2.3. Cultural Issues

4.2.4. Prevalent Architectural Images

4.2.5. Health and Other Community Services

4.2.6. Educational Services

4.2.7. Transportation

4.2.8. Water and Electricity Supply

5. Environmental Impacts: This section includes the environmental impacts of the proposed action. Most of this section concentrates on the significance of short-

term and long-term effects of the proposed project, and direct and indirect effects. Other considerations will include possible conflicts between the proposed project and any other land-use plans and policies, energy requirements, conservation measures, and socio-economic impacts. The following are the subsections:

5.1. Assessment of Overall Impacts

5.2. Expected Environmental Impacts

5.2.1. Construction

5.2.1.1. Socioeconomic

5.2.1.2. Public Health and Safety

5.2.1.3. Pollution, Consumption, and Waste

5.2.2. Operation

5.2.2.1. Socioeconomic

5.2.2.2. Public Health and Safety

6. Environmental Management Plan: will outline the steps needed in order to ensure construction and operation of the project in accordance with the recommendations of the EA. It will also delineate responsibilities for each measure.

6.1. Proposed Mitigation Measures

6.1.1. Design

6.1.2. Construction

6.1.3. Operation

The report will also appendix the following:

- List of Preparers: The names and qualifications of the people responsible for preparing the EA.
- Bibliography of references used.
- List of meetings held and names of attendees.
- Any relevant technical data not included in the main report.

4.4 SCHEDULE

Work on the EA is scheduled to commence after approval of this Scoping Statement (expected 2 weeks after this submission) and the final EA will be submitted four weeks after approval of this statement. The following Table 4.1 summarizes the main activities in the EA and the expected duration of effort required for each.

Table 4.1: Schedule for EA Activity

Activity	Week						
	1	2	3	4	5	6	7
Gathering Data							
Conducting Environmental Issues Analysis							
Developing Mitigation and Monitoring Plan							
Preparation of Draft EA Report							
Client Review							
Preparation of Final EA Report							

Appendix A
Pre-Scoping Brief



United States Agency
For International Development



The Hashemite Kingdom of Jordan
Ministry of Education

Jordan Schools Construction & Rehabilitation Program

Pre-Scoping Brief/ Middle Governorates

September 2007

CDM International Inc.

and
Engicon



1. Introduction

The Ministry of Education (MOE) of Jordan with the co-operation of the United States Agency for International Development (USAID) is implementing the *Jordan Schools Construction and Rehabilitation Program*. The Program aims to provide by 2008 up to 28 new schools with approximately 24 classrooms each. This will immediately benefit about 18,200 students. The Program will also renovate around 100 existing schools. In this session, the proposed construction of 14 new schools in the middle region of Jordan is discussed, which includes Amman, Russeifeh, Zarqa, As Salt, Ein Albasha, Madaba, and South Shouna. CDM International is managing the project in cooperation with Engicon. An Environmental Assessment (EA) for the proposed project is currently under preparation in accordance with Jordanian and USAID regulations.

2. Scoping Objectives

The purpose of the scoping process is to identify the significant and non-significant environmental issues that will be addressed by the environmental assessment. This Pre-Scoping Brief provides a summary of the proposed project and presents the preliminary environmental issues that have been identified.

The Scoping Session will require the participants to discuss the identified environmental issues and suggest others that may be relevant. The participants will also propose preventive and mitigation measures for these issues. The session will serve as a medium for the community to voice their opinions and concerns regarding the project and fill in any remaining gaps. The results of the Scoping Session will be incorporated into the Scoping Statement and the Environmental Assessment.

3. Project Area

The project components will be located in the middle governorates of Jordan, namely Amman, Madaba, Zarqa, and Balqa (Figure 1). This means that the project will serve a large portion of the population of Jordan. The table that follows summarizes the population distribution in the project area (Table 1).

Table 1: Projected Population Distribution by Area and Sex, 2007

District	Males	Females	Total	% Urban
Qasbet Amman	309,330	290,028	599,358	100
Marka	270,033	254,740	524,842	100
Sahab	32,856	29,017	61,862	77
Salt	57,697	60,906	118,603	67
South Shuneh	22,563	19,272	41,835	56
Ein Al Basha	71,577	67,612	139,189	77
Zarqa	245,310	234,030	479,340	94
Russeifeh	147,223	138,438	285,661	99
Madaba	55,972	52,569	108,541	69

Source: Based on Department of Statistics Census of 2004 and projected population growth rates.

Figure 1: Location Map of Jordan



3.1 Climate

The climate varies in the areas under consideration, since the project includes schools that are distributed in a wide region. Table 2 shows the selected climatic information for relevant stations according to the data provided by the Jordan Metrological Department.

Table 2: Climatic Information

Parameter	Deir Alla	Salt	Sweileh	Q.A.I. Airport	Madaba	Zarqa
Mean maximum temperature (°C)	29.8	21.0	20.1	23.2	22.0	25.1
Mean minimum temperature (°C)	17.4	12.5	11.3	7.7	10.6	11.4
Total annual rainfall (mm)	283.2	551.5	488.2	176.8	350.2	144.7
Mean annual relative humidity (%)	65.7	64.4	65.1	75.6	-	71.0
Prevailing annual wind direction (°)	351	-	-	288	-	-
Mean annual wind speed (Knots)	3.9	5.0	6.2	6.6	4.9	2.3

Source: Jordan Meteorological Department, Jordan Climatological Handbook

3.2 Education

For the scholastic year 2005/2006, the number of students and schools for the relevant Education Directorates are found in Tables 3 and 4 below. Table 3 shows

that the number of female students is always higher than the number of males and that the directorates in Amman and Zarqa have the largest number of students.

Table 3: Distribution of Students in MOE Schools by Directorate and Sex

Education Directorates	Total	Female	Males
Amman 2	69,564	36,645	32,919
Amman 3	66,046	36,340	29,706
Amman 4	85,398	46,202	39,196
Madaba	21,284	10,804	10,480
Zarqa 1	90,082	46,950	43,132
Russeifeh	52,677	27,247	25,430
Salt district	26,639	13,806	12,833
South Shouneh	8,464	4,065	4,399
Ein Al-Basha	18,891	9,797	9,094

Source: Ministry of Education, Education Statistics for Scholastic Year 2005/2006

Table 4: Distribution of MOE Schools by Type and Directorate

Education Directorates	Total	Females	Males	Co-ed
Amman 2	162	41	61	60
Amman 3	103	31	42	30
Amman 4	127	43	48	36
Madaba	112	15	29	68
Zarqa 1	310	85	70	155
Russeifeh	167	29	42	96
Salt district	197	21	31	145
South Shouneh	41	6	13	22
Ein Al-Basha	113	17	26	70

Source: Ministry of Education, Education Statistics for Scholastic Year 2005/2006

Co-ed is defined as a school hosting girls and boys between the 1st and 3rd grade and girls only between the 4th and 12th grade.

3.3 Economic Activity

The economic activity ranges in the areas under concern. For example the unemployment rates in Madaba, at 15.5 are significantly higher than those in Amman and Zarqa, at 12.1 and 12.3 respectively. Moreover, female unemployment rates are much higher than those of males (Table 5). It is worth mentioning that the whole Kingdom's unemployment rate is estimated at 14.

Table 5: Unemployment Rate by Sex and Governorate

Governorate	Male	Female	Total
Amman	9.9	22.5	12.1
Balqa	12.1	22.9	14.1
Zarqa	10.7	25.7	12.3
Madaba	13	25.8	15.5

Source: DOS, Employment and Unemployment Survey – Annual Report 2006

Table 6 below summarizes the type of activity in the governorates of concern as for the year 2006. Numbers given are in percent distribution. It can be seen that Amman has the greatest proportion of professionals. On the other hand, it can be noticed that a high percentage of workers in Zarqa are craftsmen, plant and machine operators, and trade workers; this is expected since Zarqa is known to be an industrial city. Moreover, a high percentage of workers in the governorates of Balqa and Madaba have an elementary occupation.

Table 6: Activity Status by Governorate

Type of Activity	Amman	Balqa	Zarqa	Madaba
Legislators, Senior Officials & Managers	0.1	0.1	0	0
Professionals	24.2	18.4	12.6	18.4
Technicians & Associate Professionals	11.7	12.1	10.3	10
Clerks	5.4	6.6	4.9	8.5
Service Workers, Shop & Market sales Workers	17.5	10	15.5	10
Skilled Agricultural and Fishery Workers	0.8	5.4	1	3
Craft and related Trade Workers	18.2	11.9	22.2	8.8
Plant, Machine operators and Assemblers	11.8	11.9	16	12.1
Elementary Occupation	10.3	23.7	17.5	29.2

Source: Department of Statistics, Employment and Unemployment Survey, Annual Report 2006

4. Proposed Project

The project under study consists of the construction of 14 new schools in the middle governorates of Jordan. The schools will be distributed as shown in Table 7 and are described in the sections that follow.

Table 7: Name and Location of Proposed Schools

Name of School	Directorate
Um As-Somaq Secondary Female School	Amman 2
Um Qsir Basic Male School	Amman 3
Sahab Basic Male School	Amman 3
Reyadh Basic Male School	Amman 4
Dahiet Amir Hassan Basic Co-ed School	Amman 4
Saed Bin AbiWakas Basic Male School	Amman 4
Al-Qadesiah Secondary Female School	Amman 4
Aj-Jofah Secondary Male School	South Shuneh
Al-Qabesy Secondary Co. School	As-Salt
Al-Qadesiah Secondary Co. School	Ein Al Basha
Jabal Tareq Basic Male School	Zarqa 1
Safeiah Basic Co. School	Russeifeh
Shajaret Ad Dur Basic Female School	Russeifeh
Madaba Basic Co. School	Madaba

4.1 Amman Governorate

4.1.1 Um As-Somaq Secondary Female School

This school is located in Amman-2 directorate on a land of 5000 m². It is planned to be a secondary female school including grades 1st through 12th, with 24 classrooms. The purpose of this school is to replace the surrounding rented schools. In addition, there is a lack of governmental schools nearby, where the nearest school is Aisha Bent Abo Baker Secondary School which is 5 km away, and students travel long distances on a daily basis seeking education.

Figure 2: Land Area of Proposed Um As-Somaq Secondary Female School



4.1.2 Um Qsir Basic Male School

This school is located in Amman-3 directorate, specifically in Al-Mgablin area. It is going to be a basic male school including grades 4th through 10th, with 24 classrooms. The school will be constructed on a land of 9000 m². It is expected that constructing this school would solve the double shifting and crowding in surrounding schools such as Um Qsir/Mgabalin Secondary Male School. In addition, the school will have a Gymnasium.

Figure 3: Land Area of Proposed Um Qsir Basic Male School



4.1.3 Sahab Basic Male School

This school is located in Amman-3 directorate, in Sahab, on a 6000 m² land. Its type is basic male, and will include grades 1st through 10th, with 30 classrooms. The MOE intends to construct this school in order to replace the current rented school: Othman Bin Affan Basic Male. Moreover, this school will play a role in solving the crowding problem in surrounding schools such as Sahab Housing Basic Male School and Heteen Basic Male School. Therefore, it is clear that there is a big need for this school, which is expected to serve four rented boys schools in the area.

Figure 4: Land Area of Proposed Sahab Basic Male School



4.1.4 Abd Al Moneam Reyadh Basic Male School

This school is located in Amman-4 directorate, in Marka. It is planned to be a basic male school including grades 1st through 10th with 23 classrooms. It is believed that this school would help in solving the problem of crowding in surrounding schools such as Al-Kindi Basic Male and Al-Shareif Hussein Secondary Male, especially after the evacuation, which will take place in the rented schools. The suggested location for this school will serve only the mentioned schools, in addition to Abed Alminim Riyadh. The school will be constructed on a 5000 m² land, where an old factory exists. This means that the structure needs to be demolished.

Figure 5: Land Area of Proposed Abd Al Moneam Reyadh Basic Male School



4.1.5 Dahiet Amir Hassan Basic Co-ed School

This school will be located in Amman-4 directorate on a 9000 m² land. Its type is Basic Co-ed. It will have 29 classrooms and 2 kindergartens and will include grades 1st through 10th. It is believed that this school will solve the crowding and double shifting problem in surrounding schools such as Dahiet Amir Hassan Basic Co. Female and Dahiet Amir Hassan Basic Co, as well as replace the rented schools. In addition, a new region called Dahiet Al-Aqsa is growing rapidly and needs Basic Schools. In addition, the school will have a Gymnasium.

Figure 6: Land Area of Proposed Dahiet Amir Hassan Basic Co-ed School



4.1.6 Saed Bin Abi Wakas Basic Male School

This school will be located in Amman-4 directorate. It is a basic male school which will include grades from 1st through 6th, with 24 classrooms. It is believed that this school will solve the crowding problem in surrounding schools such as Abo Obaida Basic, Naifa Secondary, Muthana Bin Muslim, and Bab Al-Wad Secondary. Moreover, the fact that Hashmi region is growing rapidly, and since there are no vacant plots to build schools, choosing a plot of 5000 m² for building the school adjacent to Abo Obaida Basic is very convenient.

Figure 7: Land Area of Proposed Saed Bin Abi Wakas Basic Male School



4.1.7 Al-Qadesiah Secondary Female School

This school is going to be located in Amman-4 directorate in Tareq. It is a secondary female school, which will include grades 7th up to 12th, with 28 classrooms. The school will solve the crowding problem in surrounding schools such as Nahawand. Moreover, Qadesiah Secondary School building is quite old and needs replacement.

