


MINISTRY OF EDUCATION
PALESTINIAN AUTHORITY

**BASIC DESIGN STUDY REPORT
ON
THE PROJECT FOR
CONSTRUCTION OF SCHOOL FACILITIES
FOR BASIC EDUCATION
IN
THE WEST BANK**

OCTOBER 1999

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JAPAN INTERNATIONAL COOPERATION AGENCY
MOHRI ARCHITECT & ASSOCIATES, INC.

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PREFACE

In response to a request from the Palestinian Authority the Government of Japan decided to conduct a basic design study on the Project for Construction of School Facilities for Basic Education in the West Bank and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the West Bank and the Gaza Strip a study team from April 10 to May 22, 1999.

The team held discussions with the officials concerned the Palestinian Authority, and conducted a field study at the study area. After the team returned to Japan, further studies were made. Then, a mission was sent to the West Bank and the Gaza Strip in order to discuss a draft basic design, and as this result, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between Palestinian people and Japan.

I wish to express my sincere appreciation to the officials concerned of the Palestinian Authority for their close cooperation extended to the teams.

October, 1999



Kimio Fujita

President

Japan International Cooperation Agency

October, 1999

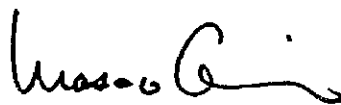
Letter of Transmittal

We are pleased to submit to you the basic design study report on the Project for Construction of School Facilities for Basic Education in the West Bank.

This study was conducted by Mohri, Architect & Associates Inc., under a contract to JICA, during the period from March 16, 1999 to October 22, 1999. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of the West Bank and the Gaza Strip and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,



Masao Okui

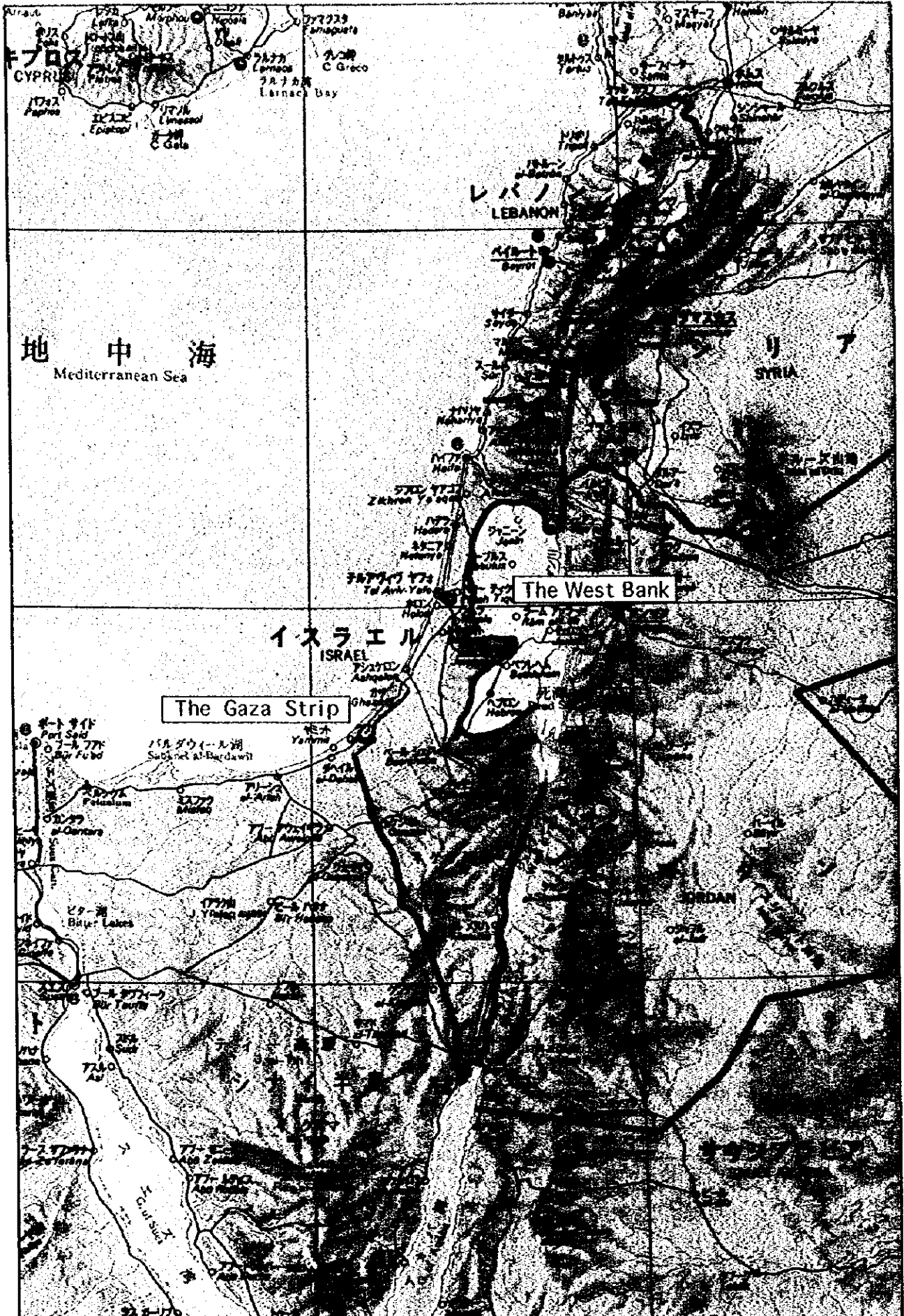
Project manager,

Basic design study team on

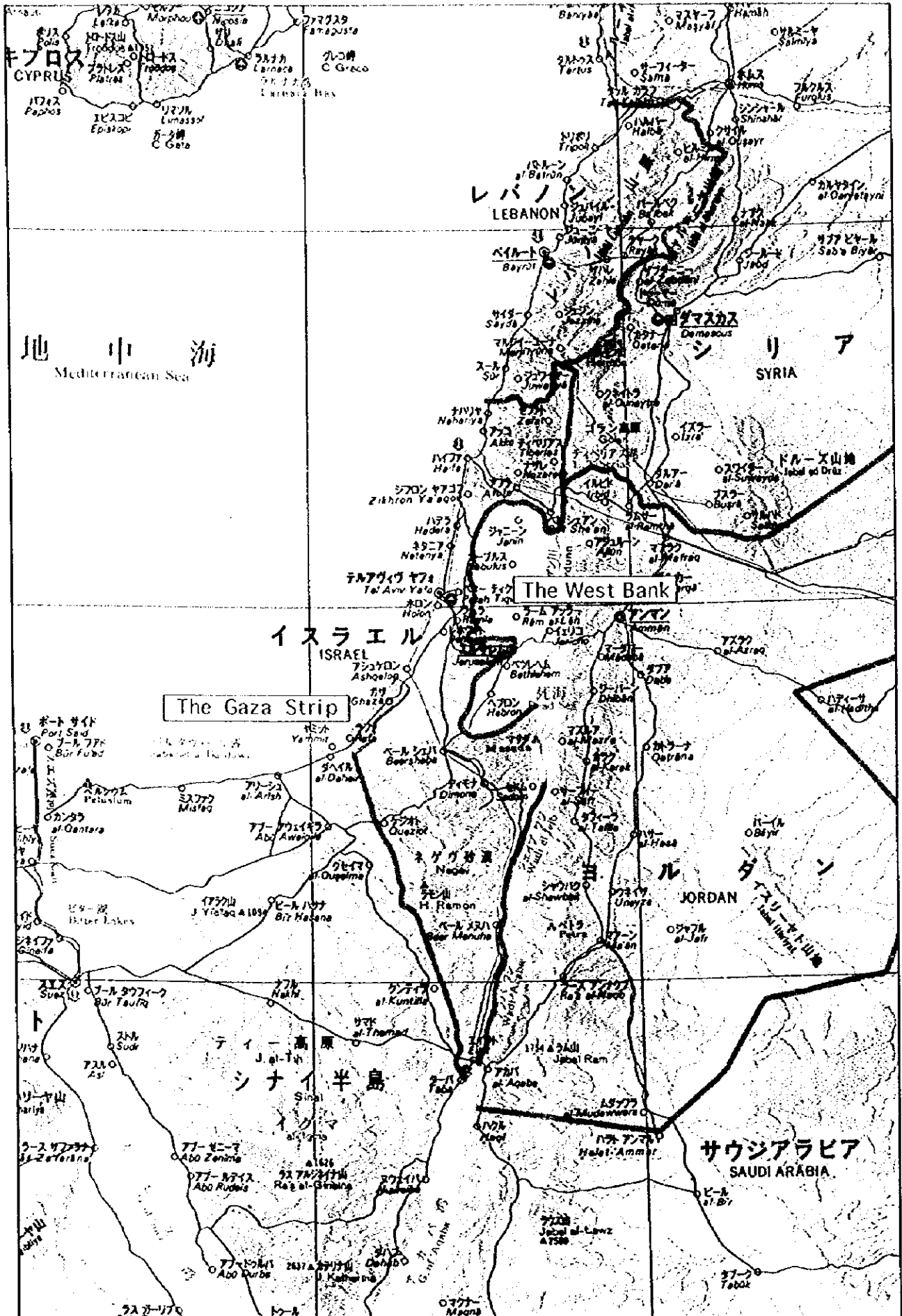
The Project for Construction of
School Facilities for Basic Education

Mohri, Architect & Associates Inc.