The school will be constructed on a 5000 m² land plot, where some buildings belonging to the existing school are located and must be demolished. The school currently serves 450 students and is overcrowded. The existing school will therefore be turned into a basic one while the new one will be secondary.

It is worth mentioning that the location of the proposed school is strategic as it is located in the center of a highly populated area.

Figure 8: Land Area of Proposed Al- Qadesiah Secondary Female School



4.2 Balqa Governorate

4.2.1 Aj-Jofah Secondary Male School

This school is located in South Shouneh in Aj-Jofah region on a 10,400 m² land. Its type is secondary male, devoted for grades ranging from 1st up to 12th, and it will have 22 classrooms. The school is intended to solve the crowding in surrounding facilities such as Joufa Secondary Co. In addition, there is lack of schools in the area such that the nearest school is 3 km away, and that is Joufa Secondary Co. Moreover, this school is necessary in the region since the rented schools are planned to be replaced; these are Joufa Basic Co. and its extension and Joufa Basic Co. 2nd.

Figure 9: Land Area of Proposed Aj-Jofah Secondary Male School



4.2.2 Al-Qabesy Secondary Co. School

This school is located in As-Salt in Al-Buhairah area in Salt on a 6597 m² land. It is a Secondary Co. School that will include grades 1st through 12th, with 24 classrooms. The justification for choosing the school is to replace a nearby rented school and reduce crowding in Maimouna Bent Al-Hareth Secondary Female School.

Figure 10: Land Area of Proposed Al-Qabesy Secondary Co. School



4.2.3 Al-Qadesiah Secondary Co. School

This school is located in Ein Al-Basha specifically in Safout on a land plot with an area of 5,385 m². It is a secondary co-ed school which will include grades 1st through 12th, with 27 classrooms and 2 kindergartens. The MOE justifies the high need for this school in the location proposed due to the fact that the area is in a process of rapid growth. Moreover, the nearest basic co-ed school in Safout is Fatima Al-Zahra', which is 2 km away. In addition, the donated school in the mosque building has to be evacuated from students between 1st and 4th grades in order to be used as a basic male school.

Figure 11: Land Area of Proposed Al-Qadesiah Secondary Co. School



4.3 Zarqa Governorate

4.3.1 Jabal Tareq Basic Male School

This school is going to be located in Az-Zarqa-1 / Jabal Tareq on a land plot of 8000 m². Clearly it is a basic male school which will include grades from 1st up to 10th, with 23 classrooms. As other schools it is expected that constructing this school will help in solving the crowding issue in surrounding schools such as Um Kolthoum and Al-Jaheth Secondary. Moreover, this school is essential for the residents of the area since the nearest school to the area in concern is 2 km away. Nevertheless, the site of the school is quite steep, which will probably have an effect on construction cost.

Figure 10: Land Area of Proposed Jabal Tareq Basic Male School



4.3.2 Safeiah Basic Co. School

This school is located in Ar-Russeifeh / At-Tatwer 3rd area on 6,000 m² of land. Its type is basic co-ed, and it will include grades 1st through 3rd, with 24 classrooms and 2 kindergartens. It is believed that constructing this school could solve the crowding in surrounding schools such as Zainab Bent Saddam Secondary School and Al-Bayrouni 2nd Basic School, in addition to solving the double shifting issue in Fatima Az-Zahra' Basic School and Fatima Az-Zahra' Basic Co. School.

Figure 12: Land Area of Proposed Safeiah Basic Co. School



4.3.3 Shajaret Ad Dur Basic Female School

This school is located in Russeifeh on a 4,131 m² land. It is a basic female school which includes grades 1st through 10th, and 29 classrooms and 2 kindergartens. The school is needed to help solve the problem of double shifting in Jabal Al-Ameer Faysal 1st Basic and Jabal Al-ameer Faysal 2nd Basic Schools. However, the large slope on which the school will be built will increase construction costs.

Figure 13: Land Area of Proposed Shajaret Ad Dur Basic Female School



4.4 Madaba Governorate

4.10 Madaba Basic Co. School

This school is going to be located in Madaba on a 5,200 m² land. It will include grades 1st through 6th, with 24 classrooms and 2 kindergartens. The nearby rented school will be replaced. Moreover, it will solve the crowding in the surrounding school, which is Ameera Basma Secondary, located 300 m away, where the plot is small, and neither vertical nor horizontal extensions can be added.

Figure 14: Land Area of Proposed Madaba Basic Co. School



5. Preliminary Environmental Issues

After visiting the sites and conducting a preliminary research of existing information on the project, many environmental issues proved to be of concern to the construction of the proposed schools. These issues are presented below, and will be discussed during the session. Other issues identified during the Scoping Session discussion will also be added. Mitigation and preventive measures for issues of concern will be proposed.

For the purpose of the Scoping Session and the Breakout Groups, the environmental issues have been distributed into three categories as follows: Construction, Socioeconomic, and Public Health & Safety Issues. Each issue must be evaluated for its potential significance taking into consideration both direct and indirect impacts.

5.1 Construction Issues

In general, the environmental impacts during the construction phase of a project are usually negative. Fortunately, most of these impacts are temporary and can be mitigated by taking the necessary precautions. For this project, the following issues relating to construction activities were identified:

- Occupational safety and health
- Workers sanitation
- Traffic
- Noise
- Dust pollution
- Water demand
- Soil and water pollution
- Water stagnation
- Waste generation
- Employment opportunities
- Timing of construction activities

5.2 Socioeconomic Issues

A development project can produce many socioeconomic benefits for the community that will house its facilities. These could range from job creation to decreasing the daily transport time to a similar facility situated further away, in this case, the school. The following were the main issues identified during the preliminary research phase:

- Interaction between students / classes
- Student psyche inside the classroom (color of walls, lightly, temperature, dust)
- Monitoring of students by supervisors
- Employment and economic development
- Land use
- Archaeological resources and cultural heritage
- Traffic
- Travel time to and from school
- Maintenance of the school building
- Watering of the green areas
- Energy saving
- Water conservation for irrigation and toilets (Grey water use, water saving devices, xeroscaping)
- Use of school for after hour activities

5.3 Public Health & Safety Issues

An essential requirement for building any school is to provide a safe and healthy environment for the students, teachers and all workers at the school. For that purpose, a list of elements that need to be tackled has been prepared. The final list developed after the Scoping Session should be comprehensive. The following were the identified issues:

- Communicable disease prevention
- Potable water supply and distribution
- Sanitary facilities
- Cleanliness of school building
- Indoor and outdoor safety issues for students (tripping, falling, sunstroke)
- Car accident prevention
- Protection from intruders
- Safety in workshops for males and females
- Provisions for physically challenged students
- Earthquake protection measures

6. Preliminary Description of Scoping Statement

The items to be included in the Scoping Statement are based on Jordanian and USAID environmental regulations. The results of the Scoping Session will be evaluated and incorporated into the Scoping Statement. The Environmental Assessment for the project will be based on the Scoping Statement.

The statement will include the following main items:

- Brief description of the project.
- Description of the site.
- Proceedings of the Scoping Session (including participants, agenda and activities, etc.).
- Results of the Scoping Session including the questionnaires, highlighting significant and non-significant issues.
- Proposed methodology for the EA including proposed table of contents and schedule.



USAID
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الوكالة الأمريكية للتنمية الدولية



وزارة التربية والتعليم

برنامج إنشاء وإعادة تأهيل مدارس في الأردن تقييم الأثر البيئي- الجلسة الحوارية لتحديد المجال ملخص المشروع/محافظات الوسط

أيلول ٢٠٠٧

CDM International Inc.

And
Engicon

١. مقدمة

تقوم وزارة التربية والتعليم في الأردن، وبالتعاون مع USAID بتنفيذ برنامج إنشاء وترميم مدارس في الأردن. يهدف البرنامج الى إنشاء حوالي (٢٨) مدرسة جديدة حتى عام ٢٠٠٨، تحتوي كل مدرسة على ما يقارب (٢٤) غرفة صفية. ومن المتوقع أن ينعكس هذا الأمر إيجابياً على (١٨,٢٠٠) طالب وطالبة. كما أن المشروع سيقوم بترميم حوالي (١٠٠) مدرسة قائمة حالياً في كافة أنحاء الأردن.

في هذه الورشة سيتم مناقشة إنشاء (١٤) مدرسة جديدة في منطقة محافظات الوسط في الأردن، وهذه تشمل عمان، الرصيفة، الزرقاء، السلط، عين الباشا، مادبا، والشونة الجنوبية. يقوم بإدارة المشروع شركة CDM العالمية بالتعاون مع شركة المستشار للهندسة Engicon. كما تجري حالياً دراسة تقييم الأثر البيئي للمشروع المقترح حسب التشريعات الأردنية ومنظمة الـ USAID.

٢. أهداف الجلسة الحوارية

الهدف من الجلسة الحوارية هو تحديد الأمور البيئية ذات الأهمية وأفكار المشاركين والتي ستدرس وتحلل في دراسة تقييم الأثر البيئي.

المُلخص التالي يقدم نبذة عن المشروع المقترح والأمور البيئية المبدئية التي تم تحديدها. من المطلوب في هذه الجلسة الحوارية أن يقدم المشاركون ملاحظاتهم فيما يخص القضايا البيئية التي تم تحديدها، واقتراح قضايا أخرى قد تكون لها علاقة أو تأثير بيئي. كما أن من الممكن أن يقدم المشاركون حلولاً لمنع أو تخفيف الآثار الناتجة عن هذه القضايا.

سيتم توظيف كافة وقائع الجلسة الحوارية في تقرير الجلسة الحوارية (Scoping Statement) وفي تقرير التقييم البيئي اللاحق.

ستكون الجلسة وسيلة للمجتمع المحلي لإبداء آرائهم وإهتماماتهم فيما يخص المشروع.

٣. منطقة المشروع

تقع العناصر الأساسية للمشروع في محافظات الوسط في الأردن، أي عمان، مادبا، الزرقاء، والبلقاء (شكل ١) مما يعني أن المشروع سيخدم فئة كبيرة من سكان الأردن. الجدول في الأسفل يلخص توزيع السكان في منطقة المشروع (جدول ١).

جدول (١): متوقع توزيع السكان حسب المساحة والجنس، ٢٠٠٧

القضاء	ذكور	إناث	المجموع	حضري (%)
قصبه عمان	٣٠٩,٣٣٠	٢٩٠,٠٢٨	٥٩٩,٣٥٨	١٠٠
ماركا	٢٧٠,٠٣٣	٢٥٤,٧٤٠	٥٢٤,٨٤٢	١٠٠
سحاب	٣٢,٨٥٦	٢٩,٠١٧	٦١,٨٦٢	٧٧
السلط	٥٧,٦٩٧	٦٠,٩٠٦	١١٨,٦٠٣	٦٧
الشونة الجنوبية	٢٢,٥٦٣	١٩,٢٧٢	٤١,٨٣٥	٥٦

القضاء	ذكور	إناث	المجموع	حضري (%)
عين الباشا	٧١,٥٧٧	٦٧,٦١٢	١٣٩,١٨٩	٧٧
الزرقاء	٢٤٥,٣١٠	٢٣٤,٠٣٠	٤٧٩,٣٤٠	٩٤
الرصيفة	١٤٧,٢٢٣	١٣٨,٤٣٨	٢٨٥,٦٦١	٩٩
مادبا	٥٥,٩٧٢	٥٢,٥٦٩	١٠٨,٥٤١	٦٩

المصدر: يعتمد على إحصاء دائرة الإحصاءات العامة، عام ٢٠٠٤ ومعدل النمو السكاني



الشكل رقم ١: خريطة الأردن مبيناً الموقع العام لمحافظة الوسط

١-٣ المناخ

يتفاوت المناخ في المناطق قيد الدراسة، حيث أن المشروع يحتوي على مدارس متفرقة في منطقة واسعة. جدول رقم (٢) يبين معلومات مناخية مختارة لمحطات ذات علاقة.

جدول (٢): المعلومات المناخية

العنصر	دير علا	السلط	صويلح	مطار الملكة علياء	مادبا	الزرقاء
معدل درجة الحرارة العظمى (°س)	٢٩.٨	٢١.٥	٢٠.١	٢٣.٢	٢٢	٢٥.١
معدل درجة الحرارة الصغرى (°س)	١٧.٤	١٢.٥	١١.٣	٧.٧	١٠.٦	١١.٤
مجموع كميات الأمطار (مم)	٢٨٣.٢	٥٥١.٥	٤٨٨.٢	١٧٦.٨	٣٥٠.٢	١٤٤.٧
المعدل السنوي للرطوبة النسبية (%)	٦٥.٧	٦٤.٤	٦٥.١	٧٥.٦	-	٧١.٥
إتجاه الرياح السنوي السائدة بالدرجة	٣٥١	-	-	٢٨٨	-	-
المعدل السنوي لسرعة الرياح بالعقدة (°)	٣.٩	٥	٦.٢	٦.٦	٤.٩	٢.٣

المصدر: دائرة الأرصاد الجوية الأردنية، كتاب المناخ، الأردن

٢-٣ التربية والتعليم

في العام الدراسي ٢٠٠٦/٢٠٠٥، بلغ عدد الطلبة والمدارس في مديريات التربية التابعة للمشروع كما هو وارد في الجداول رقم (٣) و(٤) في الأسفل. الجدول رقم (٣) يبين أن عدد الطالبات أعلى من عدد الطلاب في كافة المديريات كما يبين الجدول أن مديريات عمان والزرقاء تحتوي على أكبر عدد من الطلبة.

جدول رقم (٣): توزيع الطلبة في مدارس وزارة التربية والتعليم حسب المديرية والجنس

مديرية التربية	المجموع	الإناث	الذكور
عمان ٢	٦٩,٥٦٤	٣٦,٦٤٥	٣٢,٩١٩
عمان ٣	٦٦,٠٤٦	٣٦,٣٤٠	٢٩,٧٠٦
عمان ٤	٨٥,٣٩٨	٤٦,٢٠٢	٣٩,١٩٦
مأدبا	٢١,٢٨٤	١٠,٨٠٤	١٠,٤٨٠
الزرقاء الأولى	٩٠,٠٨٢	٤٦,٩٥٠	٤٣,١٣٢

مديرية التربية	المجموع	الإناث	الذكور
الرصيفة	٥٢,٦٧٧	٢٧,٢٤٧	٢٥,٤٣٠
قصبه السلط	٢٦,٦٣٩	١٣,٨٠٦	١٢,٨٣٣
الشونة الجنوبية	٨,٤٦٤	٤,٠٦٥	٤,٣٩٩
عين الباشا	١٨,٨٩١	٩,٧٩٧	٩,٠٩٤

المصدر: وزارة التربية والتعليم، الإحصاءات التربوية للعام الدراسي ٢٠٠٥/٢٠٠٦

جدول رقم (٤) توزيع المدارس في وزارة التربية والتعليم حسب المديرية والجنس ٢٠٠٥/٢٠٠٦

مديريات التربية	المجموع	الإناث	الذكور	مختلط
عمان ٢	١٦٢	٤١	٦١	٦٠
عمان ٣	١٠٣	٣١	٤٢	٣٠
عمان ٤	١٢٧	٤٣	٤٨	٣٦
مأدبا	١١٢	١٥	٢٩	٦٨
الزرقاء الأولى	٣١٠	٨٥	٧٠	١٥٥
الرصيفة	١٦٧	٢٩	٤٢	٩٦
قصبه السلط	١٩٧	٢١	٣١	١٤٥
الشونة الجنوبية	٤١	٦	١٣	٢٢
عين الباشا	١١٣	١٧	٢٦	٧٠

المصدر: وزارة التربية والتعليم، الإحصاءات التربوية للعام الدراسي ٢٠٠٥/٢٠٠٦

المدارس المختلطة تعرف بالمدارس التي تشمل ذكور وإناث من الصف الأول وحتى الصف الثالث وعلى إناث فقط من الصف الرابع وحتى الصف الثاني عشر.

٣-٣ النشاط الإقتصادي

يتراوح النشاط الإقتصادي في المناطق قيد الدراسة. مثلاً "معدلات البطالة في مأدبا هي (١٥,٥) وهذه على نحو أعلى مما هي عليه في عمان والزرقاء والتي تبلغ حوالي (١٢,١) و(١٢,٣) على الترتيب. بالإضافة، معدلات البطالة بين الإناث أعلى بكثير مما هي للذكور (جدول رقم ٥). من الجدير بالذكر أن معدل البطالة لكامل المملكة يقدر بـ (١٤).

جدول رقم (٥): معدل البطالة حسب المحافظة والجنس

المحافظة	ذكور	إناث	المجموع
عمان	٩,٩	٢٢,٥	١٢,١
البلقاء	١٢,١	٢٢,٩	١٤,١
الزرقاء	١٠,٧	٢٥,٧	١٢,٣

المحافظة	ذكور	إناث	المجموع
مأدبا	١٣	٢٥,٨	١٥,٥

المصدر: دائرة الإحصاءات العامة، مسح العمالة والبطالة – التقرير السنوي ٢٠٠٦

جدول رقم (٦) في الأسفل يلخص نوع النشاط الإقتصادي في المحافظات قيد الدراسة حسب سنة ٢٠٠٦. يمكن الملاحظة بأن عمان تحوي على النسبة الأكبر من المختصين. ومن الناحية الأخرى، يمكن ملاحظة أن عدد كبير من العمالة في الزرقاء هم من الحرفيين، مشغلي الآلات والمصانع، وعمالة التجارة، وهذا الوضع متوقع حيث أن الزرقاء معروفة بأنها مدينة صناعية، بالإضافة الى أن نسبة كبيرة من العمال في محافظتي البلقاء ومأدبا هم ذوي المهن الأولية.

جدول رقم (٦): الوضع الإقتصادي حسب المحافظة

النشاط	عمان	البلقاء	الزرقاء	مادبا
المشروعون وموظفو الإدارة العليا والمديرون	0.1	0.1	0	0
المتخصصون	24.2	18.4	12.6	18.4
الفنيون والمتخصصون المساعدون	11.7	12.1	10.3	10
الكتبة	5.4	6.6	4.9	8.5
العاملون في الخدمات والباعة في المحلات التجارية والأسواق	17.5	10	15.5	10
العاملون المهرة في الزراعة وصيد الأسماك	0.8	5.4	1	3
العاملون في الحرف وما إليها من المهن	18.2	11.9	22.2	8.8
مشغلو الآلات ومجمعوها	11.8	11.9	16	12.1
المهن الأولية	10.3	23.7	17.5	29.2

٤. المشروع المقترح

المشروع قيد الدراسة يتكون من إنشاء (١٤) مدرسة جديدة في محافظات الوسط في الأردن حيث ستتوزع المدارس كما هو مبين في الجدول رقم (٧) وكما هو موصوف في البنود اللاحقة.

جدول رقم (٧): إسم وموقع المدارس المقترحة

إسم المدرسة	المحافظة
مدرسة أم السماق الثانوية للبنات	عمان-٢
مدرسة أم قصير الأساسية للبنين	عمان-٣
مدرسة سحاب الأساسية للبنين	عمان-٣
مدرسة الرياض الأساسية للبنين	عمان-٤
مدرسة ضاحية الأمير حسن الأساسية المختلطة	عمان-٤

المحافظة	إسم المدرسة
عمان-٤	مدرسة سعد بن أبي وقاس الأساسية للبنين
عمان-٤	مدرسة القادسية الثانوية للبنات
الشونة الجنوبية	مدرسة الجوفة الثانوية للبنين
السلط	مدرسة القابسي الثانوية المختلطة
عين الباشا	مدرسة القادسية الثانوية المختلطة
الزرقاء الأولى	مدرسة جبل طارق الأساسية للبنين
الرصيفة	مدرسة صافية الأساسية المختلطة
الرصيفة	مدرسة شجرة الدر الأساسية للبنات
مأدبا	مدرسة مأدبا الأساسية المختلطة

١-٤ محافظة عمان

١-١-٤ مدرسة أم السماق الثانوية للبنات

تقع هذه المدرسة في مديرية عمان-٢ على قطعة أرض مساحتها (٥٠٠٠م^٢). من المخطط أن تكون هذه المدرسة ثانوية للبنات وتشمل صفوف الأول حتى الثاني عشر مع (٢٤) غرفة صفية. الهدف من إنشاء هذه المدرسة هو استبدال المدارس المستأجرة المجاورة، بالإضافة الى التقليل من نقص المدارس الحكومية في المنطقة، حيث أن أقرب مدرسة هي مدرسة عائشة بنت أبو بكر الثانوية والتي تبعد (٥كم)، والطلبة يسافرون مسافات طويلة يوميا" من أجل الدراسة.



الشكل رقم (٢): (الموقع المقترح) لمدرسة أم السماق الثانية للبنات

٢-١-٤ مدرسة أم قصير الأساسية للبنين

تقع هذه المدرسة في مديرية عمان-٣، تحديداً في منطقة المقابلين. ستكون هذه المدرسة أساسية للبنين وتشمل صفوف الرابع وحتى العاشر، و(٢٥) غرفة صفية. سيتم إنشاء المدرسة على قطعة أرض مساحتها (٩٠٠٠م^٢). من المتوقع أن إنشاء هذه المدرسة سيحل مشكلة دوام الفترتين والإكتظاظ في المدارس المجاورة كمدرسة أم قصير/المقابلين الثانوية للبنين. بالإضافة ستتضمن المدرسة صالة رياضة.



الشكل رقم (٣): الموقع المقترح لمدرسة أم قصير الأساسية للبنين

٣-١-٤ مدرسة سحاب الأساسية للبنين

تقع هذه المدرسة في مديرية عمان-٣ في منطقة سحاب، على قطعة أرض مساحتها (٦٠٠٠ م^٢). نوع المدرسة المطلوب هو أساسية للبنين، وتشمل صفوف الأول وحتى العاشر، و(٣٠) غرفة صفية. تنوي وزارة التربية والتعليم إنشاء هذه المدرسة من أجل استبدال المدرسة المستأجرة حالياً وهي مدرسة عثمان بن عفان الأساسية للبنين. بالإضافة، ستلعب هذه المدرسة دوراً مهماً في حل مشكلة الإكتظاظ في المدارس المجاورة مثل مدرسة سحاب الأساسية للبنين ومدرسة حطين الأساسية للبنين. لذا، من الواضح أنه هناك حاجة ملحة لهذه المدرسة، والتي من المتوقع أن تخدم أربع مدارس مستأجرة للبنين في المنطقة.



الشكل رقم (٤): الموقع المقترح لمدرسة سحاب الأساسية للبنين

٤-١-٤ مدرسة عبد المنعم الرياض الأساسية للبنين

تقع هذه المدرسة في مديرية عمان-٤، في ماركا. من المخطط أن تكون مدرسة أساسية للبنين لتشمل صفوف الأول وحتى العاشر من المقترح أن تتضمن و(٢٣) غرفة صفية. من المتوقع أن هذه المدرسة ستساعد في حل مشكلة الإكتظاظ في المدارس المجاورة مثل مدرسة الكندي الأساسية.



الشكل رقم (٥): الموقع المقترح لمدرسة عبد المنعم الرياض الأساسية للبنين

٥-١-٤ مدرسة ضاحية الأمير حسن الأساسية المختلطة

تقع هذه المدرسة في مديرية عمان-٤ على قطعة أرض مساحتها (٩٠٠٠ م^٢) حيث ستحتوي المدرسة على (٢٩) غرفة صفية وستشمل صفوف تتراوح من الصف الأول وحتى العاشر. من المتوقع أن هذه المدرسة ستحل مشكلة الإكتظاظ ودوام الفترتين في المدارس المجاورة مثل مدرسة ضاحية الأمير حسن الأساسية المختلطة، بالإضافة الى أنها ستستبدل المدارس المستأجرة. قريباً من منطقة المشروع، هناك منطقة جديدة تدعى ضاحية الأقصى تشهد نمواً سكانياً سريعاً وهي بحاجة الى مدراس أساسية. بالإضافة إلى ذلك ستتضمن المدرسة صالة رياضة.



الشكل رقم (٦): الموقع المقترح لمدرسة ضاحية الأمير حسن الأساسية المختلطة

٦-١-٤ مدرسة سعد بن أبي وقاس الأساسية للبنين

تقع هذه المدرسة ضمن مديرية عمان-٤ هي مدرسة أساسية للبنين والتي ستشمل صفوف من الأول وحتى السادس، وتحتوي على (٢٤) غرفة صفية. من المتوقع أن هذه المدرسة ستحل مشكلة الإكتظاظ في المدارس المجاورة مثل مدرسة أبو عبيدة الأساسية، مدرسة نايفة الثانوية، مدرسة مثنى بن مسلم ومدرسة باب الوالد الثانوية. بالإضافة الى أن النمو السكاني التي تشهدها منطقة الهاشمي وبما أنه لا

توجد هناك مساحات فارغة لبناء مدارس، فإن اختيار قطعة أرض مساحتها (٥٠٠٠ م^٢) لبناء المدرسة محاذية لمدرسة أبو عبيدة الأساسية هو أمر مناسب جداً.



الشكل رقم (٧): الموقع المقترح لمدرسة سعد بن أبي وقاس الأساسية للبنين

٧-١-٤ مدرسة القادسية الثانوية للبنات

ستقع هذه المدرسة في مديرية عمان-٤ في منطقة طارق وهي مدرسة ثانوية للبنات ستحتوي على صفوف تتراوح من السابع وحتى الثاني عشر، وستشمل على (٢٨) غرفة صفية. المدرسة ستحل مشكلة الإكتظاظ في المدارس المجاورة كمدرسة نهوند. بالإضافة الى أن مبنى مدرسة القادسية الثانوية هو قديم ويحتاج الى استبدال.

سيتم إنشاء المدرسة على قطعة أرض مساحتها (٥٠٠٠ م^٢)، حيث يوجد عدة مباني سيتم هدمها. أما بالنسبة للمدرسة القائمة، فسيتم تحويلها الى مدرسة أساسية. لا بد من الذكر أن الموقع المقترح للمدرسة هو موقع استراتيجي ويتواجد في مركز منطقة ذات كثافة سكانية عالية.