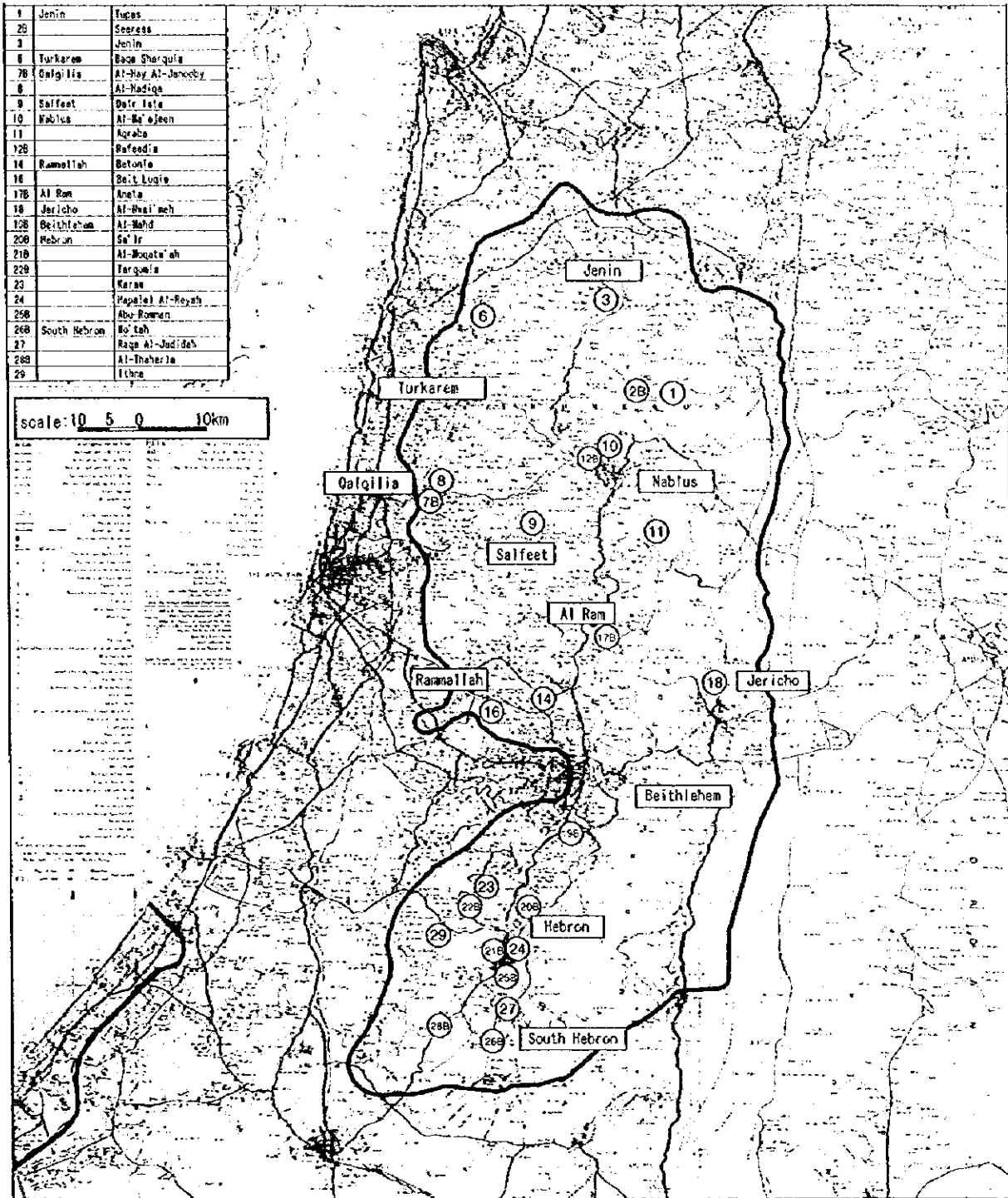
PROJECT AREA MAP



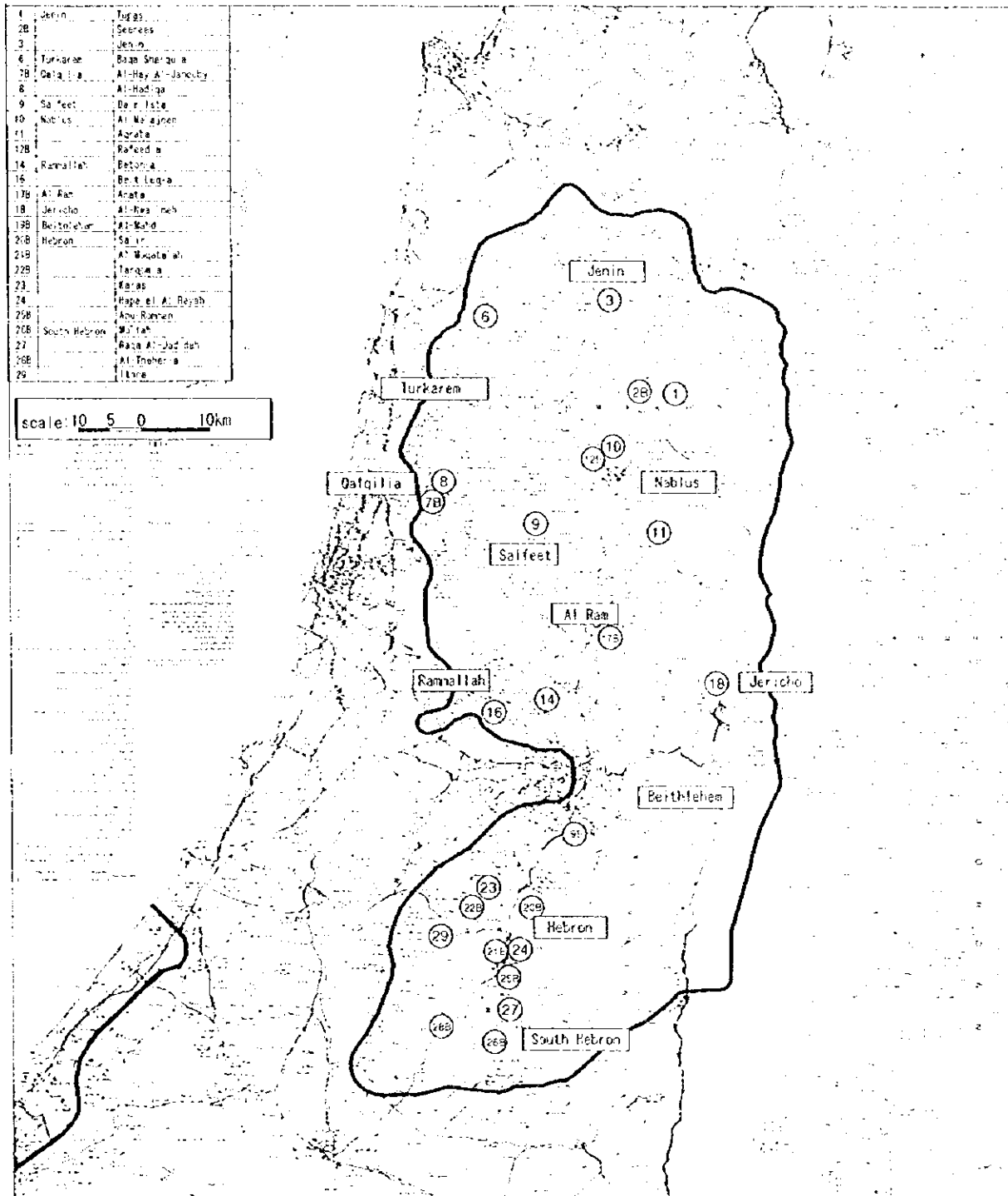
PROJECT AREA MAP

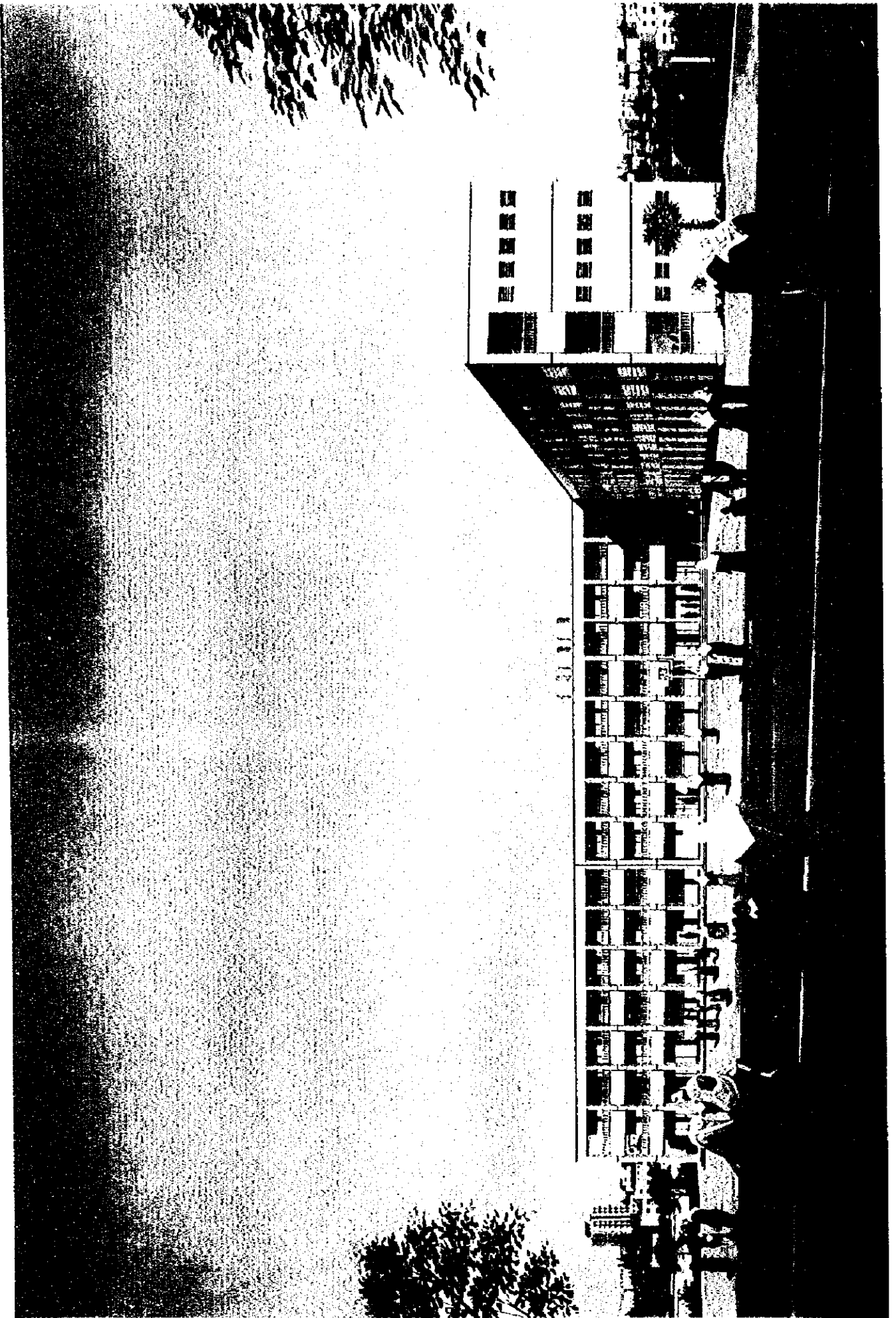


SITE LOCATION MAP



SITE LOCATION MAP





ABBREVIATIONS

Abbreviation	Full Name
CO-ED	Co-Education
EU	European Union
GDP	Gross Domestic Production
GNP	Gross National Production
IDA	International Development Association
JEC	Jerusalem Electric Company
MOPIC	Ministry of Planning and International Cooperation
MOE	Ministry of Education
MOF	Ministry of Finance
PEA	Palestinian Energy Authority
PECDAR	Palestinian Economic Council for Development and Reconstruction
PWA	Palestinian Water Authority
UNDP	United Nations Development Plan
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNRWA	United Nations Relief and Work Agency for Palestine People
WB	World Bank

Summary

The Self-Governing Area of the Palestinian Authority is composed of the Gaza Strip, facing the Mediterranean Sea, and the West Bank, an area spread on the western bank of the Jordan River. The Gaza Strip is 40 km long and from 5 to 12 km wide with an area of 360 square kilometers and a population of around 1.0 million (of which 680,000 are registered refugees). The West Bank is 135km from north to south, and 30km to 58km east to west, with an area of 5.575 square kilometers and a population of around 1.9 million (including 510,000 registered refugees and 210,000 residents in Eastern Jerusalem). The topography is varied with highlands of 500 m to 800 m in the central area in contrast to the Jordanian valley, which is 200 m to 400 m below sea level on the eastern side.

The area belongs to the Mediterranean climate zone and is basically warm, but with some regional differences. The annual rainfall in Jericho in the Jordanian valley averages 200mm similar to a desert climate, while it reaches 900mm in Jenin in the north, which is much greener. Rainfall occurs in the winter season from December to March.

The economy of the Area depends on service industries such as the retail industry and restaurant business, agriculture and construction. The GDP for 1996 was composed of 33% service industry, 22% farming and 21% construction. The manufacturing industry only made up 6%. The real average monthly income was \$355 per person and the total unemployment rate for the end of that year amounted to 21%. Most of the necessary living and industrial items are imported from Israel and the dependence on the Israel economy is great. 90% of imports and 70% of exports are with Israel.

In order to change such circumstances and stabilize the Palestinian economy, the "Palestinian Development Plan 1999-2003" was decided upon as the first medium term development plan, in January 1999.

According to the Development Plan, the objectives for development for the next five years can be summarized by the following four points:

- 1) Economic growth of 5% annual in GDP and job creation, through private sector initiatives
- 2) Improvement of the infrastructure in rural areas and the security of social services

- 3) Expansion of access to social services and improvement of quality in addition to necessary human resource development.
- 4) Preparation of a system and laws to increase internal and foreign investments and establishment of organizations to carry out financial management and policies.

Ten years of basic education is compulsory in the West Bank and the Gaza Strip and is composed of low basic education from Grade 1 to Grade 6 and high basic education from Grade 7 to Grade 10. The Ministry of Education (MOE) is responsible for this system in addition to 2 years of secondary education. There are public schools run by MOE, schools built and run by the United Nations Relief and Work Agency for Palestine People (UNRWA) and a small number of private schools. The children of registered refugees, who make up half of the population, generally attend the schools of UNRWA. Initially, the enrollment rate of Grade 1 is almost 100%. However, it is estimated that only approximately 60% of those pupils complete the ten years.

Due to the long occupation by Israel, both basic and secondary education have various problems. Prior to the Third Middle East Conflict of 1967, the West Bank was under Jordanian rule and the educational system of Jordan was operational, using Jordanian textbooks. However, the Gaza Strip was under Egyptian rule and the educational system of Egypt was being conducted. While under the rule of Israel for 27 years, the educational system and the contents were hardly improved. Thus, the different systems continued to exist in both areas. Whereas the population doubled in those years, only a few schools were built and a few existing ones were renounced. At the beginning of the Interim Self-Government, there was a serious shortage of classrooms with some schools having triple shifts in the Gaza Strip.

Soon after the start of the Interim Self-Government in 1994, the educational systems of the Gaza Strip and the West Bank were unified and the development of a new combined Palestinian curriculum commenced. However, the setting up of this new curriculum for all grades of basic education has taken time, thus will only partly start from the school year 2000/2001. In parallel with this movement, international donors, such as the World Bank, UNDP, Germany, EU, Norway, the Netherlands, etc., have actively assisted with the construction of public schools. Japan has been supporting the construction and renovation of basic schools in the West Bank through its grass roots Grant Aid Program and in the Gaza Strip through

contributions to the UNDP Japan/Palestinian Development Fund. Furthermore, Japan started to extend bilateral grant aid in 1997 and has since constructed a total of ten basic schools in the Gaza Strip.

Due to the cooperation of these donors, the shortage of classrooms in the Gaza Strip and the West Bank has considerably been improved compared to what it once was. However, there are still many schools with double shifts or which use rented facilities, therefore the shortage of classrooms is still a serious problem. MOE is presently preparing a "Five-Year Education Development Plan 2000-2004" for the purpose of improving basic and secondary education. One of the basic objectives of this plan is the improvement of the quality of education through the improvement of the educational environment by abolishing the double shift system and the use of rented facilities. Thus, it is required to solve the shortage of classrooms through the construction of additional facilities.

The shortage of classrooms in basic schools in 1998/99 in the Gaza Strip and the West Bank totaled 3,323, of which 2,143 are in the West Bank. The number of classrooms necessary in the West Bank to abolish the double shift classes and rented facilities is 1,471, which is around 68% of the 2,143 shortage.

In order to improve the situation in the West Bank, the Palestinian Authority has formally requested the Government of Japan in September 1998 for Grant Aid for the Project for Construction of School Facilities for Basic Education in the West Bank (hereinafter referred to as "the Project"), following the previous project, namely the Project for Construction of School Facilities for Basic Education in the Gaza Strip.

As a result of examining the contents of the Request, the Government of Japan decided to conduct a basic design study on the Project and the Japan International Cooperation Agency (JICA) dispatched a basic design study team to the West Bank and the Gaza strip from April 10 to May 22, 1999. The study team held a series of discussions on the contents of the request with officials of MOE and the Ministry of Planning and International Cooperation (MOPIC), conducted field surveys on the proposed sites, and visited international agencies including World Bank and UNDP, to obtain information and data necessary for the basic design study. Based on the field study results, the team examined the necessity and appropriateness of the Project, suitability of project sites, scope of the Project, the requested facilities, and the operation and maintenance system of MOE. After returning to Japan, using the examination results above, the Team prepared the basic design of the optimum

contents and sizes of project facilities and selected the optimum equipment for the Project. Then, the Team estimated the Project costs. The results of the basic design were explained to the Palestinian Authority during the period from August 29 through September 9, 1999.

As a result of the field survey, it was confirmed that 25 of the 28 proposed sites have sufficient classroom demands and are suitable for construction, though some of the sites need levelling work and construction of an access road by the Palestinian side. However, since the type, grade formation and number of classes of each school proposed in the Request are not all reflected by the actual and near future classroom demands, they have been reexamined based on the recent school data. As a result, the contents of the Request have been partly altered, as agreed with by the Palestinian side. The following table shows the contents of each project school site.

Table-1 Project Schools

Project Site	Directorate of Education	Project School				
		Gender	Grade	Clrms.	T. F. Area	
1	Tubas	Jenin	Boys	1 ~ 6	24	3,013.03
2B	Seerees	Jenin	Boys	1 ~ 6	9	1,429.17
3	Jenin	Jenin	Girls	1 ~ 6	23	3,013.03
6	Baqa Al-Sharqia	Tulkarem	Girls	1 ~ 4	8	1,199.13
7B	Al-Hairy Al-Janooby	Qalqilia	Girls	1 ~ 4	19	2,185.65
8	Al-Hadiqa	Qalqilia	Boys	1 ~ 6	24	3,013.03
9	Dier Istia	Safteet	Girls	1 ~ 10	10	1,831.11
10	Al-Ma'ajeen	Nablus	Boys	1 ~ 9	22	2,919.85
11	Aqraba	Nablus	Boys	7 ~ 10	7	1,479.42
12B	Rafeedia	Nablus	Girls	1 ~ 9	22	3,002.67
14	Betonia	Ramallah	Boys	1 ~ 6	15	2,151.55
16	Beit Luqia	Ramallah	Boys	1 ~ 4	13	1,658.61
17B	Anata	Al Ram	Girls	1 ~ 6	10	1,575.96
18	Al-Nwaimeh	Jericho	Co-ed	1 ~ 9	13	2,079.00
19B	Al-Mahd	Bethlehem	Boys	1 ~ 9	19	2,556.90
20B	Safir	Hebron	Girls	1 ~ 6	17	2,212.47
21B	Al-Moqata'ah	Hebron	Girls	1 ~ 6	13	1,849.26
22B	Tarqomia	Hebron	Girls	1 ~ 8	20	2,645.46
23	Kharas	Hebron	Co-ed	1 ~ 4	11	1,512.36
24	Habaiel Al-Reyah	Hebron	Boys	1 ~ 6	15	2,063.97
25B	Abu-Romman	Hebron	Boys	1 ~ 10	17	2,640.62
26B	Mo'tah	South Hebron	Girls	1 ~ 8	20	2,699.91
27	Raq'a'a Al-Jadidah	South Hebron	Girls	1 ~ 6	11	1,618.47
28B	Al-Thaheria	South Hebron	Boys	1 ~ 6	11	1,618.47
29	Ithna	South Hebron	Girls	1 ~ 9	15	2,185.65
TOTAL					388	53,947.55

The facility to be constructed under the Project at each site is, in principle, a school building which contains pupils toilets and a canteen as well as ordinary and special classrooms and administration rooms. However, the pupils' toilets will be separated from the main school building in a coeducation school to ensure easier control of pupils. The canteen will be also separated from the main school building at some sites where it is not suitable to provide a canteen inside the main school building for architectural planning reasons. The building is designed based on MOE' s design standards to which necessary revision and improvement are made from time to time. Upon the preparation of each site layout plan, the direction of prevailing wind is taken into full consideration. Special attention is also paid to securing access for disabled pupils. Earthquakes are fully taken into account in the structural design.

Table-2 Function and Size of Each Project Room

Room	Function	Floor Area	Remarks
Classroom	Lecture and ordinary lessons	54.45 m ²	
Science Laboratory	Science experimental lessons	72.60 m ²	90.75 m ² for High Basic Schools
Library	Reading, group work lessons	72.60 m ²	108.90 m ² for High Basic Schools
Multipurpose Room	Art and miscellaneous lessons	90.75 m ²	
Headmaster's Room	Office works and meetings	26.40 m ²	
Secretary Room	Office works and meetings	16.38 m ²	17.70 m ² for Co-ed schools
Teachers' Room	Office works and resting	36.30 m ²	3 types upto 72.60 m ²
Kitchenette	Preparation of drinks	5.40 m ²	
First Aid Room	First aid and health care	18.15 m ²	22.04 m ² for Co-ed Schools
Staff Toilet	Wash room	15.03 m ²	23.10 m ² for Co-ed Schools
Pupils' Toilet	Wash room	23.76 m ²	4 types upto 95.04 m ²
Canteen	Provision of snacks and drinks	15.30 m ²	4 types upto 24.00 m ²
Storage	Custody	9.08 m ²	3 types upto 23.76 m ²
Machine Room	Machine installation	15.30 m ²	Below staircase

In addition to the building facility, science laboratory equipment and school furniture are requested to be procured under the Project. However, no concrete items are shown. As a result of discussion regarding the items, specifications and unit quantity of each item will be the same as those of the science laboratory equipment and school furniture procured for the previous project in the Gaza Strip. This is due to the school operation system and the number of pupils in a class being the same as before and the appropriateness of items, specifications and unit quantity having been already confirmed at that time. The main items of science laboratory equipment and school furniture are shown in Table-3 below:

Table-3 Major Equipment Units

Category	Place to Install	Major Item
Science Laboratory Equipment	Low Basic Schools	Magnifier, microscope, school balance, electric circuit kit, magnet thermometer, alcohol lamp, test tube, beaker, flask
	High Basic Schools	Magnifier, microscope, dissecting kit, concave and convex lenses, concave and convex mirrors, school balance, sheave pulley, mass set, ammeter, voltmeter, generator model set, ohmmeter, magnet, thermometer, barometer, atom model set, gas burner, alcohol lamp, test tube, beaker, flask, clamp support
School Furniture	Ordinary Classroom	Student's desks and chairs, teacher's desks and chairs, book shelves
	Science Laboratory	Demonstration tables, experiment tools
	Multipurpose Room	Work bench, student's chairs, cabinet
	Library	Student's desks and chairs, teacher's desks and chairs
	Headmaster Room	Headmaster's desk and chair, meeting table and chair, cabinet
	Teachers' Room	Teacher's desks and chairs, cabinets, lockers
	First Aid Room	Teacher's desk and chair, cabinet, medical couch

The main contractor of the construction works for the Project should be a Japanese contractor due to the regulations of Japan's Grant Aid Scheme. However, local contractors will participate in the main part of construction works as subcontractors. In order to facilitate the maintenance of the project facilities, science laboratory equipment and school furniture as well as most of the building materials will be locally procured.

It will take 13 months for the Japanese contractor to complete the construction works and the procurement of science laboratory equipment and school furniture at a project site. The Japanese budgetary system requires a project to be completed within one fiscal year. Considering these two points and the circumstances as enumerated below, it is concluded that the Project should be implemented in three phases of 1999, 2000 and 2001 fiscals.

- 1) If the construction works are started simultaneously at all the project sites, it will be theoretically possible to complete the Project within the 1999 fiscal, though its available remaining time is very limited even if a special carry-over is made. In such a case, it is required for the Japanese contractor to assign as many Japanese engineers as required simultaneously. Since there are few Japanese contractors having sufficient engineers available at one time, it will be difficult to execute a proper competitive tender for the project.

In order that a small scale but competent enterprise can also participate in the tender, the opportunity of participation should be widened by limiting the number of sites in one Phase.

- 2) It would be better to proceed with the Project with a sufficient time surplus when considering the international situation of the Area which is still complicated and the possible closure of the border by Israel when political incidents happen during the project period.

The following table show a list of project sites of each Phase.

Table-4 Phasing Plan

Project Site for Phase-1		Project Site for Phase-2		Project Site for Phase-3	
19B	Al-Mahd	7B	Al-Hairy Al-Janooby	1	Tubas
20B	Sa'ir	8	Al-Hadiqa	2B	Seerees
21B	Al-Moqata'ah	9	Dairista	3	Jenin
22B	Tarqomia	11	Aqraba	6	Baqa Al-Sharqia
23	Kharas	14	Betonia	10	Al-Ma'ajeen
24	Habaiel Al-Reyah	6	Beit Luqia	2B	Rafeedia
25B	Abu-Romman	17B	Anata		
26B	Mo'tah	18	Al-Nwa'imeh		
27	Raqa'a Al-Jadidah				
28B	Al-Thaheria				
29	Ithna				

As all project schools will be operated by transferring whole or part of the pupils and teachers of the existing schools, the number of teachers and other administration staff members to be additionally recruited is approximately only 120, which is easy when considering the situation of the labor market in the West Bank.