الشكل رقم (٨): الموقع المقترح لمدرسة القادسية الثانوية للبنات

٢-٤ محافظة البلقاء

١-٢-٤ مدرسة الجوفة الثانوية للبنين

ستقع هذه المدرسة في الشونة الجنوبية في منطقة الجوفة على قطعة أرض مساحتها (١٠,٤٠٠ م^٢) وهي مدرسة ثانوية للبنين، مخصصة لصفوف تتراوح من الأول وحتى الثاني عشر، وستحتوي (٢٢) غرفة صفية. الهدف من إنشاء المدرسة هي حل مشكلة الإكتظاظ في المدارس المجاورة كمدرسة الجوفة الثانوية المختلطة بالإضافة الى تقليل نقص المدارس في المنطقة حيث أن أقرب مدرسة تبعد (٣ كم)، وهي مدرسة الجوفة الثانوية المختلطة. إن إنشاء هذه المدرسة ضرورة في المنطقة حيث أن المدارس المستأجرة، وهي مدرسة الجوفة الأساسية المختلطة وامتداداتها، ومدرسة الجوفة الأساسية المختلطة الثانوية، من المخطط أن يتم استبدالها.



الشكل رقم (٩): الموقع المقترح لمدرسة الجوفة الثانية للبنين

٢-٢-٤ مدرسة القابسي الثانوية المختلطة

تقع هذه المدرسة في السلط في منطقة البحيرة على قطعة أرض مساحتها (٦٥٩٧ م^٢) وهي مدرسة ثانوية مختلطة ستشمل صفوف ابتداءً من الصف الأول وحتى الثاني عشر، وستحتوي على (٢٤) غرفة صفية. الهدف من إختيار هذه المدرسة هو إستبدال المدارس المتسأجرة القريبة وكذلك التقليل من الإكتظاظ في مدرسة ميمونة بنت الحارث الثانوية للبنات المجاورة.



الشكل رقم (١٠): الموقع المقترح لمدرسة القابسي الثانوية المختلطة

٣-٢-٤ مدرسة القادسية الثانوية المختلطة

تقع هذه المدرسة في عين الباشا وتحديدًا في منطقة صافوت على قطعة أرض مساحتها (٣٨٥,٣٥ م^٢). هي مدرسة ثانوية مختلطة ستشمل صفوف ما بين الأول والثاني عشر، وتحتوي (٢٧) غرفة صفية وروضة عدد (٢). تعود الحاجة الملحة لهذه المدرسة في الموقع إلى أن المنطقة في مرحلة نمو سكاني سريع بالإضافة إلى أن أقرب مدرسة أساسية مختلطة في صافوت هي مدرسة قاطمة الزهراء والتي تبعد (٢ كم) وأن المدرسة الممنوحة في داخل مبنى المسجد لآبد من إخلاؤها من طلبة صفوف ما بين الأول والرابع حتى يتم استخدامها كمدرسة أساسية للبنين.



الشكل رقم (١١): الموقع المقترح لمدرسة القادسية الثانوية المختلطة

٣-٤ محافظة الزرقاء

١-٣-٤ مدرسة جبل طارق الأساسية للبنين

ستقع هذه المدرسة في الزرقاء الأولى/منطقة جبل طارق على قطعة أرض مساحتها (٨٠٠٠ م^٢) حيث ستكون مدرسة أساسية للبنين لتشمل صفوف الأول وحتى العاشر، وتحتوي على (٢٣) غرفة صفية. كما هو الحال بالنسبة للمدارس الأخرى، فإنه من المتوقع أن إنشاء هذه المدرسة سيساعد في حل مشكلة

الإكتظاظ في المدارس المجاورة كمدرستي أم كلثوم والجاحظ الثانوية، بالإضافة الى أن هذه المدرسة ضرورية لسكان المنطقة حيث أنه أقرب مدرسة للمنطقة قيد الدراسة تبعد (٢ كم). ومع ذلك، فإن الموقع المقترح للمدرسة يعتبر منحدر شينا" ما، وبالتالي قد يكون لذلك أثر على تكاليف البناء.



الشكل رقم (١٢): الموقع المقترح لمدرسة جبل طارق الأساسية للبنين

٢-٣-٤ مدرسة صافية الأساسية المختلطة

تقع هذه المدرسة في الرصيفة/منطقة التطوير الثالثة على قطعة أرض مساحتها (٦٠٠٠ م^٢) وهي مدرسة أساسية مختلطة ستحتوي على صفوف من الأول وحتى الثالث في (٢٤) غرفة صفية وروضة عدد (٢). من المتوقع بأن إنشاء هذه المدرسة سيحل مشكلة الإكتظاظ في المدارس المجاورة كمدرسة زينب بن صدام الثانوية ومدرسة البيروني الثانوية الأساسية، بالإضافة الى حل مشكلة دوام الفترتين في مدرستي فاطمة الزهراء الأساسية وفاطمة الزهراء الأساسية المختلطة.



الشكل رقم (١٢): الموقع المقترح لمدرسة صافية الأساسية المختلطة

٣-٣-٤ مدرسة شجرة الدر الأساسية للبنات

ستقع هذه المدرسة في الرصيفة على قطعة أرض مساحتها (١٣١,٤ م^٢). هي مدرسة أساسية للبنات وتشمل على صفوف الأول وحتى العاشر، وتحتوي على (٢٩) غرفة صفية وروضة عدد (٢). الحاجة الى هذه المدرسة تكمن في أنها ستحل مشكلة دوام الفترتين في مدرستي جبل الأمير فيصل الأساسية

الأولى وجبل الأمير فيصل الأساسية الثانية. بالرغم من ذلك، فإن الانحدار الشديد في قطعة الأرض المقترحة سيرفع من تكاليف الإنشاء.



الشكل رقم (١٣): الموقع المقترح لمدرسة شجرة الدر الأساسية للبنات

٤-٤ محافظات مادبا

١-٤-٤ مدرسة مادبا الأساسية المختلطة

ستقع هذه المدرسة في مادبا على قطعة أرض مساحتها (٢٥,٢٠٠ م^٢) حيث ستشمل على صفوف الأول وحتى السادس، وستحتوي على (٢٤) غرفة صفية وروضة عدد (٢). بالنتيجة، ستساهم المدرسة في استبدال المدرسة المستأجرة القريبة منها بالإضافة الى أنها ستحل مشكلة الإكتظاظ في المدارس المجاورة، وهي مدرسة الأميرة بسمة الثانوية، والتي تقع على بعد (٣٠٠ متر)، حيث أن قطعة الأرض صغيرة ولا يمكنه إضافة أي إمدادات أفقية أو عمودية إليها.



الشكل رقم (١٤): الموقع المقترح لمدرسة مادبا الأساسية المختلطة

٥. القضايا البيئية

بعد زيارة المواقع وإتمام البحث المبدئي للمعلومات المتوفرة عن المشروع، ظهرت أمور بيئية عديدة والتي ثبت أنها ذات أهمية لعملية إنشاء المدارس المقترحة. هذه الأمور موضحة في الفقرات التالية

وسيتم مناقشتها خلال الجلسة. أما فيما يخص الأمور الأخرى التي سيتم تحديدها خلال المناقشات فسيتم إضافتها لاحقاً. كما سيتم عرض حلول لمنع وتخفيف الآثار السلبية التي قد تطرح من خلال الجلسة.

لغايات الجلسة تم توزيع الأمور البيئية الى ثلاث فئات كما يلي:-

- القضايا المتعلقة بأعمال التنفيذ
- الشؤون الاجتماعية والاقتصادية
- القضايا المتعلقة بالصحة والسلامة العامة

١-٥ القضايا المتعلقة بأعمال التنفيذ

بشكل عام، تكون التأثيرات البيئية خلال مرحلة التنفيذ للمشروع سلبية. لحسن الحظ، معظم هذه التأثيرات مؤقتة ويمكن تخفيفها عن طريق أخذ الاحتياطات الضرورية. بالنسبة لهذا المشروع، تم تحديد الأمور التالية التي لها علاقة بأعمال التنفيذ:-

- سلامة وصحة العمال
- نظافة العمال
- زيادة حركة السيارات
- تلوث ناتج عن الغبار
- زيادة الطلب على المياه
- تلوث التربة والمياه
- ركود المياه في برك مكشوفة
- النفايات الصلبة الناتجة عن أعمال التنفيذ
- توقيت أعمال التنفيذ

٢-٥ الشؤون الاجتماعية والاقتصادية

أي مشروع تطويري قد ينتج عنه الكثير من الفوائد على الناحية الاجتماعية والاقتصادية للمجتمع المجاور. تتراوح هذه الفوائد من خلق فرص عمل الى تخفيض وقت التنقل اليومي. فيما يلي الأمور الأساسية التي تم تحديدها خلال مرحلة البحث المبدئية:

- التفاعل بين الطلاب والصفوف
- الوضع النفسي للطلاب داخل الصف (من حيث ألوان الجدران والإنارة ودرجة الحرارة والغبار)
- تسهيل مراقبة الطلاب من قبل المدراء والمشرفين
- فرص العمل والتنمية الاقتصادية للمنطقة
- استعمالات الأراضي
- مناطق أثرية وتراثية
- زيادة حركة السيارات عند بداية ونهاية الدوام
- تقليص المسافة والوقت للوصول الى المدرسة
- صيانة مبنى المدرسة

- توفير الطاقة (مثل استخدام إنارة الشمس بدلاً من الإضاءة والمراوح بدلاً من التكييف)
- زيادة الطلب على المياه لغايات الري وللأستعمالات في دورات المياه (مثل استعمال المياه الرمادية ومراحيض بدون مياه)
- ري المناطق الخضراء

٣-٥ القضايا المتعلقة بالصحة والسلامة العامة

من المتطلبات الأساسية لإنشاء أي مدرسة هو توفير بيئة صحية وسليمة للطلاب وللمعلمين وكل من يعمل فيها. لتحقيق هذه الغاية، تم تحضير لائحة للعناصر التي تحتاج إلى الانتباه عند التصميم والتنفيذ والتشغيل. ومن هذه الأمور التي تم تحديدها:

- الوقاية من الأمراض المعدية
- توفير مياه الشرب وطريقة توزيعها
- نظافة الحمامات والمراحيض
- نظافة مبنى المدرسة
- الوقاية من حوادث السير
- الحماية من الدخلاء الى المدرسة
- السلامة في مشاغل البنين والبنات
- توفير تسهيلات للطلاب ذوي الحاجات الخاصة
- الحماية من الزلازل

٦. الوصف المبدئي لتقرير الجلسة الحوارية

البند الذي سيتم وضعها في تقرير الجلسة الحوارية (Scoping Statement) تستند على التشريعات البيئية الأردنية وتشريعات منظمة USAID. حيث سيضم التقرير الأمور التالية:

- وصف مقنضب للمشروع
- وصف للموقع
- وقائع الجلسة الحوارية (يشمل أسماء المشاركين، المكان، جدول الأعمال، النشاطات، الخ).
- نتائج الجلسة الحوارية ويشمل تحليل للإستبيانات، بالإضافة الى القضايا البيئية المهمة التي نتجت عن الجلسة.
- طريقة العمل المقترحة لتقييم الأثر البيئي وتشمل قائمة المحتويات والجدول الزمني المبدئي.

Appendix B
List of Agencies Invited and Attendees to the Scoping
Session, Letter of Invitation, and Agenda

List of Agencies Invited to the Scoping Session

1. Ministry of Education
2. United States Agency for International Development:
3. Consolidated Consultants
4. Ministry of Environment (Minister of Environment, Secretary General)
5. Ministry of Health and School Health Directorate
6. Environmental Police (Operations Division, Management & Human Resource Division)
7. INJAZ
8. USAID support program: ESP
9. USAID support programs: Save the Children
10. Ministry of Social Development
11. Ministry of Tourism & Antiquities / Directorate of Archaeology
12. Ministry of Planning & International Cooperation
13. Ministry of Interior/Public Security Directorate and Relevant Governors
14. Ministry of Water & Irrigation
15. Water Authority of Jordan
16. Ministry of Energy & Mineral Resources
17. Ministry of Awqaf & Islamic Affairs
18. Civil Defence Directorate
19. Natural Resources Authority
20. Electricity Sector Regulatory Commission
21. Jordan Environment Society
22. Jordan Engineers' Association
23. Friends of the Environment Society
24. Royal Society for the Conservation of Nature
25. General Union for Voluntary Societies
26. Friends of Archaeology
27. General Federation of Jordanian Women
28. Friends of the Earth
29. Jordan Society for Sustainable Development
30. Jordan Society for the Prevention of Road Accidents
31. Directorate of Education of Amman 2
32. Directorate of Education of Amman 3
33. Directorate of Education of Amman 4
34. Directorate of Education of Madaba
35. Directorate of Education of Ein AL-Basha

36. Directorate of Education of South Shouneh
37. Directorate of Education Salt
38. Directorate of Education of Russaifeh
39. Directorate of Education of Zarqa
40. Greater Amman Municipality
41. Municipality of Madaba
42. Municipality of Salt
43. Municipality of Ein Al-Basha
44. Municipality of Zarqa
45. Municipality of Russaifeh
46. Municipality of Middle Shouneh
47. Representatives of the local community (including parents, students, teachers and principals)