A total of US\$ 1.04 million is additionally required for the operation of the project schools, which includes the personnel costs for the above additional staff members and costs for maintenance of the project facilities. This amount is equivalent to 0.7 % of MOE's annual budget of the 1999 fiscal. Although the personnel cost must be borne by MOF, it will be possible because a consensus has been made among the Palestinian Authority during these years for appropriating a budget for the recruitment of an additional 1,600 teachers every year which is required by the natural increase of pupil's enrollment. Daily maintenance costs are borne by the school itself and disbursed from the funds of school fees paid by parents and the earnings of the canteen. However, in the case of any large repairs, disbursement by the municipality or the local government from the education tax funds is also possible in addition to the funds to be allocated by the Directorate of Education. Thus, no problem is seen in securing funds for maintenance costs.

For the implementation of the Project, the total amount of money to be borne by the Palestinian Authority during its three phase periods will be approximately 1.86 million dollars. As a rule, the Grant Aid Program of the Government of Japan requests a reasonable amount of burden from grant recipient countries for implementing projects. Based on the rule, the Palestinian Authority is required to secure the above-mentioned funds.

Classroom shortage is serious in the West Bank. It creates overcrowded classes. In order to abolish them, it is required to operate classes in double shift or to rent facilities for classrooms, which is far from creating a proper educational environment. The Project is proposed to alleviate classroom shortage in the West Bank by constructing 25 new schools with 388 classrooms for the following project effects:

- 1) A total of 15,520 pupils of low and high basic schools will be able to study in new classrooms.
- 2) 388 classrooms are equivalent to 8.0 % of the accumulated number of demands (4,831 classrooms) as of the school year 2002/2003 when the Project is completed. Through the Project the classroom shortage problems will be improved as follows:
 - a) 156 of the 388 classrooms will be constructed to abolish rented classrooms. This will reduce the number of rented classrooms by 13.0%.
 - b) 143 of the 388 classrooms will be constructed to eliminate double-shift classes. As a result, 52.4% of the presently held double-shift classes will be eliminated.
 - c) 63 of the 388 classrooms will be built to replace deteriorated classrooms or physically inadequate classrooms where 47 classes are taught.
 - d) As there is no school near Project Site No.18, children in the area have to walk long distances to attend the nearest school in a neighboring area. Thus, 13 classrooms will be built under the Project to solve this problem.
- 3) The Project is to improve the educational environment by constructing not only ordinary classrooms but also special classrooms, such as science laboratories, multipurpose rooms and libraries as well as providing educational furniture and science laboratory equipment. Thus, both the school facilities and the general effect of education will be greatly improved.

In addition to this, if the quality of teachers is improved by conducting teacher retraining which is required for effective application of the new curriculum being developed, it is expected that the Project facilities and equipment will be

more efficiently utilized and, as a result, the quality and effects of education in the Project schools will be greatly improved.

The Project is to construct school buildings which will create no economic benefit. Direct beneficiaries are the children of those residents who live around Project schools. As neither big scaled topographic change nor cutting trees are necessary for the construction works, damage to the natural environment will be negligible.

The Project implementation organization is MOE of which capability of project implementation is guaranteed by the experiences of foreign assisted project promotion and knowledge of the Grant Aid Scheme of Japan through the previous projects in the Gaza Strip.

In view of the above, as the Project will have a positive effect and satisfy the requirements of the Grant Aid Scheme of Japan, it is judged to be worthwhile and meaningful to implement the Project under the Grant Aid Program of the Government of Japan.

Upon implementing the Project, it is requested that the Palestinian Side complete its undertakings including budgetary arrangement, securing necessary funds for the proper operation and maintenance of the Project facilities, a use of science laboratory equipment and ensuring more effective by improving teaching quality through teachers' retraining. In addition, it is also requested that MOE continuously increase the book stock of school libraries so that they will be used not only during lessons led by teachers but also for independent book reading and studies on the part of pupils.

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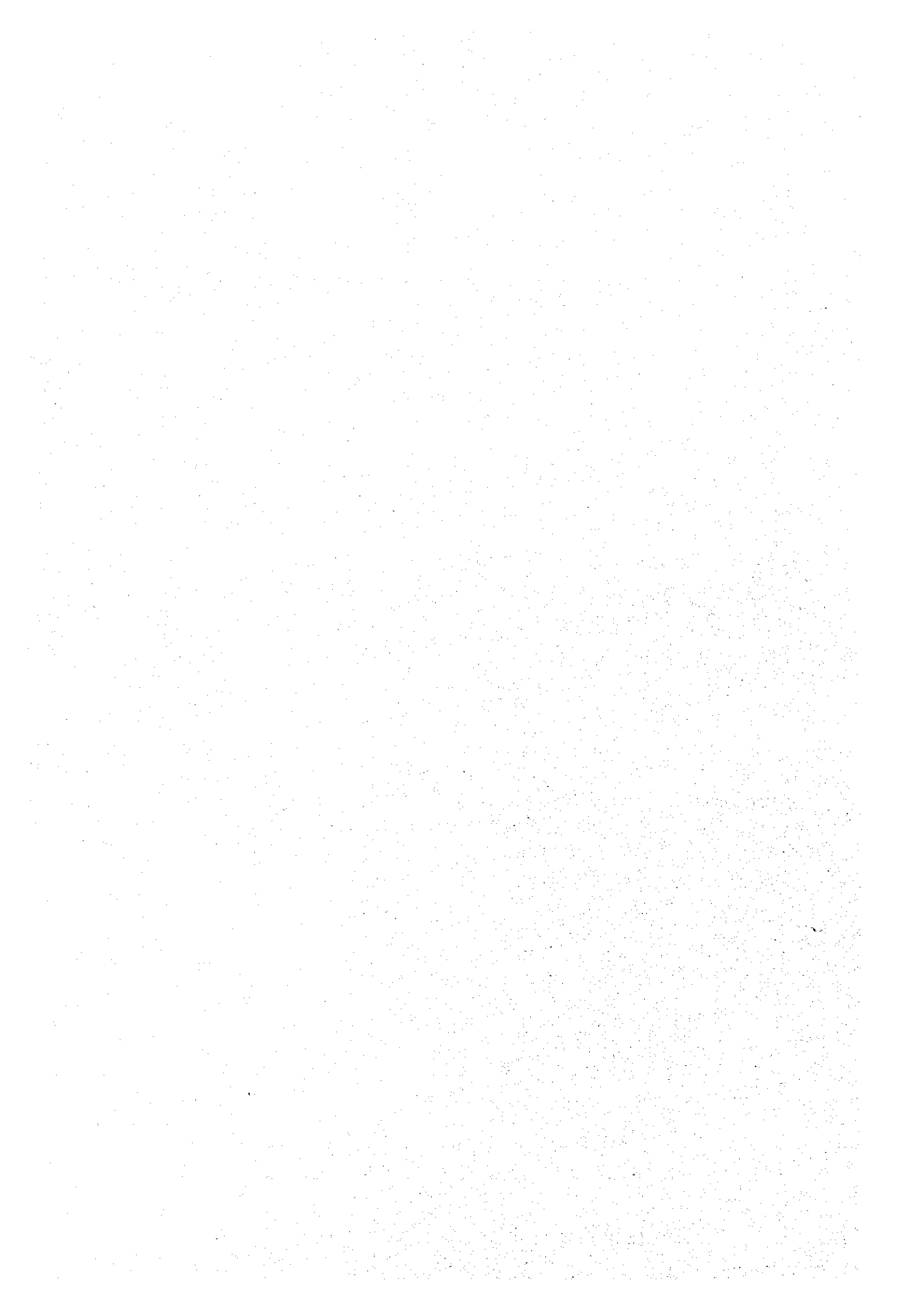
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CHAPTER 1 BACKGROUND OF THE PROJECT



CHAPTER 1 BACKGROUND OF THE PROJECT

1 - 1 Background of the Request

Ten years of basic education is compulsory in the West Bank and the Gaza Strip and is composed of low basic education from Grade 1 to Grade 6 and high basic education from Grade 7 to Grade 10. The Ministry of Education (MOE) is responsible for this system in addition to 2 years of secondary education. There are public schools run by MOE, schools built and run by the United Nations Relief and Work Agency for Palestine People (UNRWA) and a small number of private schools. The children of registered refugees who make up half of the population, generally attend the schools of UNRWA. Initially, the enrollment rate of Grade 1 is almost 100%. However, it is estimated that approximately 60% of those pupils only complete the ten years.

Due to the long occupation by Israel, both basic and secondary education have various problems. Prior to the Third Middle East Conflict of 1967, the West Bank was under Jordanian rule and the educational system of Jordan was operational, using Jordanian textbooks. However, the Gaza Strip was under Egyptian rule and the educational system of Egypt was being conducted. While under the rule of Israel for 27 years, the educational system and the contents were hardly improved. Thus, the different systems continued to exist in both areas. Whereas the population doubled in those years, only a few schools were built and few existing ones were renounced. At the beginning of the Interim Self-Government, there was a serious shortage of classrooms with some schools having triple shifts in the Gaza Strip.

Soon after the start of the Interim Self-Government in 1994, the educational systems of the Gaza Strip and the West Bank were unified and the development of a new unified Palestinian curriculum commenced. However, the setting up of this new curriculum for all grades of basic education has taken time, thus will only partly start from the school year 2000/2001. In parallel with this movement, international donors, such as the World Bank, UNDP, Germany, EU, Norway, the Netherlands, etc., have actively assisted with the construction of public schools. Japan has been supporting the construction and renovation of basic schools in the West Bank through its grass roots Grant Aid Program and in the Gaza Strip through contributions to the UNDP Japan/Palestinian Development Fund. Furthermore, Japan started to extend bilateral grant aid in 1997 and has constructed a total of ten basic schools in the Gaza Strip.

Due to the cooperation of these donors, the shortage of classrooms in the Gaza Strip and the West Bank has considerably been improved compared to what it once was. However, there are still many schools with double shifts or which use rented facilities, therefore the shortage of classrooms is still a serious problem. MOE is presently preparing a "Five-Year Education Development Plan 2000~2004" for the purpose of improving basic and secondary education. One of the basic objectives of this plan is the improvement of the quality of education through the improvement of the educational environment by abolishing the double shift system and the use of rented facilities. Thus, it is required to solve the shortage of classrooms through the construction of additional facilities.

The shortage of classrooms in basic schools in 1998/99 in the Gaza Strip and the West Bank totaled 3,323, of which 2,143 are in the West Bank. The number of classrooms necessary in the West Bank to abolish the double shift classes and rented facilities is 1,471 which is around 68% of the 2,143 shortage.

In order to improve the situation in the West Bank, the Palestinian Authority has formally requested the Government of Japan in September 1998 for Grant Aid for the Project for Construction of School Facilities for Basic Education in the West Bank (hereinafter referred to as "the Project"), following the previous project implemented in the Gaza Strip.

1- 2 Outline of the Request

As a result of site survey and discussions with MOE, the contents of the Request of the Palestinian Authority for the Project are confirmed as follows:

(1) Proposed Site and Contents of Project

The proposed sites and contents of the proposed school at each site are as listed in Table 1-1

(2) Contents of Requested Facilities

Rooms in the main school building and other facilities requested for each proposed site are as listed in Table 1-2

(3) Requested Equipment

Science laboratory equipment and necessary furniture for classrooms and administration rooms are requested.