List of Attendees to the Scoping Session

Agency/Organization	Name
Civil Defence	Muneeb Awawdeh
Civil Defence	Eng. Mohammad Al-Ghram
Consolidated Consultants (CC)	Eng. Muna Al-Khateeb
Consolidated Consultants (CC)	Eng. Leena Wakeeleh
Ministry of Social Development	Eng. Riyadh Souod Al-Dayafleh
Ministry of Planning & International Cooperation	Eng. Ahmad Al-Jazzar
General Federation of Jordanian Women	Kaltham Al-Abadi
General Federation of Jordanian Women	Hind Salem Al-Faraj
Save the Children	Jason Erb
INJAZ	Rami Sheshan
Jordan Environment Society	Rania Al-Omari
Friends of Archaeology	Ashareefeh Nawafah Bint Naser
Friends of Archaeology	Dr. Mohammad An-Najjar
Jordan Society for the Prevention of Roads Accidents	Eng. Tareq Abu-Mahfooz
Jordan Society for the Prevention of Roads Accidents	Eng. Jameel Ali Mjahed
Ministry of Water and Irrigation	Rawan Al-Batsh
Jordan Valley Authority	Dr. Khaleel Al-Absi
Jordan Valley Authority	Eng. Adnan Gharaybeh
Ministry of Environment	Eng. Izzat Abu-Hamra
Environmental Police / Management and Human Resource Division	Eng. Jirah Az-Zoubi
Environmental Police / Operations Division	Eng. Ameera Al-Wishah
Ministry of Education / Secretary general	Dr. Ahmad Al-Battah
Ministry of Education	Eng. Dana Ahmad Nsoor
Ministry of Education	Eng. Mansoor Al-Abadi
Ministry of Education	Eng. Muneera Mohammad Hamdan
Ministry of Education / Engineering Studies Manager	Eng. Iman Arabiyat
Ministry of Education	Eng. Osama Mughied
Ministry of Education	Fouzi Rasheed
Directorate of Education of Madaba / Head of	Eng. Faisal Al-Yakoob

Agency/Organization	Name
Buildings Division	
Directorate of Education of Madaba / Teacher	Dr. Khawla Al- Maiah
Directorate of Education of Madaba / Teacher	Ali Raji Al-Radawneh
Directorate of Education of Madaba / Teacher	Mohammad Abu-Rayyah
Directorate of Education of Madaba / Parent	Ghada Al-Zibin
Directorate of Education of Madaba / Parent	Mohammad Al-Shakhatreh
Directorate of Education of Madaba / Parent	Hiyam Al-Najadah
Directorate of Education of Madaba / Student	Wala' Al-Zibin
Directorate of Education of Madaba / Student	Raed Al-Shakhatreh
Directorate of Education of Madaba / Student	Aroob Al-Halaibeh
Directorate of Education of Madaba	Ghazi Adel Moustafa
Directorate of Education of Salt	Eng. Hassan An-Najjar
Directorate of Education of Salt	Eng. Rawdah Al-Odwan
Directorate of Education of Salt/ Parent	Amani Khashman
Directorate of Education of Salt/ Student	Hadeel Khashman
Directorate of Education of Salt/ Teacher	Badriyeh Abu-Fara
Directorate of Education of Salt/ Parent	Rana Mifleh
Directorate of Education of Salt/ Student	Razan Abu-Al-Ragheb
Directorate of Education of Salt/ Teacher	Fida2 AL-Hadidi
Directorate of Education of Salt	Mohammad Hiyas
Directorate of Education of Salt/ Parent	Najeh Jaber
Directorate of Education of Salt/ Student	Ahmad Jaber
Directorate of Education of Salt	Soubhi Al-Omari
Directorate of Education of Ein Al-Basha	Jameel An-Nashash
Directorate of Education of Ein Al-Basha / Parent	Kamal Abd Sabeq
Directorate of Education of Ein Al-Basha / Student	Zeid Kamal Sabeq
Directorate of Education of Ein Al-Basha / Student	Shaima' Yaseen Khaleel
Directorate of Education of Ein Al-Basha / Teacher	Saleh Ali Samara
Directorate of Education of Ein Al-Basha	Eng. Hassan Al-Faouri
Directorate of Education of Ein Al-Basha	Intisar Jamal Abd-Alaziz
Directorate of Education of Ein Al-Basha	Najwah Rashad Falah Awwad
Directorate of Education of Ein Al-Basha	Maisa' Farouq Khaleel Alloush
Directorate of Education of Amman 2	Eng. Waleed Nsoor


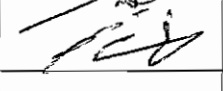
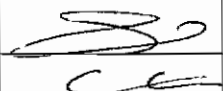


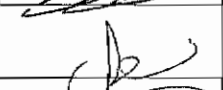


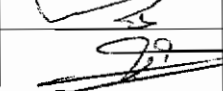
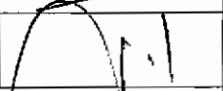
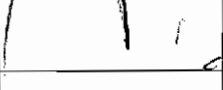


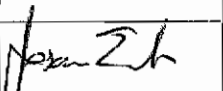
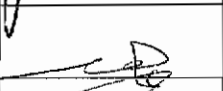

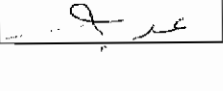


Agency/Organization	Name
Directorate of Education of Amman 2	Sami Nsoor / Student
Directorate of Education of Amman 2	Mohammad Al-Khawaldeh
Directorate of Education of Amman 2 / Parent	Abdalla Saleh Khader
Directorate of Education of Amman 2 / Student	Ameer Abdalla Khader
Directorate of Education of Amman 2 / Student	Ahmad Mahmood Taref
Directorate of Education of Amman 3	Zuheir Abu-Zahra
Directorate of Education of Amman 3	Haijar Al-Absi
Directorate of Education of Amman 3	Hussam Al-Safadi
Directorate of Education of Amman 3	Khaled AL-Breem
Directorate of Education of Amman 3	Ephon Setawi
Directorate of Education of Amman 3	Deif-Allah Al-Jbour
Directorate of Education of Amman 4	Eng. Husam Waraween
Directorate of Education of Amman 4	Haiffa Al-Qaq
Directorate of Education of Amman 4	Muna Washah
Directorate of Education of Russaifeh	Taghreed Rida Mustafa
Directorate of Education of Russaifeh	Nida'a Ibrahim Al-Barghooti
Directorate of Education of Russaifeh	Ahmad Yousef
Directorate of Education of Russaifeh	Eqab Mansour
Directorate of Education of Russaifeh	Bara' Al-Hourshi
Directorate of Education of Russaifeh	Sana' Abdalla
Directorate of Education of Russaifeh	Rawan Abdalla
Directorate of Education of Zarqa -1	Eman Abd-Alhafeth
Directorate of Education of South Shouneh	Dr. Taiseer Arabi
Directorate of Education of South Shouneh	Mohammad Al-Waheedi
Directorate of Education of South Shouneh	Yousef Al-Irman
USAID	Dr. Amal Hijazi
USAID	David Bruns
USAID	Dr. Issam Omar

**Jordan Schools Construction and Rehabilitation Programme -
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ورشة عمل لتقييم الأثر البيئي - برنامج انشاء و ترميم مدارس الاردن

Registration of Participants

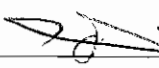

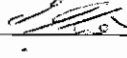
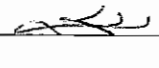

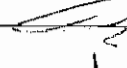
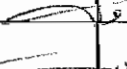
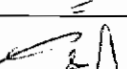
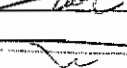
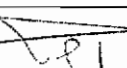
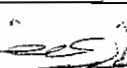


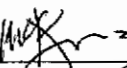

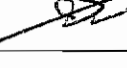
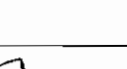
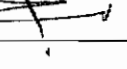

تسجيل المشاركين

Signature التوقيع	Agency/Organization الجهة	Name الاسم
	مدير ترسيم حاددا	غنازي عازل علف
	ترسيم عبد الله العلف	صالح عبد الحميد العلف
	ترسيم عبد الله العلف	حسان سالم الفاعور
	مدير ترسيم حاددا	صبيح العلف
	ترسيم لؤي حاددا	نورين العرفان
	ترسيم عبد الله العلف	صفي الله عبد الحبيب
	ترسيم لؤي حاددا	انصاف زحال عبد العزيز زحال
	ترسيم لؤي حاددا	خوي سادق خوي
	ترسيم لؤي حاددا	صافي وفاق خوي
	ترسيم لؤي حاددا	د. عبد الله العلف
	ترسيم لؤي حاددا	د. عبد الله العلف
	ترسيم لؤي حاددا	د. عبد الله العلف
	ترسيم لؤي حاددا	د. عبد الله العلف
	ترسيم لؤي حاددا	د. عبد الله العلف
	ترسيم لؤي حاددا	د. عبد الله العلف
	ترسيم لؤي حاددا	د. عبد الله العلف
	ترسيم لؤي حاددا	د. عبد الله العلف
	ترسيم لؤي حاددا	د. عبد الله العلف
	ترسيم لؤي حاددا	د. عبد الله العلف

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Environmental Scoping Session**
ورشة عمل لتقييم الأثر البيئي - برنامج انشاء و ترميم مدارس الاردن

Registration of Participants

تسجيل المشاركين

Signature التوقيع	Agency/Organization الجهة	Name الاسم
	مديرية التربية والتعليم / اربد	م. هسان النجار
	مهندسة / مديرية اربد	م. روشن الهذاري
	رئيسة لجنة / مديرية اربد	السيدة امانى حطار
	طالبة / مديرية السلط	الآنسة هديل حطار
	معلم / مديرية اربد	السيد يوسف النوفار
	رئيسة منزل / مديرية اربد	السيد سعد النجار
	طالبة / مديرية اربد	الآنسة زيات ابو الراغب
	معلم / مديرية اربد	السيد فادي الحديدي
	مدرس / عامه اربد	السيد عيسى الحطار
	أديب / مديرية اربد	محمد عبد الفتاح الكرمي
	وكيل اربد	نايف حوريات جابر
	طالبة / مديرية اربد	احمد نايف حوريات جابر
	الادعيا والشاقي اربد	لهذا سالم العزج
	مديرية عمان / اربد	م. حسام وراحم
	الوكيل اربد / اربد	د. آمل حجازي
	CDM	BILL MCKENZIE
	مديرية اربد / اربد	جميل حطار
	مديرية اربد / اربد	كمال عبد سام
	مديرية اربد / اربد	زيد كمال سام
	مديرية اربد / اربد	د. شير عرابي

Jordan Schools Construction and Rehabilitation Programme - Environmental Scoping Session

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Registration of Participants

تسجيل المشاركين

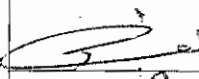
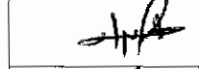

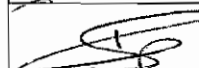

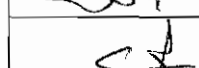


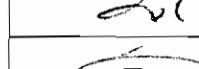

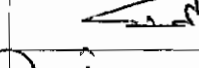
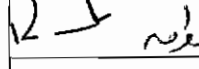
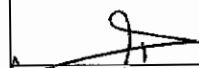


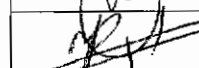
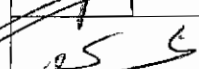




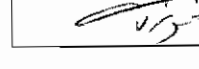
[illegible]


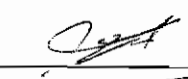
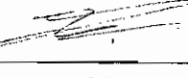



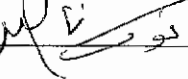











**Jordan Schools Construction and Rehabilitation Programme -
Environmental Scoping Session**

ورشة عمل لتقييم الأثر البيئي - برنامج انشاء و ترميم مدارس الاردن

Registration of Participants

تسجيل المشاركين

Signature التوقيع	Agency/Organization الجهة	Name الاسم
	شركة البنية التحتية	غسان الخياط
	الجمعية الأردنية للتربية البيئية المدارس	طارق أبو مضاف
	مدرسة مازدا الثانوية	وليد الفاييز
	ابو بكر الصديق للبنين / عمان	خالد محمد المراد
	وزارة البيئة / عمان	م. يوسف
	وزارة التخطيط والتنمية الاقتصادية	م. احمد الجزار
	م. م	م. الفاييز
	م. م	م. السيد
	وزارة البيئة	م. الفاييز
	الجمعية الأردنية للتربية البيئية	م. الفاييز
	الجمعية الأردنية للتربية البيئية	م. الفاييز
	الجمعية الأردنية للتربية البيئية	م. الفاييز
	وزارة التربية والتعليم	م. الفاييز
	وزارة التربية والتعليم	م. الفاييز
	الكلية الهندسية	م. الفاييز
	الكلية الهندسية	م. الفاييز
	الكلية الهندسية	م. الفاييز
	الكلية الهندسية	م. الفاييز
	الكلية الهندسية	م. الفاييز
	الكلية الهندسية	م. الفاييز
	الكلية الهندسية	م. الفاييز
	الكلية الهندسية	م. الفاييز

Signature التوقيع	Agency/Organization الجهة	Name الاسم
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد
	مديرية الزراعة	السيد محمد



United States Agency
For International Development



وزارة التربية و التعليم
الأردن

To:

إلى:

Subject: Environmental Scoping Session
Project: Jordan Schools Construction and Rehabilitation Program

الموضوع: ورشة عمل تقييم الأثر البيئي
المشروع: برنامج إنشاء وإعادة تأهيل مدارس في الأردن

Dear Sirs,

تحية طيبة وبعد،

The Ministry of Education of Jordan with the cooperation of the United States Agency for International Development (USAID) is executing the *Jordan Schools Construction and Rehabilitation Program*. This Program includes the construction of 14 new schools in the Middle governorates of Jordan. CDM International is the Project Manager, and Engicon, is providing consulting services on environmental issues.

تقوم وزارة التربية والتعليم بدعم من الوكالة الأمريكية للتنمية الدولية (USAID) بتنفيذ برنامج إنشاء وإعادة تأهيل مدارس في الأردن. ويتضمن البرنامج إنشاء ١٤ مدرسة في محافظات الوسط. تقوم شركة سي دي إم (CDM) العالمية بإدارة هذا البرنامج، كما تقوم شركة المستشار للهندسة بتزويد الخدمات الاستشارية البيئية.

To this effect, our Team is preparing an Environmental Impact Assessment to evaluate the anticipated effects that the project may have on the environment and the community, as well as how the physical and cultural environment will impact our projects. As part of this process a Scoping Session will be held to encourage discussion of the possible pertinent environmental issues that have been identified.

يجري في الوقت الحالي تحضير دراسة حول التقييم البيئي ومدى تأثير هذا المشروع على البيئة. وكجزء من عملية التقييم وتقليل التأثيرات السلبية المحتملة على البيئة، ستعقد ورشة عمل يقوم المشاركون من خلالها مناقشة القضايا البيئية المتعلقة بالمشروع.

Therefore, we are pleased to invite you to participate in this Scoping Session, which will be held on 03/09/2007 between 9 am and 2 pm, Holiday Inn Hotel Amman. We kindly request that you inform us of the names of one or two representatives who will be attending. Please notify in advance Ms. Lama Bashour (Engicon) by telephone 06/4602120 or fax 06 4602130. Enclosed please find a copy of the Scoping Session's agenda.

وعليه يسرنا أن نوجه لكم الدعوة للمشاركة في هذه الورشة التي ستعقد يوم الخميس الموافق ٢٠٠٧/٩/٣ ما بين الساعة التاسعة صباحا و الثانية من بعد الظهر في فندق الهولندي إن راجين النكرم بتسمية شخصين من طرفكم للحضور والاتصال للتأكيد مع السيدة لمى بشور (شركة المستشار للهندسة) على هاتف رقم (٠٦/٤٦٠٢١٣٠) أو فاكس رقم (٠٦/٤٦٠٢١٣٠). مرفق طيه نسخة عن جدول أعمال الجلسة.

Please be advised the Session will be conducted in Arabic.

يرجى التكرم بالعلم بأن الجلسة ستعقد باللغة العربية.

Yours sincerely

وتفضلوا بقبول فائق الاحترام،

Dr. Ahmad Al-Battah

د. أحمد البطاح

Secretary General of
Administrative And Financial Affairs
Ministry of Education

أمين عام الشؤون الادارية والمالية
وزارة التربية و التعليم

جدول الأعمال

ورشة عمل للدراسة البيئية الخاصة برنامج
إنشاء وإعادة تأهيل مدارس الأردن
فندق الهوليداي إن - عمان
٢٠٠٧/٩/٣

-
- ٩,٠٠ - ٩,١٥ صباحاً : تسجيل الحضور
- ٩,١٥ - ٩,٣٠ صباحاً : الافتتاح:
كلمة مندوب وزارة التربية والتعليم
كلمة مندوب الوكالة الأمريكية للتعاون الدولي
كلمة عطوفة أمين عام وزارة التربية والتعليم
- ٩,٣٠ - ٩,٥٠ صباحاً : وصف المشروع ومكوناته
- ٩,٥٠ - ١٠,١٠ صباحاً : إستراحة
- ١٠,١٠ - ١٠,٣٠ صباحاً : استعراض للشؤون البيئية الأولية المتعلقة بالمشروع
- ١٠,٣٠ - ١١,٣٠ صباحاً : استفسارات ومناقشات
- ١١,٣٠ - ١٢,٣٠ ظهراً : تقسيم إلى فرق عمل:
• الشؤون الاجتماعية والاقتصادية
• الشؤون المتعلقة بأعمال التنفيذ
• الشؤون المتعلقة بالصحة والسلامة العامة
- ١٢,٣٠ - ١٢,٤٥ ظهراً : استعراض نتائج فرق العمل
- ١٢,٤٥ - ١,١٥ ظهراً : تعبئة إستمارة الآثار البيئية
- ١,١٥ - ١,٣٠ ظهراً : اختتام الجلسة
- ١,٣٠ ظهراً : وجبة غداء



AGENDA

Environmental Scoping Session for Jordan Schools Construction and Rehabilitation Programme

Holiday Inn - Amman
03/09/2007

- | | | |
|-------------------------|----------|---|
| 9.00 – 9.15 am | : | Registration of Participants |
| 9.15 – 9.30 am | : | Opening Remarks
Ministry of Education
USAID
Secretary General of Ministry of Education |
| 9.30 – 9.50 am | : | Project Description |
| 9.50 – 10.10 am | : | Coffee Break |
| 10.10 – 10.30 am | : | Presentation of Identified Environmental Issues |
| 10.30 – 11.30 am | : | Questions and Discussion |
| 11.30 – 12.30 pm | : | Breakout Groups: <ul style="list-style-type: none">• Socioeconomic Issues• Construction Issues• Public Health & Safety Issues |
| 12.30 – 12.45 pm | : | Presentation of Results of Breakout Groups |
| 12.45 – 1.15 pm | : | Filling Out of Environmental Assessment Questionnaire |
| 1.15 – 1.30 pm | : | Concluding Remarks |
| 1.30 pm | : | Lunch |

Appendix C
Environmental Issues Questionnaire

Environmental Scoping Questionnaire

Name: _____ Agency: _____

Instructions:

Please answer this questionnaire by evaluating each item according to the shown evaluation scheme below. Please fill in the item response by writing its grade (0-5) inside the box .

Evaluation scheme

Irrelevant Issue	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
0	1	2	3	4	5

Any further comments such as possible mitigation measures would also be useful. Please feel free to include them in the provided space for each item separately.

Construction Issues

1. Occupational safety and health: Are there any possible risks to the health and safety of the workers on the site? If you agree, please specify.

Response Comment: _____

2. Workers sanitation: Do you believe that the workers' hygiene on site may have an impact on the surrounding environment? (Ex. toilet facilities, adequacy of water supply, etc)

Response Comment: _____

3. Traffic: Will generated traffic as a result of construction vehicles have a high negative impact on the normal traffic in the area?

Response Comment: _____

4. Noise: Do you think the noise from construction activities will drastically affect the residents of the neighboring areas?

Response Comment: _____

5. Dust pollution: Do you think that the dust generated as a result of excavation and other activities have a high negative impact on the neighboring residents?

Response Comment: _____

6. Water demand: Will the increase in water demand during construction create a burden on the water supply?

Response Comment: _____

7. Soil and water pollution: Is there a chance of soil or water pollution as a result of construction activities?

Response ☐ Comment: _____

8. Water stagnation: Is stagnation of water, which may provide a breeding place for disease-carrying insects, a major issue of concern in this project?

Response ☐ Comment: _____

9. Waste generation: Will generation of construction waste pose a nuisance on the neighboring areas?

Response ☐ Comment: _____

10. Employment opportunities: Will job creation present a significant positive impact on the local community where the project will be located?

Response ☐ Comment: _____

Socio-economic Issues

1. Interaction between students / classes: Are there any concerns about students interacting with each other outside of their classes, particularly regarding different grades?

Response ☐ Comment: _____

2. Student psyche inside the classroom (color of walls, sunlight, temperature, dust): Do you think these issues are important. If you agree, please specify.

Response ☐ Comment: _____

3. Monitoring of student behavior by supervisors: Do you think it is important that the school supervisors be able to achieve proper monitoring of the students?

Response ☐ Comment: _____

4. Employment and economic development: Will the school contribute to employment and economic development in the area?

Response ☐ Comment: _____

5. Land use: Will the project affect the land use in the surrounding areas?

Response ☐ Comment: _____

6. Archaeological resources: Do you think that any sites of archeological value may be uncovered or damaged by this project? If you agree, please specify.

Response ☐ Comment: _____

7. Traffic: Will traffic congestion during dropping off and picking up hours have a significant impact on the neighboring area?

Response ☐ Comment: _____

8. Travel time to and from school: Will the location of the new schools decrease the travel time for students significantly?

Response ☐ Comment: _____

Public Health & Safety Issues

1. Communicable disease prevention: Is there any relation between the school facilities and the spread of disease? If you agree, please specify.

Response ☐ Comment: _____

2. Potable water supply and distribution: Will the schools present any increased stress on water supply? If you agree, please specify.

Response ☐ Comment: _____

3. Sanitary facilities: Is there a possibility that odor and contamination be caused by the sanitary facilities? If you agree, please specify.

Response ☐ Comment: _____

4. Indoor and outdoor safety issues for students (tripping, falling and sunstroke): Is there a risk of accidents to students in the school? If you agree, please specify.

Response ☐ Comment: _____

5. Injury from car accidents: Is there a threat to students from being hit by passing cars on their way to and from school?

Response ☐ Comment: _____

6. Protection from intruders: Are intruders to the school a cause for alarm

Response ☐ Comment: _____

7. Safety in workshops for males and females: Are there any safety concerns regarding the school

Response ☐ Comment: _____

8. Provisions for physically challenged students: Should there be facilities for the physically challenged students?

Response ☐ Comment: _____

9. Earthquake protection measures: Should there be special safety measures in the school to protect from seismic activities?

Response ☐ Comment: _____

Other Comments:

استبيان الورشة البيئية

الاسم: _____ الجهة: _____

التعليمات:

الرجاء تعبئة الاستبيان من خلال وضع الإجابة في الخانة ☐ مخصصة للإجابة وتكون الإجابات من رقم (٥-٠) كالآتي:

صفر	١	٢	٣	٤	٥
لا يوجد علاقة	أعارض بشدة	أعارض	حيادي	أوافق	أوافق بشدة

إذا أردت إضافة أية ملاحظات مثل اقتراح إجراءات وقائية أو تخفيفية، هنالك بند مخصص لذلك الغرض عند كل سؤال.

أ. القضايا المتعلقة بأعمال التنفيذ

(١) **سلامة وصحة العمال:** هل هنالك أية مخاطر على صحة وسلامة العمال في الموقع؟ إذا توافق، الرجاء التحديد.

الإجابة: ☐ ملاحظات: _____

(٢) **نظافة العمال:** هل تعتقد بأن النظافة الشخصية للعمال في الموقع قد يكون لها تأثير على البيئة المحيطة (مثلاً: دورات المياه، مصدر الماء الملئ)؟

الإجابة: ☐ ملاحظات: _____

(٣) **حركة السير:** هل زيادة حركة السير التي ستنشأ عن الجرافات والمركبات الخاصة بعملية التنفيذ سيكون لها تأثير سلبي على حركة السير العادية في المنطقة؟

الإجابة: ☐ ملاحظات: _____

(٤) **الضجيج:** هل تعتقد أن الضجيج الناتج عن نشاطات التنفيذ سيسبب أي ضرر على سكان المناطق المجاورة؟

الإجابة: ☐ ملاحظات: _____

(٥) **تلوث ناتج عن الغبار:** هل تعتقد أن الغبار الذي سينتج عن عمليات الحفر وأي أعمال أخرى عند التنفيذ سيكون لها أثر سلبي على السكان المجاورين؟

الإجابة: ☐ ملاحظات: _____

(٦) **زيادة الطلب على المياه:** هل سيؤدي زيادة الطلب على المياه خلال فترة التنفيذ إلى ضغط على الموارد المائية؟

الإجابة: ☐ ملاحظات: _____

(٧) **تلوث التربة والمياه:** هل هناك إمكانية لتلوث المياه (السطحية أو الجوفية) والتربة كنتيجة لأعمال التنفيذ؟

الإجابة: ☐ ملاحظات: _____

(٨) **ركود المياه في برك:** هل إمكانية ركود المياه تعتبر ذات أهمية بالغة بالنسبة للمشروع قيد الدراسة، علماً بأنها قد تشكل بيئة ملائمة لنمو الحشرات التي تنقل الأمراض؟

الإجابة: ☐ ملاحظات: _____

(٩) **النفائات الصلبة الناتجة عن أعمال التنفيذ:** هل من الممكن أن تسبب النفائات الناتجة عن أعمال التنفيذ إزعاجاً للمناطق المجاورة؟

الإجابة: ☐ ملاحظات: _____

(١٠) **فرص العمل:** هل من الممكن أن تشكل فرص العمل الجديدة الناتجة عن أعمال التنفيذ تأثير إيجابي على المجتمع المحلي المتواجد في منطقة المشروع؟

الإجابة: ☐ ملاحظات: _____

ب. الشؤون الإجتماعية والإقتصادية

(١) **التفاعل بين الطلاب / الصفوف:** هل هناك أي أهمية لتفاعل الطلبة معاً خارج صفوفهم؟

الإجابة: ☐ ملاحظات: _____

(٢) **نفسية الطالب داخل الصف (من حيث ألوان الجدران، أشعة الشمس، درجة الحرارة):** هل تعتقد أن لهذه الأمور أي أهمية في المشروع؟ إذا توافق، الرجاء التحديد.