Table 1-1 Proposed Site and Contents of Project

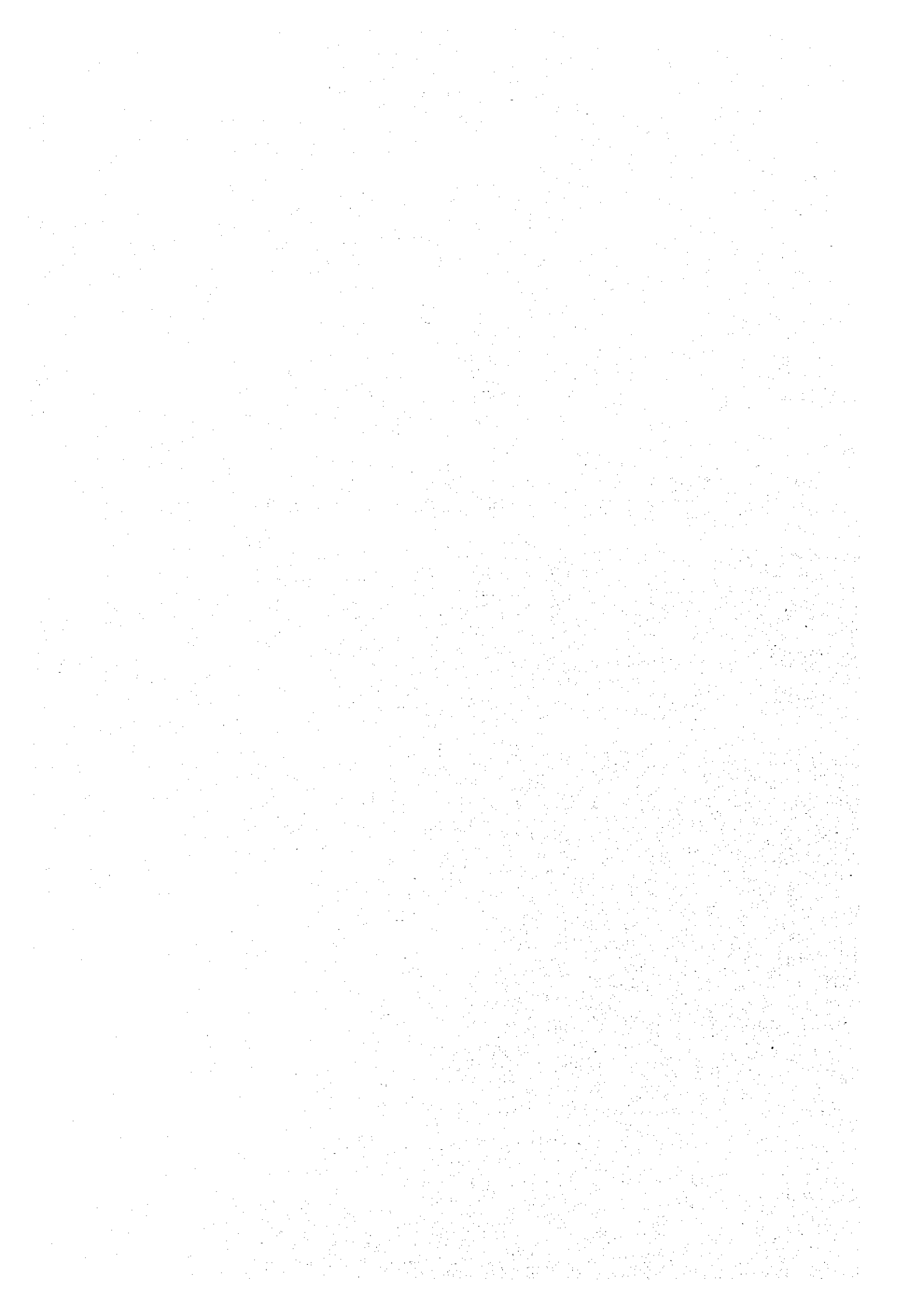
Proposed Site	Directorate of Education	Proposed School			Main Problems to be Solved	
		Type	Grade	No. of Clms		
1	Tubas	Jenin	Boys	1 - 6	16	Double shift classes / Overcrowded classes
2B	Seerees	Jenin	Boys	1 - 6	12	Double shift classes
3	Jenin	Jenin	Girls	1 - 6	18	Unsuitable facility
4	Tulkarem	Tulkarem	Boys	1 - 6	12	Double shift classes / Overcrowded classes
5B	Atteel	Tulkarem	Boys	1 - 4	14	Defective facility
6	Baqa Al-Sharqia	Tulkarem	Girls	1 - 5	12	Rented facility
7B	Al-Hairy Al-Janoby	Qalqilia	Girls	1 - 4	16	Rented facility / Overcrowded classes
8	Al-Hadiqa	Qalqilia	Boys	4 - 7	20	Double shift classes
9	Dair Iata	Salfet	Girls	1 - 10	12	Deteriorating facility
10	Al-Ma'ajeen	Nablus	Boys	1 - 10	18	Rented facility / Long distance travel
11	Aqraba	Nablus	Boy	6 - 8	18	Deteriorating facility
12B	Rafeedia	Nablus	Girls	1 - 10	18	Rented facility
13	Abdul-Hameed Shooman	Nablus	Boys	1 - 9	18	Double shift classes
14	Betonia	Ramallah	Boys	1 - 5	12	Double shift classes
16	Beit Luqia	Ramallah	Boys	1 - 5	12	Deteriorating facility
17B	Anata	Al Ram	Girls	1 - 6	18	Overcrowded classes
18	Al-Nwa'fneh	Jericho	Co-ed.	1 - 9	12	Long distance travel
19B	Al-Mahd	Bethlehem	Boys	1 - 6	18	Double shift classes
20	Obeidia	Bethlehem	Boys	1 - 5	12	Rented facility
20B	Safir	Hebron	Girls	1 - 9	18	Double shift classes
21B	Al-Moqata'ah	Hebron	Co-ed.	1 - 4	16	Overcrowded classes
22B	Tarqomia	Hebron	Girls	1 - 9	18	Double shift classes
23	Kharas	Hebron	Girls	1 - 5	12	Rented facility / Overcrowded classes
24	Habaief Al-Reyah	Hebron	Boys	1 - 5	18	Double shift classes
25B	Abu-Romman	Hebron	Boys	1 - 9	18	Double shift / Rented
26B	Mo'tah	S. Hebron	Girls	1 - 6	18	Rented facility
27	Raqa'a Al-Jadidah	S. Hebron	Girls	1 - 6	18	Rented facility
28B	Al-Thaheria	S. Hebron	Boys	1 - 6	18	Rented facility
29	Ithna	S. Hebron	Girls	1 - 8	16	Rented facility

Table 1-2 List of Proposed Rooms and Facilities for Each School

Proposed Facilities	Floor Area (m ²)	No. of Rooms	Remarks
Ordinary classroom	52	-	6.25 x 2.8 module
Science laboratory	81	1	Not necessary for lower basic schools
Library	78	1	1.5 ordinary classroom
Home-economics room	78	1	High basic school for girls only
Multipurpose room	78	1	105 m ² for over 18 classrooms
Computer room	52	1	
Headmaster's room	15	1	
Secretary's room	12	1	
Teacher's room	52	1	
	78	1	16 classrooms or more
	105	1	20 classrooms or more
Nurse's office	12	1	
Social worker's room	12	1	
Staff toilet	6	2	
Pupils' toilet *	52	-	14 classrooms or less
	78	-	19 classrooms or less
	105	-	20 classrooms or more
Guardroom			Not necessary
Canteen	20	1	
Storage room	20	1	40 m ² over 18 classrooms
Shed	-	1	

* Each pupils' toilet shall have a booth for physically disabled pupil

CHAPTER 2 CONTENTS OF THE PROJECT



CHAPTER 2. CONTENTS OF THE PROJECT

2 - 1 Objectives of the Project

As a result of the long occupation by Israel, basic education in the Gaza Strip and the West Bank now faces various problems. One of the most serious problems is a severe lack of classrooms which has been caused by the neglect of proper investment for the additional constructions of school facilities required by increase of pupils. The shortage of classrooms is further accelerated by a high population increase in the area, which has been augmented by the return of refugees as a result of the peace negotiations in the area.

MOE has been constructing school facilities strenuously with assistance from donors, such as the World Bank and Norway and others, since 1995. The Government of Japan has also been assisting the construction of school facilities by allocating funds to UNRWA and UNDP, and started bilateral assistance in 1997. The Project for Construction of School Facilities for Basic Education in the Gaza Strip was the first grant aid assistance for school construction from the Government of Japan to the Palestinian Authority. In the West Bank the Government of Japan had provided the Palestinian Authority with grant assistance as of 1998 on a grassroots basis for 24 school renovation projects in the West Bank.

Nevertheless, 3,300 classrooms are still in shortage for basic education in 1998/99, of which two thirds are shared with the West Bank where the shortage of classrooms is more severe.

In order to improve this situation, this project was formulated to construct school buildings for basic education in the West Bank succeeding the previous Project in the Gaza Strip, and to provide school furniture and science laboratory equipment. The Project thereby aims at improving the educational environment and quality, and eventually contributing to the human resources development of the area.

2 - 2 Basic Concept of the Project

2 - 2 - 1 Evaluation of Request

(1) Necessity of the Project

MOE has been making efforts to improve the basic education facilities proclaiming in December 1996 "securing the quantity and quality, and appropriate distribution of school facilities" as one of four major tasks for the educational sector. Nevertheless, it is very difficult to alleviate the shortage of classrooms under such circumstances that the increase rate of school aged population is over 5% and, thus an additional 450 classrooms are required to be newly constructed annually. This shortage of classrooms creates overcrowded classes. As MOE is not able to construct all required new school facilities, it is conducting double shifted classes or has been renting other facilities, such as private houses and retail shops, to prevent overcrowding of classrooms. While the double shift operation is preferred in the Gaza Strip in order to prevent overcrowding of classrooms, renting other facilities for the use of classrooms is mainly in common practice in the West Bank to supplement the shortage. The number of rooms being rented for classroom is about 1,200, the majority of which are small in size and poor in lighting and ventilation. Pupils are forced to have classes in unsuitable circumstances for proper education as a result. The lack of classrooms is not only forcing the use of double shift classes or the renting of other facilities but also causing unfairness to access of education in terms of commuting distances and gender differences. It is estimated that 2,150 classrooms are in shortage in the West Bank in 1998/99. Thus, it is judged that the Project, which aims to alleviate the shortage of classrooms, is in great need.

(2) Appropriateness of Proposed Site

1) Candidate Project Site and Facility

The proposed sites for the new school construction and outline of the proposed schools are as shown in Table 2-1.