الإجابة: ☐ ملاحظات: _____

(٣) **تسهيل مراقبة الطلاب من قبل المدراء والمشرفين:** هل تعتقد أنه من المهم تسهيل مراقبة الطلاب من قبل المدراء والمشرفين؟

الإجابة: ☐ ملاحظات: _____

(٤) **فرص العمل والتنمية الإقتصادية للمنطقة:** هل ستؤمن المدرسة فرص العمل وتساهم على التنمية الإقتصادية في المنطقة؟

الإجابة: ☐ ملاحظات: _____

(٥) **إستعمالات الأراضي:** هل سيؤثر المشروع على كيفية استخدام الأراضي في المناطق المجاورة؟ إذا توافق، الرجاء التحديد.

الإجابة: ☐ ملاحظات: _____

(٦) **المناطق الأثرية والتراثية:** هل تعتقد أنه يمكن أن يؤدي المشروع الى تخريب لأية مناطق أثرية؟ إذا توافق، الرجاء التحديد.

الإجابة: ☐ ملاحظات: _____

(٧) **حركة السير:** هل ستؤدي زيادة حركة السيارات عند بداية ونهاية الدوام الى أزمة سير في المناطق المجاورة؟

الإجابة: ☐ ملاحظات: _____

(٨) **وقت الرحلة من وإلى المدرسة:** هل سيقفل موقع المدارس الجديدة وقت الرحلة من وإلى المدرسة؟

الإجابة: ☐ ملاحظات: _____

ج. القضايا المتعلقة بالصحة والسلامة العامة

(١) **الوقاية من الأمراض المعدية:** هل هناك أية علاقة بين مرافق المدرسة وإنتشار الأمراض؟ إذا توافق، الرجاء التحديد.

الإجابة: ☐ ملاحظات: _____

(٢) **توفير وطريقة توزيع مياه الشرب:** هل تعتقد بأن توزيع مياه الشرب في المدرسة قد ينتج عنها أية مخاطر للطلاب؟ إذا توافق، الرجاء التحديد.

الإجابة: ☐ ملاحظات: _____

(٣) **مرافق الحمامات والمراحيض:** هل هناك أية احتمالية أن تكون دورات المياه والمراحيض سبب لروائح كريهة أو أي تلوث في المدرسة؟ إذا توافق، الرجاء التحديد.

الإجابة: ☐ ملاحظات: _____

(٤) أمور السلامة الداخلية والخارجية للطلبة (عركلة، وقوع، ضربة الشمس): هل هناك أي خطر لوقوع حوادث للطلبة في المدرسة؟ إذا توافق، الرجاء التحديد.

الإجابة: ☐ ملاحظات: _____

(٥) الإصابات الناجمة عن حوادث السير: هل هناك خطر حوادث مع السيارات المارة عند تنقل الطلاب من وإلى المدرسة؟

الإجابة: ☐ ملاحظات: _____

(٦) الحماية من الدخلاء: هل هناك مخاوف من دخلاء من خارج المدرسة؟

الإجابة: ☐ ملاحظات: _____

(٧) السلامة في مشاغل البنين والبنات: هل هناك أية مخاطر ناتجة عن المشاغل داخل المدرسة؟

الإجابة: ☐ ملاحظات: _____

(٨) تسهيلات للمعوقين جسدياً: هل تعتقد أنه يجب الإهتمام بتوفير تسهيلات للطلبة المعوقين جسدياً؟

الإجابة: ☐ ملاحظات: _____

(٩) الحماية من الزلازل: هل هناك ضرورة للحماية من الزلازل؟

الإجابة: ☐ ملاحظات: _____

د. ملاحظات أخرى:

Minutes of the Scoping Session at Hyatt Hotel, Amman Construction and Rehabilitation of Jordan Schools / Middle Governorates

- Speech of the Representative of the Ministry of Education / Eng. Osama Mugheid / Head of the Buildings Department
- Speech of the Representative of USAID / Mr. David Bruns
- Speech of the Secretary General of the Ministry of Education / Dr. Ahmad Battah
- Speech of the Mission Environment Officer of USAID / Dr. Amal Hijazi
- Presentation of the Project by CDM / Eng. Sana Batarseh
- Presentation of Environmental Issues by Engicon / Ms. Lama Bashour

Audience's Comments:

Comment No. 1: Eng Hassan Najjar / Director of Building Department at Salt Education Directorate

There are two major problems:

1. School structures in the villages: They are in very bad condition and are rented. The type of schools proposed under this project cannot be constructed inside villages due to the low number of students in each. Therefore, we need samples of new, smaller schools that could be compatible with the few numbers of students in the villages.
2. Maintenance:
 - This issue occurs due to the usage of the facilities and as time passes.
 - Another reason for maintenance is the deliberate destruction by the local community. It could be by a student or a citizen. How would it be possible to teach them to have loyalty to their school so as to reduce this destruction?

Response to Comment No. 1: Sana Batarseh / CDM International

The process of selecting the schools and the locations was done according to a detailed study. We chose the schools where there is an urgent need and where there is an increase in the population. Regarding the maintenance issues, we are here to get your opinions on ways of reducing this deliberate damage.

Comment No. 2: Intisar Jamal Abd-Alaziz / Ein Al-Basha Education Directorate

1. She suggested constructing a central school that would be intermediary between those villages and the ministry can provide transportation for the students.
2. She commented on the deliberate destruction by the local communities and said that Al-Baq'a Secondary School for girls which was constructed in 1996 had never required maintenance and it exists in the middle of a camp and a village. She added: "In fact, we have founded the bridges of trust between us and the surrounding

residents through arranging meetings with them. We allowed them to use the school's facilities, the water during the days of water shortage, and we never faced the problem of having any of our properties damaged."

3. Regarding students, monitoring should take place by the administration through teaching them that the money spent is for their own benefit; therefore, whoever makes a deliberate destruction will be punished. They should all understand that there will be punishment and repayment for any damage.

Response to Comment No. 2: Sana Batarseh / CDM International

The idea of a neighborhood: When students feel that they own the structure then they will not inflict any harm to it. It is a good idea to have the school open at all times outside the school hours. For example, it can be permitted to use the facilities in summer vacations.

Regarding the kindergarten, every one of those schools is a new one, and every female school will have a kindergarten. These are the requirements of the ministry.

Comment No. 3: Amani Khashman / Parent from Salt

1. Regarding the gymnasiums, our children do not play much sport. Nevertheless, the students enjoy it and become healthier if they practice regularly. For the time being, all sport facilities are deteriorated. We ask that the physical education gets included in the grading system.
2. Regarding the kindergartens, governmental schools do not have any.

Comment No. 4: Representative of the General Federation for Jordanian Women

As a principal of a school for 25 years, she made the following points:

1. We are seeking development but it is not enough to develop only structure without developing the teacher. Therefore, the process is about developing both the structure and the educational process as well.
2. In order to be able to control the process of maintenance, we have to encourage the manual work. If the student gets involved in the maintenance process of the school then he/she will start preserving the school.
3. Solar Energy: lighting, heating, water. All these issues must be reconsidered; we don't want the schools to be a cause of shortage or a cause for traffic jam.
4. Providing nurseries for the teachers of the schools and not only kindergartens.
5. Regarding the issue of dividing the schools into neighborhoods, this could possibly have negative effect. For example, notice what is happening at the universities and the discriminatory attitude the students have.

Response to Comment No. 4: Sana Batarseh / CDM International

Regarding the educational courses, it is all being set by the ministry and the schools for the time being and for the future will be respecting whatever the ministry recommends. Moreover, the school will also be serving the local community, so if physical education was not proposed as a topic, then they can use the facilities after the school hours.

Comment No. 5: Eng. Riyad Souod Al-Dayafleh / Ministry of Social Development

The schools' project has a positive effect much more than any other project. Well the truth of the main first problem regarding education is the student himself/herself. There is a lack of general knowledge. Another issue is the construction. What happens is that a school would be constructed to have a capacity for a certain number of students and a few years later, the number of registered students would double. This affects the comprehension capability of the student.

Moreover, the fact that people are reverting to private schools is proof that they are not satisfied with the government education system. What also matters is the environment inside the home. In addition, it needs to be noted that some schools in the Badia are designed for a capacity of 5000 and in the cities designed for 1000. The ones in Badia need years to be filled while the ones in the city are already overcrowded. Other issues are:

- Noise pollution where the school is located, the noise it causes to neighboring areas.
- Traffic jam where cars would be going in only one direction.
- Retaining walls would be required (since there was an incident of a student who died).
- Central heating system is needed; an idea would be that parents would pay around 5 JD monthly to support that.
- Courtyards.

Comment No. 6: Soubhi Al-Omari / Salt Education Directorate

The weakness is not in our syllabuses rather it is the lack of capacity in terms of teachers.

Comment No. 7: Saleh Ali Samara /Teacher – Ein Al-Basha Education Directorate

He expressed hope that the new school which is going to be constructed would be similar to Ein Al-Basha School which took the fourth place prize / Prince Hassan. He also proposed that:

- The school would have a garden with a special landscape.
- The medical center would be convenient.
- Monitoring (special cameras) would be provided.
- Cafeteria that would be run governmentally.

Comment No. 8: Razan Abu Al-Ragheb / Student from Al-Qadisiyah School in Salt

She proposed temporary maintenance until implementation of the project takes place. Better sanitary facilities are needed; students suffer from the bad smells, which prevent them from concentrating in their studies. Students also suffer from the continuous breakdown of electricity in winter; also the desks are very close to the board because the class is crowded. There are 41 students in one class. The teacher cannot write on the board which affects their comprehension.

Comment No. 9: Zeid Kamal Sabeg / Student from Ein Al-Basha Education Directorate

He hopes that the classrooms are repaired and maintained. There are plenty of desks. There is no space for a garden. The age difference at one school is also a problem (4th grade till 10th grade), and also soil and rocks should be paved over.

Comment No.10: Dr. Mohammad An-Najjar / Friends of Archaeology

The environmental impact on archaeology must be considered. Archaeology is an important issue prior to construction.

Comment No.11: Zeid Kamal Sabeg / Student from Ein Al-Basha Education Directorate

A student suggested using chalk for grades up to fourth, then using another material.

Comment No.12: Student

The following issues need to be considered:

- The desks
- Lighting
- Residues of chalks
- Garden
- The age difference
- Paving of streets and yards around the schools
- The electricity breakdown
- Cleanliness of the schools' restrooms

Comment No.13: Aroob Halaybeh/4th Grade Student from Madaba Education Directorate

- Cleanliness of restrooms at the schools.
- The continuous shortage of water at the school.
- The electricity breakdown in winter.
- Most of the desks are broken.
- Most of the sanitary facilities are broken.
- The school is very close to a main street what causes accidents very frequently.
- The school should be away from noise pollution.
- Choosing green color for the yards.

- Using light colors and more than one color inside the classroom.

At the end of the session, another chance was given to the participants to express their opinions or to give any additional notes; a summary of the last discussion is given below:

- The talented and creative students are not taken care of in our schools. This is the ongoing situation nowadays.
- Training teachers.
- Rehabilitation for old schools.
- Central air conditioning, however, this might be expensive so it is better to look for alternative sources such as solar energy or insulation.
- To give more attention to vocational education.
- Concentrate on making the students care more about the earth and land.
- A high ceiling is better for cleaning issues.
- The possibility of moving classes (having each subject in a different classroom).
- Halls for art that are provided with infrastructure.
- Public safety in laboratories (gas, electrical installations).
- Providing the teachers with spacious rooms.
- A special nursing room with a nurse.
- Different classrooms according to subject.
- The idea of having a school according to each neighborhood is not healthy.

Photographic Documentation



Scoping Session Participants



Secretary General of the Ministry of Education



Student Participant during General Discussion



Breakout Group Discussion

Appendix D
Minutes of the Scoping Session & Questionnaire Results

Findings of the Breakout Group: Construction Issues

- Activate the item of public safety in the contracts of schools, by adding it to the specifications.
- Timing the process of bringing and removing the materials to and from the site.
- Forbidding the mixing of materials on site.
- Forcing the contractor to supply water to the site, and not use the water of surrounding areas, on a condition that the water would be from safe sources.
- Assure that the construction waste is disposed of on a regular basis.
- Enclosing holes resulting from construction so to avoid ponding.
- Giving the supervising engineers courses before proceeding with the contract to let them have an idea about all the items of the contract and the special nature of this project.
- Making sure that all the electrical links that had been used during construction are disposed of.
- Taking the permission of the Department of Antiquities when choosing the site.
- Not demolishing the old archaeological schools but maintaining them.
- Providing sanitary units for workers during construction.
- Assuring the presence of a waste bin for the workers onsite.
- Reducing noise pollution.
- Coordinating with the Department of Antiquities or any other specialized entity to make sure that there are no archaeological places onsite.
- Compliance with the general and special conditions.

Other issues not related to construction were raised by this breakout group, these are listed below:

- The availability of emergencies exits.
- Giving prepayments for contractors to make them remove all of the materials
- Converting the street near the schools into one-way direction to avoid traffic jam
- The extensions of gas and electricity
- Creating workshops that reflect the profession that is most common in that region
- Using the schools' facilities for inventing job opportunities
- Not imitating the traditions but reflecting it

- The compatibility between the number of sanitary facilities and the number of students
- Providing a nursing room and a specialized nurse should be available at all times at each school
- Specifying special classrooms for certain subjects such as math and English
- Identifying all who are responsible for each project

Findings of the Breakout Group: Socioeconomic Issues

The following issues were raised by the participants of this group:

Interaction between students / classes

- Separating primary schools from the secondary, to accommodate growth process for children.
- Separating the males from females for two main reasons; the first is the different build of students according to gender and the second is to avoid social contact between them. In fact, a lot of heated discussion occurred regarding this issue as some participants argued against separation while others wanted to separate even the youngest classes.
- Some even went as far as proposing that schools for different genders should not be located close to each other.
- Consider the distance between the student's home and his/her school.