2) Evaluation of Sites

Although the proposed sites have respective problems as shown on the form of request, it is not sufficient for a proposed site to be selected as a project site. It is required for all project sites to fulfill the fundamental requirements of Japan's Grant Aid Scheme. In order to examine whether or not the proposed

Table 2-1 List of Present Conditions of Project Sites & Contents of Requested Schools

Site No.	Project Sites	Directorate of Education	Contents of Requested Schools			Present Conditions of Existing Schools								Problems to be Solved					Present Conditions of Project Sites						
						Existing School①				Existing School②				Rooted Class rooms	Double Shift Classes	Over-Crowded Clrms	Inadequate Facilities	Long Distance Commuting	Site Ownership	Access		Site Condition		Site Preparations	
			Type	Grade	No. of Clrms	Schl No.	Type	Grade	No. of Pupils	Schl No.	Type	Grade	No. of Pupils							Available	Paved	Configuration	Soil		
1	Tubas	Jenin	Boys	1-6	18	5	Boys	3-5	502	8	Boys	1-2	401		○	△				LG	Yes	None	Slightly Sloping	Sand	Cut & Fills
2B	Secrees		Boys	1-6	12	2	Boys	1-4	278	1	Boys	5-10	327		○					MOH	Yes	Partially	Sloping	Gravel	Exist. Trees to be Removed
3	Jenin		Girls	1-6	18	2	Girls	1-5	698	-	-	-	0			○	○			MOH	Yes	Yes	Flat	Gravel	Not Required
4	Tulkarem	Tulkarem	Boys	1-6	12	6	Boys	4-6	531	14	Boys	7-9	601		○					DE	Yes	None	Sloping	Gravel/Rock	Cut & Fills
5B	Atteel		Boys	1-4	12	3	Boys	1-4	474	4	Girls	1-9	701		○					MOE	Yes	Yes	Flat	Sand	Exist. Bldg. to be Removed
6	Baqa Al-Sharqia		Girls	1-5	12	3	Girls	1-10	471	-	-	-	0	○		△			MOR	Yes	Yes	Sloping	Gravel/Rock	Cut & Fills	
7B	Al-Hay Al-Janooby	Qalqilia	Girls	1-4	16	4	Girls	1-4	1142	-	-	-	0	○		△				LG	Yes	Yes	Flat	Sand	Not Required
8	Al-Hadiqa		Boys	4-7	20	5	Boys	1-3	788	9	Boys	4-7	733		○					LG	Yes	Yes	Flat	Gravel/Sand	Not Required
9	Dairistia	Salfeet	Girls	1-10	12	1	Girls	1-10	321	-	-	-	0				○			MOR	No	-	Sloping	Gravel/Rock	Cut & Fills
10	Al-Ma'ajeen	Nablus	Boys	1-10	18	51	Boys	5-10	309	11	Boys	1-4	437	○				△		Private	No	-	Sloping	Gravel/Rock	Exist. Trees to be Removed
11	Aqraba		Boys	6-8	10	2	Boys	7-10	240	-	-	-	0				○			LEC	Yes	Yes	Flat	Gravel/Sand	Not Required
12B	Rafeedia		Girls	1-10	18	23	Girls	1-4	239	42	Girls	6-9	441	○						LG	Yes	Yes	Sloping	Rock	Cut & Fills
13	Abdul-Hameed Shooman		Boys	1-9	18	6	Boys	1-9	530	14	Boys	1-9	556		○					LG	No	-	Flat	Gravel/Rock	Not Required
14	Betonia	Rammallah	Boys	1-5	12	1	Boys	1-4	347	-	-	-	0		○					MOH	Yes	Yes	Sloping	Rock	Cut & Fills
16	Beit Lugia		Boys	1-5	12	1	Boys	1-3	345	-	-	-	0			△	○			MOR	Yes	Yes	Sloping	Rock	Cut & Fills
17B	Anata	Al-Ram	Girls	1-6	18	1	Girls	1-10	738	-	-	-	0			○	△			MOR	Yes	No	Sloping	Rock	Cut & Fills
18	Al-Nwai'meh	Jericho	Co-ed	1-9	12	UN	Co-ed	1-9	451	-	-	-	0					○		MOE	Yes	No	Sloping	Sand/Gravel	Cut & Fills
19B	Al-Mahd	Beithlehem	Boys	1-6	18	2	Boys	1-5	609	3	Boys	6-9	528		○					LG	Yes	Yes	Sloping	Rock	Cut & Fills
20	Obedia		Boys	1-5	12	1	Boys	1-10	699	-	-	-	0	○			△			MOH	Yes	Yes	Sloping	Gravel/Rock	Cut & Fills
20B	Sa'ir	Hebron	Girls	1-9	18	6	Girls	1-6	204	5	Girls	1-8	957	○		△				MOE	Yes	No	Sloping	Gravel/Rock	Cut & Fills
21B	Al-Moqata'ah		Co-od	1-4	16	14	Girls	1-6	287	15	Girls	1-6	167			○				MOH	Yes	Yes	Sloping	Gravel	Cut & Fills
22B	Tarqomia		Girls	1-9	18	7	Girls	1-8	574	6	Girls	1-8	523		○					LEC	Yes	Yes	Flat	Gravel	Exist. Trees to be Removed
23	Kharas		Girls	1-5	12	2	Girls	1-2	197	4	Boys	1-2	171	○						LG	Yes	No	Flat	Rock	Partial Cut & Fills
24	Ilabaiel Al-Reyah		Boys	1-5	18	6	Boys	1-5	480	5	Boys	6-10	552		○					LG	Yes	Yes	Sloping	Gravel/Rock	Exist. Trees to be Removed
25B	Abu-Rumman		Boys	1-9	18	17	Boys	8-10	377	18	Boys	1-7	689	△	○					LG	Yes	No	Sloping	Gravel/Rock	Cut & Fills
26B	Mo'tah	South Hebron	Girls	1-6	16	7	Girls	1-6	513	6	Girls	5-8	522	○		△				DE	Yes	Yes	Sloping	Sand/Gravel	Cut & Fills
27	Raqa'a Al-Jadidah		Girls	1-6	16	3	Girls	1-10	888	-	-	-	0	○		△				DE	No	-	Sloping	Rock	Cut & Fills
28B	Al-Thaheria		Boys	1-6	18	2	Boys	1-6	385	-	-	-	0	○		△				LEC	Yes	No	Sloping	Gravel/Rock	Cut & Fills
29	Ithna		Girls	1-8	16	9	Girls	1-9	502	-	-	-	0	○		△				DE	Yes	Yes	Sloping	Gravel	Cut & Fills

Note : Figures in parentheses indicate the total figures of the existing schools. Mark ○ indicates the main purpose while mark △ indicates subsequent purpose.

Abbreviations : Schl; School Clrms; Classrooms UN; UNRWA MOH; Ministry of Housing MOR; Ministry of Region MOE; Ministry of Education DOE; Directorate of Education LEC; Local Educations Committee LG; Municipality or Village Council

sites are eligible as school construction sites under the Japanese Grant Aid Scheme, the following criteria were established through discussions with the MOE:

- a) Give priority to sites that need to expand existing school facilities for alleviation of overcrowding or double shift operations. It will be judged that the site is overcrowded when floor area per pupil is less than approximately 1.0m², which is the average area of classroom for basic education in the Area.
- b) Give priority to sites that need to establish new school facilities or expand existing school facilities to ensure the replacement of rented classrooms.
- c) Give priority to sites that need to relieve long distance commuting to schools and which have unequal access for boys and girls.
- d) Sites where legal rights are secured by MOE.
- e) Sites where the necessary number of pupils and teachers can be secured in the vicinity.
- f) Sites where similar school construction plans by neither MOE nor any other donors exist.
- g) Sites where proper access roads exist for the delivery of construction materials and equipment.
- h) Sites unsuitable for construction, such as steep land and swamps, shall be eliminated.
- i) Sites with foreseen natural, environmental or social hazards, endangering the workers' safety during construction, shall be eliminated.

According to the criteria above, priority is given to a proposed site where the school construction is planned for the purpose of ① Alleviation of overcrowded classrooms, ② Abolition of double shift classes, ③ Termination of renting other facilities for use as classrooms, ④ Alleviation of long distance commuting, or ⑤ Elimination of unfairness in access to education regarding gender. However, there are proposed sites requested which do not fit in the criteria mentioned above, but have a problem in existing school facilities which shall be rebuilt due to the high risks of structural hazards. In case that there are traces of detachments of concrete slabs due to the rusting of reinforcing steel bars which is caused by the neutralization of concrete, there are high possibilities that pupils will be injured by the chunks of concrete which will fall down from the ceiling during classes. These buildings that have cracks by shearing force on the walls will have higher probability and danger of collapse on the occasion of

earthquakes. Those school buildings with structural defects should be abandoned immediately and countermeasures should be taken. Thus, such a site as proposed for the reasons of structural defects should be carefully examined whether or not immediate rebuilding is required and be selected as a recipient school site for the Project, if necessary.

3) The Result of the Examination of Sites

Although the number of sites originally requested by the Palestinian Authority was 29, as shown in Table 1, No. 5B Atteel was later cancelled by MOI, thus the final number of proposed sites to be examined was 28. The results of the examination of the 28 sites are as follows:

a) Abolition of Double Shift Classes and Alleviation of Overcrowding

Sites which fit into this criteria are as follows;

No. 1, No. 2B, No. 4, No. 7B, No. 8, No. 13, No. 14, No. 16, No. 17B, No. 19B, No. 20B, No. 21B, No. 22B, No. 23, No. 24, No. 25B, No. 26B, No. 27, No. 28B, No. 29

b) Replacement of Rented Classrooms

Sites which fit into this criteria are as follows;

No. 6, No. 7B, No. 10, No. 12B, No. 20, No. 20B, No. 23, No. 25B, No. 26B, No. 27, No. 28B, No. 29

c) Relief of Long Distance Travel and Unequal Access for Boys and Girls

Sites which fit into this criteria are as follows;

No. 10, No. 18

As a result of the above examination, it was found out that 26 sites, excluding No. 9 and No. 11 sites, satisfy all criteria mentioned above.

However, No. 9 and No. 11 sites are requested due to the structural defects of existing school buildings. Those two schools sites are included in the Project for the following reasons:

① No. 9 Dair Istia

The existing 6 classrooms out of 10 classrooms have problems; roofs are made of reinforced concrete but has started detachments of concrete slabs due to the neutralization of concrete, and walls have water leakage, further cracks and the growth of mold. To remedy this situation, complete rebuilding of roof slabs including water proofing and all finish works is required. As the construction period and costs are almost the same as new construction, it is judged that the existing school building is needed to be rebuilt.

② **No. 11 Aqraba**

A single storied school building made of reinforced concrete was built in 1926 which accommodates 8 classrooms. 5 classrooms were added to this building in 1973. Two classrooms are added horizontally and three classrooms are added on the roof. This extension caused uneven settlement of the building which is accelerating annually and two classrooms abandoned which have 5mm wide cracks from floor to ceiling on the wall. Furthermore, three classrooms on the first floor have severe cracks on the wall and have to be abandoned together with 3 classrooms which are located directly below on the ground floor and counter-measures have to be taken immediately.

There is no appropriate remedy for unsesttlement of the building except for rebuilding the building from the foundation, which means to rebuild a whole structure, thus rebuilding a new school building is required for this proposed site.

However, Site No. 4 Tulkarem and No. 13 Abdul Hajeed Shooman have the following problems and are judged to be inappropriate for the Project.

① **No. 4 Tulkarem**

This site is selected to alleviate double shift classes which are conducted at Ajnadeen Low Basic School and Al-Ashmae'y High Basic School by constructing new school facilities. In Tulkarem city, which is considered as one schooling area, New school facilities are under construction at Al-Fadelia Secondary School and at Khaled Ibn Sa'id Low Basic School at the time of site survey. In the examination of the need and supply of school facilities in Tulkarem, the existing school campus of Al-Fadelia Secondary School which has 11 ordinary classrooms and some special classrooms is not counted. But it will become empty and can be used for basic education in the near future when the new building as mentioned above is completed. Thus, it is judged that there is no urgent need to construct additional classrooms in this area.

② **No. 13 Abdul-Hameed Shooman**

This site is selected to alleviate double shift classes which are conducted at two Boys' Combined Basic Schools, namely Musa Bin Nuseir B School and Bassam Al-Shaqa' School. However, as this site is located 3km away from the existing school campus, pupils will be forced to commute long distances everyday if a new school is constructed at the proposed site because there is no adequate population in neighborhoods to secure pupils to establish a new school.

d) Legal Rights for the Site

It is confirmed that the legal rights for land use of all 28 sites have been secured. The ownership documents of the sites, which belong to either the Ministry of Housing or MOE, and right-of-use documents which were issued by Municipalities or the Ministry of Awkaf, have been examined and confirmed of their legality.

e) Securing of Pupils

The pupils for the project schools will be partly or entirely transferred from existing schools and the number of classrooms of each project school will be calculated based on the number of pupil to be transferred. Therefore, in principle, there is no problem in securing an adequate number of pupils for all project schools sites.

f) Duplication with Other Projects

At the stage of explanation of the draft final report of the basic design on the Project, it is confirmed that the parents committee has built four classrooms at the existing school campus of Site No. 20 Obeidia, and critical problems of rented classrooms which were observed at the field survey stage has mostly solved. Thus, this site is withdrawn from the project site.

g) Access Roads

A new access road must be constructed at sites No. 9. However, it is judged not to be a problem because the municipalities promised to secure access the road for the site.

h) Sites Topographically Unsuitable for Construction

There is no site unsuitable for construction, such as having steep land or a swamp. Ground levelling by cut and fills of bank soil is, however, required for most of the sites.

i) Safety during Construction

No danger can be foreseen at any of the Project sites.

4) The Selected Sites for the Project

As a result of the above examination, the following 25 school sites are selected for the Project, excluding No. 4, No. 13 and No. 20 sites, which are judged to be inappropriate:

Table-2-2 Project Sites

Site No.	Name of Site	Site No.	Name of Site	Site No.	Name of Site
1	Tubas	12B	Rafeedia	22B	Tarqomia
2B	Seerees	14	Betonia	23	Kharas
3	Jenin	16	Beit Luqia	24	Haibaiel Al-Reyah
6	Baqa Al-Sharqia	17B	Anata	25B	Abu-Romman
7B	Al-Hay Al-Janooby	18	Nwa'imeh	26B	Mo'tah
8	Al-Hadiqa	19B	Al-Mahd	27	Raqa'a Al-Jadidah
9	Dair Istia	20	Obeidia	28B	Al-Thaherialthna
10	Al Ma'ajeen	20B	Sa'ir	29	Ithna
11	Aqraba	21B	Al-Moqata'ah		

(3) Appropriateness of the Contents and Scale of the Project

The appropriateness of school type and grades of classes formation of each proposed school is judged after examining the conditions of school operations and existing school facilities, and analyzing the problems of existing schools and needs of the project area for school buildings and the urgent subjects to be tackled.

1) Type of Project School

There are many schools with irregular grade formation which differ from the educational system in the West Bank. This situation must be corrected because the main purpose of the Project is to improve basic education in the West Bank. Thus, the grade formation of the proposed schools will, in principle follow the present educational system and the following four (4) types of schools are proposed:

a) Lower Basic Schools

Schools with grade 1 to 4 which cover the preparatory stage of education or early stage of basic education categorized by the new curriculum.

b) Low Basic Schools

Schools with grades 1 to 6, which is in accordance with educational system.

c) High Basic Schools

Schools with grades 7 to 10, which is in accordance with educational system.

d) Combined Basic Schools

Schools with grades 1 to 10, where low basic and high basic schools are combined (schools with grades 1 to 8 or 9 are also included into this category)

2) Grade Formation and Gender

The type of school and formation of grades at each proposed school is reviewed and the following revisions are needed as a result.

a) No. 6 Baqa Al-Sharqia

① Content of Correction: Girls' grade 1 to 5 → Girls' grade 1 to 4

② Reason for Correction

Subjects for improvement are grades 1 to 2 classes and this problem will be solved by constructing lower basic school facilities at this site.

b) No. 8 Al-Hadiqa

① Content of Correction: Boys' grade 4 to 7 → Boys' grade 1 to 6

② Reason for Correction

It is aimed to eliminate double shift classes conducted at Murabeteen-A School & Murabeteen-B School, and one of the two will be shifted at the proposed site will the present grade formation of G4-G7. However, as the proposal site is located 700m away from the existing school campus, both schools at the new and old sites should have the lowest grade classes for the easier commuting of lower grade pupil. Thus, both schools should be of G1-G6. Grade 7 should be taught at other existing schools in the neighborhood.

c) No. 11 Aqraba

① Content of Correction: Boys' grade 6 to 8 → Boys' grade 7 to 10

② Reason for Correction

10 classrooms, 4 for grades 7 & 8 which occupy a dilapidated building with severe cracks, 3 for grade 6 which is overcrowded, being located at an adjacent existing school site, and 3 special classrooms, are requested.

However, it will be corrected due to the following reasons:

i) Grade 6 belongs to the adjacent existing school of complete grade formation from 1 to 6 should not be separated.

ii) Grades 9 to 10 should be included because they are also occupying dilapidated classrooms with severe cracks.

d) No. 12B Rafeedia

① Content of Correction: Girls' grade 1 to 10 → Girls' grade 1 to 9

② Reason for Correction

Existing school to be transferred has only grades 1 to 9, and grade 10 is taught in a secondary school.

c) No. 14 Betonia

① Content of Correction: Boys' grade 1 to 5 → Boys' grade 1 to 6

② Reason for Correction

Existing school to be transferred has only grades 1 to 4. Thus, grades 5 to 6 of the adjacent school which shares the same site with will be transferred to make the grade formation complete.

f) No. 16 Beit Luqia

① Content of Correction: Boys' grade 1 to 5 → Boys' grade 1 to 4

② Reason for Correction

It is appropriate to allocate a lower basic school which has grades 1 to 4 at this site because the existing school to be transferred has only grades 1 to 3.

g) No. 19B Al-Mahd

① Content of Correction: Boys' grade 1 to 6 → Boys' grade 1 to 9

② Reason for Correction

There is only one public school campus for grade 1 to 9 in Bethlehem and Al-Mahd-A school with grades 1 to 5 and Al-Mahd-B school with grades 6 to 9 are conducting double shift classes. There are many pupils suffering from long distance journey. The distance between the existing campus and the proposed site is 1.5km. Thus, it is judged to be appropriate for both schools to have grades 1 to 9 in order to relieve them from long distance commuting.

h) No. 20B Sa'ir

① Content of Correction: Girls' grade 1 to 9 → Girls' grade 1 to 6

② Reason for Correction

In the town of Sa'ir there are three girls' schools; one is low basic, one is combined basic with 5 high basic classes, and the other is secondary school. The combined school is located at the town center while the proposed site is located at the north edge of the town. Therefore, it is not appropriate to relocate the high basic classes at north and also to separate the high basic school which has only 5 classes. Thus, the proposed school should be a low basic school.

i) No. 21B Al-Moqata'ah

① Content of Correction: Co-ed. grade 1 to 4 → Girls' grade 1 to 6

② Reason for Correction

Girls' grade 1 to 6 school will be appropriate for this school site because it will be difficult for the people to the co-ed. accept in Hebron. The

conditions of existing schools using rented classrooms in neighborhoods are shown below. The existing schools to be transferred will be No. 14 Al-Khansa and No. 15 Haleemah.

Name of School	Gender	Grade	No. of Clms	No. of Pupils
No. 11 Al-Imam Ali	Boys	1- 6	12	403
No. 12 Ibn Rushed	Boys	7- 10	12	530
No. 13 Al-Ameer Mohammad	Boys	7- 10	17	669
No. 20 Abu-Dayan	Boys	1- 6	12	419
No. 14 Al-Khansa	Girls	1- 6	8	287
No. 15 Haleemah	Girls	1- 6	6	167

j) No. 22B Tarqomia

① Content of Correction: Girls' grade 1 to 9 → Girls' grade 1 to 8

② Reason for Correction

Existing schools to be transferred to this site are Al-Aqsa A (grade 1 to 8) and Al-Aqsa B (grade 1 to 8) to eradicate double shift classes. There are well equipped existing classrooms for grade 9 at Tarqomia (grades 8 to 12), so it is appropriate to exclude grade 9 from the propose school.

k) No. 23 Kharas

① Content of Correction: Girls' grade 1 to 5 Co-ed grade 1 to 4

② Reason for Correction

Although the existing low basic school for girls (G1 and G2 only) has 5 rented classrooms which shall urgently be solved, the other high basic school (G3 to G12) is not severely overcrowded. Thus, problem of girls' school is merely the 5 rented classrooms which is too small for a project school.

Taking a look at the low basic school of the area, it is also renting 5 classroom of bad condition. Thus, it will be appropriate for both girls and boys schools to be combined as a co-education school and construct a new school building by the Project.

l) No. 24 Habaiel Al-Reyah

① Content of Correction: Boys' grade 1 to 5 → Boys' grade 1 to 6

② Reason for Correction

It is preferable to include grade 6 to follow the grade formation of the present educational system.

m) No. 25B Abu-Romman

① Content of Correction: Boys' grade 1 to 9 → Boys' grade 1 to 10

② Reason for Correction

The project is to cease the double shift operation of Al-Shafee-A School (G1 to G7) and Al-Shafee-B School (G8 to G11) by re-organizing the both schools and transferring a part of pupils to a new school. There is no reason to limit the grade formation of the project school to be G1 to G9.

Thus, it should follow the normal grade formation of the present educational system and have G1 to G10.

n) No. 26B Mo'tah

① Content of Correction: Girls' grade 1 to 6 → Girls' grade 1 to 8

② Reason for Correction

Since the main problems to be solved by the Project are those of Al-Mo'tah low basic school for girls (G1 to G6), a school building for a low basic school is proposed. However, it is appropriate to build a school building to comply with the high basic grade education and to transfer the main part of Al-Sammo' high basic school for girls (G5 to G8) thereto and transfer the main part of Al-Motah' low basic school to the existing building of Al-Sammo' for the efficient use of the project opportunity.

Thus, the grade formation of the new school should be G1 to G8.

o) No. 29 Ithna

① Content of Correction: Girls' grade 1 to 8 → Girls' grade 1 to 9

② Reason for Correction

It is preferable to include grade 9 to this site because the existing school to be transferred has grades 1 to 9.

3) Appropriateness of Proposed School Size

The number of ordinary classrooms is one of the indicators for school size. Thus, the appropriateness of the number of proposed classrooms represents the that of the proposed school. However it is impossible to judge the appropriateness of the proposed school size, because the basis or criterion to decide the proposed number of classroom is not clarified in the Form of Request. Thus, the appropriate number of classrooms(Per) will be calculated by the following equation:

$$\text{Per} = \text{Np} / 40$$

where,

Np: Project demand in number of pupils

$$\text{Np} = \text{Nn} + \text{Nf} - \text{Sn}$$

$$= (\sum \text{Si} + a) + 0.2(\sum \text{Si} + a) - \text{ZCi}$$

$$= 1.2(\sum \text{Si} + a) - \text{ZCi}$$

where, Nn: Present demand

= Sum of pupils (s i) in a proposed Project school and pupils transferring from other schools due to reorganization of grades (a) (*1)

Nf: Future demand

= Setting the target year for this Project to be 2002/2003, the future demand shall be the natural increase in the number of pupils in the project school.

The natural increased number shall be obtained by multiplying the present demand in pupils by the increase rate. The total increase rate for 2002/2003 shall be set at 20% . (*2)

Sn: Present supply

= Capacity (number of pupils C i) of existing school buildings to be continuously used in the future.

(*1) If the number of pupils in the present schools was obtained at the time of the interview, that number shall be used. If not, the number of pupils mentioned in the attached data to the Request shall be considered as the present number of pupils (1998/1999).

(*2) According to the basic school population data of the past three years, 1995/96, 1997/98 and 1998/99, the average increase rate of basic school population in the West Bank is as follows:

1) 1995/96 to 1997/98, annual average of 6.36% for two years.

2) 1997/98 to 1998/99, average 5.35% for one year.

From these two factor of facts the following are assumed:

- 3) 98/99 to 99/00, 5.35% increase
- 4) 99/00 to 00/01, $5.35\% \times 5.35\%/6.36\% = 4.50\%$ increase
- 5) 00/01 to 01/02, 4.50% increase
- 6) 01/02 to 02/03, $4.50\% \times 4.50\%/5.35 = 3.79\%$ increase

If the above increase rate is accumulated up to 2002/2003:

$$1.0535 \times 1.045 \times 1.045 \times 1.0379 = 1.19405$$

There will be a 19.45% increase in 4 years. Thus, the total increase rate shall be rounded off to 20%.