Student psyche inside the classroom

- One student proposed the use of yellow since it is believed to increase concentration, while another proposed the use of green.
- Paint used should be easy to clean.
- Distributing the lighting in a way that it does not reflect (Neon could be the best option).
- Abolishing the use of chalk.
- Avoiding the places with only sand since these are dusty places, therefore, asphalt might be needed.
- Windows should be designed to be proportionate with the area of the classroom.
- Sound insulation.
- Some thought that there is no need for the heater inside the classroom, while others said that the cold might bother the students.
- Provide one desk per student, for ergonomic purposes.
- The cleanliness of the building affects the psyche of students.
- The ability to change the interior of each classroom.
- The height of the board should take into consideration the age of students.
- Central air conditioning, however, this might be expensive so it is better to look for alternative sources such as solar energy or insulation.
- Fans (supply and exhaust).

Monitoring of student behavior by supervisors

- The court yard should be open.
- Reducing the number of floors in the school building.
- The duty teachers or supervisors should be full timers.
- Benches should be available for students in the court yard.

- Desks, table with wooden pulleys to make the monitoring process easier.
- A cafeteria with a canteen to reduce crowding.

Employment and economic development

- Provide a nursery for teachers' children, one that is separate from the kindergarten.
- Teachers should be residents of the region.
- Employment opportunities can be increased outside the school through restaurants, bookshops, commercial shops, and transportation business.

Land use

- The school could cause noise disturbing the neighbors.
- The school will result in turning the area into a residential one since people would prefer living near the school.
- Moreover, trade and commercial development will also take place in the area.

Archaeological and Traditional areas

- Major issue in selecting the location of the school.
- Heritage sites have to be reserved.

Traffic

- The gate of the school should be placed on a secondary street and not a main one.
- The street should be one way direction (entrance differs from exit).
- Parking lots for teachers should be provided.
- Pedestrian pathway and a traffic light to reduce the speed of the cars.
- Speed bumps and direction signs should be installed.
- Provide entrance specified for parents to bring in their children, but it should be outside the school premises.
- Provide an extra service road that can be used for picking up and dropping off.
- Convert the street near the schools being constructed into one-way direction to avoid traffic jam.

Maintenance

- Maintenance should be done throughout the whole scholastic year
- Major maintenance should take place during the summer holiday
- Students should contribute in simple jobs
- Grants and donations for maintenance should be suggested

Energy saving

- Solar tanks.
- Bulbs that save energy.
- Automatic electrical system, that turns off once the students leave (with timer).
- Fans (supply and exhaust).

Water saving

- Cleaning and maintaining the tanks of water
- Water saving pieces
- Water resources
- Monitoring for the water coolers
- Re-use of the water that is excessive from coolers
- Drinking water should be valid

Achieving the interaction

- The interaction of a student with his teachers, this might require courses for teachers
- Increase the number of classrooms in such a way that each classroom would be specified for a certain subject what gives the teacher opportunity to control and to control the maintenance process and to break the boredom
- The interaction of education: the movement between spacing and the consideration of the elements of movement
- The interaction within the classroom: increasing the administrative areas and distributing it between the classrooms. A supervising manager might be needed

Interaction of the managers

- Windows should be longitudinal and not horizontal.
- Inner walls should be transparent for monitoring purposes.
- It is preferable to have monitoring cameras for the administration.
- Female students do not prefer monitoring inside the classroom.
- A hall designated for raising awareness.

Additional issues suggested by this group are:

- Teachers training, follow-up and upgrading.
- Handicrafts activities as a maintenance works.
- Nursery is urgently needed.
- No traffic conjunction.
- Clusters might fire back social fights.
- Dividable modules for small towns.

- Maintenance running and accidents raising loyalty for schools.
- Raising coordination with local community, consistent follow-up with students and parents, punishment and reward technique.
- Gymnasium not needed because PE is deleted from curriculum.
- KG has no transportation for kids.

General opinions raised by the breakout groups are listed below:

- The plan should be well studied and economical for maintenance purposes.
- The technology for supporting the educational interaction and the extra curriculum activities.
- Introducing the workshops, vocational and agricultural divisions.
- Creating special workshops that reflect the available careers in the region.
- The educational staff should be chosen from the same region.
- Using the garden to generate income.
- Not ignoring the talents in terms of music and arts (the local community can be supported through concerts).
- The sports gymnasium can support any championships or parties held or courses given within the same hall inside the school.
- Exploiting the cafeteria for offering good meals or the services may be contracted to the private sector that can offer good service.
- The cleanliness can also be achieved through privatizing.
- Whenever there are gardens, they can be used for planting fruit trees to generate income.
- The garden within the school also needs management.
- Selecting the crops that can easily adapt to the surrounding environment.
- Separating the gardens and distributing it between the students to create a competitive environment between them.
- Having water well especially for the school.
- Regarding archaeology, there could be a museum inside the school.
- Painting the walls outside the schools.
- The architectural style can be reflected by choosing the appropriate colors.
- The material existing within the surrounding area can be used.
- The movement of cars: pedestrian pathways must exist.
- The entrances should be on secondary streets.
- For health purposes it is better to have the restrooms outside the school building.
- Considering the different age levels when choosing the accessories of the school and when distributing between different stories.

Findings of the Breakout Group: Public Health and Safety

Communicable disease prevention

- Infrastructure
- Sanitary facilities
- Location should be away from factories
- Ventilation
- Classroom area
- Number of students
- Type of chalks
- Type of food material

Suggested solutions could be green areas, and the school being away from traffic noise. Types of diseases are: chicken pox, measles, lice, mange and influenza. Suggested solutions are cooperating with the Ministry of Health for providing vaccinations.

Potable water supply and distribution

- Filtration of drinking water.
- Maintenance and safety of the water tanks.
- Monitoring the drinking water continuously.
- Providing soaps.
- Convenient coolers for drinking water.
- It is preferable to have the coolers indoors.
- Supervising the companies who clean the tanks.
- Procedures for saving water could be through installing infrared taps, water harvesting, providing water that is compatible with the number of students.

Sanitary facilities

- Location: should be opposite to the prevailing wind direction.
- Should be away from any staircase and preferably outdoors.
- The availability of water on a daily basis, new and well functioning installations.
- Regarding sanitary facilities and advantages and disadvantages for both oriental and regular toilets were presented.

Regular:

- ❖ Pros: Useful for physically challenged students.
- ❖ Cons: It might be a cause for transferring diseases due to lack of cleanliness.

Oriental:

- ❖ Pros: Easier to clean.

- ❖ Cons: Flush might be a bit high for the students.

However, the entire group agreed on the fact that different age groups must be considered in terms of deciding what type of toilets should be chosen. For example different types might be needed for nursery kids or kindergarten or primary or secondary. And all participants agreed on using the regular type for children (kindergarten and primary).

The following issues were also raised:

- Wastewater disposal.
- Providing liquid soap.
- Designing the septic tank to prevent leakage of water to the groundwater.

Indoor and outdoor safety issues

- The school fence should be designed in a manner that students cannot pass through them.
- The designers should get the approval of the Civil Defense for their preliminary design upon choosing entrances and exits, in addition to the requirements of fire extinguishing, lighting and the alarm system and bell.
- Taking into consideration when designing the cafeteria the crowding of students.
- Pathways and corridors for physically challenged students. This is specified within the construction code for physically challenged students.
- The location chosen for constructing the schools should not be on a sloping land or close to ponds and channels.
- First aid equipment should be available in workshops, gymnasiums, classrooms and laboratories and trained people should also be available.
- The emergency exits must be chosen carefully.
- The electricity plugs should be kept out of children's reach.
- A fully dedicated health supervisor must be available.
- The height of walls and retaining walls must be considered.
- Sharp equipment should be monitored.
- Providing shades and umbrellas.
- The entrance of schools should not be on a main street.
- Protecting the school from the torrential streams. This issue should be considered upon choosing the location.

Injury from car accidents

- Traffic awareness should be provided to children in coordination with the Public Security Directorate.
- Speed bumps, pathways for pedestrians, bridges or underpass must be provided for the students in addition to direction signs and a traffic light that can be manually controlled from inside the school.
- Pavement should be wide enough for the number of students and another suggestion for reducing the trouble of traffic was having the students leave the school at different times and not at once to avoid crowding.

Protection from intruders

- The walls in a way that would not allow strangers to get in.
- Cooperating with the public security.
- A guard must be available day and night.

Safety in workshops for males and females

- Training the students on first aid operations.
- Applying the requirements of public safety in laboratories (gas installations and ventilation).
- Entrances, exits, floors, sinks, drains and showers that are specifically designed for the laboratory.
- Fume hood should be available at the laboratories.
- Sound insulation is also essential in laboratories or workshops.

Provisions for physically challenged students

- Abiding by the Special Construction Code for the Physically Challenged.
- Constructing a special pathway such as a ramp for blind students and people on wheelchairs.
- Special resource rooms for physically challenged students.
- An elevator with a control key to prevent other students from using it.
- Constructing a special floor for physically challenged students, and it is preferable that it would be the ground floor.
- Merging the physically challenged students in schools.
- Cameras would be needed for monitoring.
- Providing a data show and a laptop for each classroom.

- It would be worth it to take care of talented students and to have special programs and halls for them to help them develop their talents.

Earthquake protection measures

- Abiding by the Code for Earthquakes Protection during the design phase.
- Obeying the instructions and directions of the Civil Defense during the occurrence of earthquakes.
- Providing areas for evacuation and training people on the procedure. These areas should be away from the school building as specified in the code.
- Reducing the number of floors in the school.
- Awareness and enlightenment are essential.
- Placing direction signs for the location of exits.
- The code specifies the material of construction and foundation, the number of exits and entrances, the areas of evacuation, the alarm bell and the number of occupants in the building.

Other issues suggested by this group were:

- The preferability of installed heaters over the movable gas heaters.
- Having a system that can stop the electricity from functioning when a fire or earthquake takes place.
- Providing trash bins in scattered places and distributing it all over the school.
- Providing wells for rain water, where the water can be used for the green landscape areas.
- When designing the school and other facilities, the items related to the safety of the building should be considered.
- Permission should be taken from the Civil Defense for designing the buildings.
- Taking into consideration energy conservation (solar tanks, natural lighting, and natural ventilation).
- Considering the issue of monitoring when designing the doors, for example by using doors which have the upper third made of glass.
- Designing the structures taking into consideration the codes of earthquakes and fire fighting.

Summary of Questionnaire Responses

Construction Issues

Issue	0	1	2	3	4	5
Occupational Health and Safety	0%	0%	4.62%	6.15%	75.38%	13.85%
Workers Sanitation	0%	0%	0%	1.54%	58.46%	40%
Traffic	0%	0%	0%	6.15%	47.69%	46.15%
Noise	0%	0%	4.62%	7.69%	55.38%	32.31%
Dust Pollution	0%	0%	1.54%	1.54%	40%	49.23%
Water Demand	1.54%	1.54%	7.69%	16.92%	50.77%	21.54%
Soil and water pollution	6.15%	1.54%	10.77%	12.31%	53.85%	15.38%
Water stagnation	0%	1.54%	3.08%	13.85%	53.85%	27.69%
Waste generation	1.54%	0%	1.54%	3.08%	55.38%	38.46%
Employment opportunities	1.54%	3.08%	4.62%	7.69%	53.85%	29.23%

Socio-economic Issues

Issue	0	1	2	3	4	5
Interaction between students / classes	0%	0%	3.08%	7.69%	47.69%	41.54%
Student psyche inside the classroom	0%	0%	0%	3.08%	30.77%	66.15%
Monitoring of student behavior by supervisors	0%	0%	3.08%	3.08%	43.08%	50.77%
Employment and economic development	3.08%	0%	3.08%	15.38%	60%	18.46%
Land Use	0%	1.54%	3.08%	20%	55.38%	20%
Archaeological Resources	6.15%	6.15%	15.38%	23.08%	40%	9.23%
Traffic	3.08%	1.54%	3.08%	7.69%	46.15%	38.46%
Travel time to and from school	3.08%	1.54%	3.08%	20%	46.15%	26.15%

Public Health and safety

Issue	0	1	2	3	4	5
Communicable disease prevention	4.62%	0%	0%	6.15%	49.23%	40%
Potable water supply and distribution	7.69%	4.62%	6.15%	13.85%	56.92%	10.77%
Sanitary facilities	1.54%	0%	1.54%	3.08%	38.46%	55.38%
Indoor & outdoor safety issues	1.54%	0%	1.54%	7.69%	52.31%	36.92%
Injury from car accidents	3.08%	0%	1.54%	7.69%	61.54%	26.15%
Protection from intruders	1.54%	3.08%	3.08%	6.15%	53.84%	32.31%
Safety in workshops for males and females	1.54%	0%	3.08%	10.77%	53.84%	30.77%
Provisions for physically challenged students	0%	0%	0%	3.08%	33.85%	63.08%
Earthquake protection measures	0%	0%	1.54%	4.62%	32.31%	61.54%