4) Distribution of Classes per Grade

The classes for the project schools shall be distributed according to the number of pupils per grade in the West Bank as follows:

a) Lower Basic School

(G1-G4)	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
Rate per 1000 pupil	275	254	238	233						
Ratio for 8 clms school	2	2	2	2						
13 clms school	4	3	3	3						
19 clms school	5	5	5	4						

b) Low Basic School

(G1-G6)	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
Rate per 1000 pupil	196	180	169	166	146	143				
Ratio for 8 clms school	2	2	1	1	1	1				
9 clms school	2	2	2	1	1	1				
10 clms school	2	2	2	2	1	1				
11 clms school	2	2	2	2	2	1				
13 clms school	3	2	2	2	2	2				
15 clms school	3	3	3	2	2	2				
17 clms school	3	3	3	3	3	2				
23 clms school	5	4	4	4	3	3				
24 clms school	5	4	4	4	4	3				

c) High Basic School

(G7-G10)	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
Rate per 1000 pupil							309	272	234	186
Ratio for 7 clms school							2	2	2	1

d) Combined Basic School

(G1-G10)	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
Rate per 1000 pupil	136	125	117	115	101	99	95	84	72	57
Ratio for 10 clms school	1	1	1	1	1	1	1	1	1	1
17 clms school	2	2	2	2	2	2	2	1	1	1
22 clms school	3	3	3	3	2	2	2	2	1	1
(G1-G9)	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
Rate per 1000 pupil	144	133	124	122	107	105	100	89	76	
Ratio for 13 clms school	2	2	2	2	1	1	1	1	1	
15 clms school	2	2	2	2	2	2	1	1	1	
19 clms school	3	3	2	2	2	2	2	2	1	
22 clms school	2	2	2	2	2	2	2	2	2	
(G1-G8)	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
Rate per 1000 pupil	155	143	134	131	116	113	108	95		
Ratio for 13 clms school	3	3	3	3	2	2	2	2		

5) Results of Evaluation:

As a result of evaluating the contents of the Request and making modifications, the Project contents and size of the schools in the 25 Project areas are as shown in Table-2-3.

Table 2-3 Results of the Examinations of the Contents of Requested Schools

Site No.	Project Sites	Directorate of Education	Contents of Requested Schools			Present Conditions of Existing Schools										Results of the examinations																				
						Existing school--①					Existing school--②					Restructuring of grades					Type	Level of Education	Grade	No. of Classrooms			Distribution of Classes									
			Type	Grade	No. of Clrms	Sch. No.	Type	Grade	No. of Pupils (S1)	Capacity (C1)	Sch. No.	Type	Grade	No. of Pupils (S2)	Capacity (C2)	Required	Transfer from other Schools			Calculated No. of Classes				Adjusted No. of Classes	Result	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	
1	Tubas	Jenin	Boys	1-6	18	5	Boys	3-5	502	0	8	Boys	1-2 (5-12)	401 (363)	278 (424)	Yes	Yes	4	G6	164	Boys	Basic	1-6	25.0	1.0	24	5	4	4	4	1	3				
2B	Secrees		Boys	1-6	12	2	Boys	1-4	278	0	1	Boys	5-10	327	353	Yes	No			0	Boys	Basic	1-6	9.3	0.3	9	2	2	2	1	1	1				
3	Jenin		Girls	1-6	18	2	Girls	1-5	698	0	--	--	0	0	Yes	Yes	3	G6	80	Girls	Basic	1-6	23.3	0.3	23	5	4	4	4	3	3					
6	Baqa Sharqia	Tulkarem	Girls	1-5	12	3	Girls	1-10 (1-12)	471 (561)	240	--	--	0	0	Yes	No			0	Girls	Low Basic	1-4	8.1	0.1	8	2	2	2	2							
7B	Al-Hay Al-janooby	Qalqilia	Girls	1-4	16	4	Girls	1-4	1142	603	--	--	0	0	No	No			0	Girls	Low Basic	1-4	19.1	0.1	19	5	5	5	4							
8	Al-Hadiqa		Boys	4-7	20	5	Boys	1-3	788	0	9	Boys	4-7	733	816	Yes	No			0	Boys	Basic	1-6	25.2	1.2	24	5	4	4	4	4	3				
9	Dair Istia	Salfeet	Girls	1-10	12	1	Girls	1-10	321	0	--	--	0	0	No	No			0	Girls	Basic & High	1-10	9.6	-0.4	10	1	1	1	1	1	1	1	1	1	1	
10	Al-Ma'ajeen	Nablus	Boys	1-10	18	51	Boys	5-10 (7-12)	309 (270)	0	11	Boys	1-4	437	0	Yes	No			0	Boys	Basic & High	1-10	22.3	0.3	22	3	3	3	3	2	2	2	2	1	1
11	Aqraba		Boys	6-8	10	2	Boys	7-10	240	0	--	--	0	0	No	No			0	Boys	High	7-10	7.2	0.2	7							2	2	2	1	
12B	Rafeedia		Girls	1-10	18	23	Girls	1-4	239	0	42	Girls	6-9	441	0	Yes	Yes	35	G5	70	Girls	Basic & High	1-9	22.5	0.5	22	3	3	3	3	2	2	2	2	2	2
14	Betonia	Rammallah	Boys	1-5	12	1	Boys	1-4	347	0	--	--	0	0	Yes	Yes	2	G5/G6	175	Boys	Basic	1-6	15.6	0.6	15	3	3	3	2	2	2					
16	Beit Luqia		Boys	1-5	12	1	Boys	1-3	345	0	--	--	0	0	Yes	Yes	2	G1	89	Boys	Low Basic	1-4	13.0	0.0	13	4	3	3	3							
17B	Anata	Al-Ram	Girls	1-6	18	1	Girls	1-10 (1-12)	738 (820)	479	--	--	0	0	Yes	No			0	Girls	Basic	1-6	10.1	0.1	10	2	2	2	2	1	1					
18	Al-Nwai'meh	Jericho	Co-ed	1-9	12	UN	Co-ed	1-9	451	0	--	--	0	0	No	No			0	Co-ed	Basic & High	1-9	13.5	0.5	13	2	2	2	2	1	1	1	1	1	1	
19B	Al-Mahd	Bethlehem	Boys	1-	18	2	Boys	1-5	609	0	3	Boys	6-9	528	600	Yes	No			0	Boys	Basic & High	1-9	19.1	0.1	19	3	3	2	2	2	2	2	2	1	
20B	Sa'ir	Hebron	Girls	1-9	18	6	Girls	1-6	204	0	5	Girls	1-8	957	694	Yes	No			0	Girls	Basic	1-6	17.4	0.4	17	3	3	3	3	3	2				
21B	Al-Moqata'ah		Co-ed	1-4	16	14	Girls	1-6	287	0	15	Girls	1-6	167	0	No	No			0	Girls	Basic	1-6	13.6	0.6	13	3	2	2	2	2	2				
22B	Tarqomia		Girls	1-9	18	7	Girls	1-8	574	0	6	Girls	1-8	523	501	No	No			0	Girls	Basic & High	1-8	20.3	0.3	20	3	3	3	3	2	2	2	2	2	
23	Kharas		Girls	1-5	12	2	Girls	1-2	197	0	4	Boys	1-2	171	0	Yes	No			0	Co-ed	Low basic	1-4	11.0	0.0	11	3	3	3	2						
24	Habaiel Al-Reyah		Boys	1-5	18	6	Boys	1-5	480	0	5	Boys	6-10	552	619	Yes	No			0	Boys	Basic	1-6	15.4	0.4	15	3	3	3	2	2	2				
25B	Abu-Romman		Boys	1-9	18	17	Boys	8-10 (8-11)	377 (441)	0	18	Boys	1-7	689	587	Yes	No			0	Boys	Basic & High	1-10	17.3	0.3	17	2	2	2	2	2	2	2	1	1	1
26B	Mo'tah	South Hebron	Girls	1-6	16	7	Girls	1-6	513	0	6	Girls	5-8	522	440	No	No			0	Girls	Basic & High	1-8	20.0	0.0	20	3	3	3	3	2	2	2	2	2	
27	Raqa'a Al-Jadidah		Girls	1-6	16	3	Girls	1-10	888	588	--	--	0	0	Yes	No			0	Girls	Basic	1-6	11.9	0.9	11	2	2	2	2	2	1					
28B	Al-Thaheria		Boys	1-6	18	2	Boys	1-6	385	0	--	--	0	0	No	No			0	Boys	Basic	1-6	11.5	0.5	11	2	2	2	2	2	1					
29	Ithna		Girls	1-8	16	9	Girls	1-9	502	0	--	--	0	0	No	No			0	Girls	Basic & High	1-9	15.0	0.0	15	2	2	2	2	2	2	1	1	1	1	

(388)

Note : Figures in parenthesis indicate the figyres of the existing schools. Equation for the calculation of No. of Classes == $1.2 (S1+S2+a) - (C1+C2)$

(4) Appropriateness of Proposed Rooms and Size

1) Requested Project Rooms

The necessary rooms and their sizes for each Project school are stated in the Answers to Questionnaire as shown in Table 1-2.

The sizes of the rooms shown in the table are slightly different from the standards applied for the Project for Construction of School Facilities for Basic Education in the Gaza Strip. The basic module of building size for the previous project was 6.6 x 2.75, however the proposed module is 6.25 x 2.8. The size of one classroom consists of three modules. The size of each room is usually decided by multiplying the number of the basic modules. However, the sizes of the proposed rooms are not all based on the module set and this may cause some confusion. Furthermore, the size of the smaller rooms are too small and has been decided without any actual evaluation and they have to be reviewed.

2) Evaluating of the Necessity of Requested Rooms

a) Ordinary Classrooms

Ordinary classrooms are obviously necessary and the number of classrooms shall be as stated in paragraph (3), 2) regarding the appropriateness of the project size.

b) Science Laboratories

Science laboratories are necessary in both low and high basic because it is desirable to provide as many observations and experiments as possible in the science study. However, it is not necessary to conduct all the science lessons in the science laboratory. They may also be conducted in ordinary classrooms, outside and even in the multipurpose room. The science laboratory needs to be used effectively, based on the contents and effects of the study. Thus, the type and size of science laboratory shall differ by the school type. It shall be planned as follows for this Project:

- ① The contents and methods of the science lessons including those of experiments differ for low and high basic schools. In low basic schools, the lesson centers around the teacher who demonstrates the experiments, whereas in high basic schools, the pupils often conduct experiments in group and even independently. Thus, the function and structure of the science laboratory shall be different between low and high schools.
- ② Lower grades in low basic schools only have three hours of science per week and the contents of the lessons are very basic which do not need a laboratory type science room so, lower basic schools will not have a science laboratory.

- ③ Although there are five hours of science lessons a week from Grade 5 in low basic schools, a science laboratory may not be effectively used in a small school. In such a case, a multipurpose room will be used for science lessons if a teacher's demonstration bench is installed instead of an ordinary teacher's desk and chair set. Thus, if the total school hours of science and other studies conducted in the multipurpose room does not exceed 35 hours, only a multipurpose room will be provided. Schools with 13 or less classrooms come into this category.
- ④ A high basic school type laboratory shall be set up in low-high combined basic schools.

c) Library

From September 2000, the unified Palestinian curriculum will start to teach pupils of the first and sixth grades. The objective of the new curriculum is not only to strengthen each subject, but to strengthen the connection between subjects, diversification and harmony of knowledge and skills and the training of internationally minded people. Thus, education will be diversified in the future, changing from a passive to a more active type of learning. In this situation, the library will become more important in both low and high basic schools.

However, the number of books in most of the school libraries is limited and a great amount of time and money will be needed to ensure improvement. Except small number of schools with well-equipped libraries, it is planned to use libraries for class activities during school hours rather than for independent use after school hours. It will be used for lessons such as religion, Arabic and social studies, requiring the use of the Koran, dictionaries, encyclopedias and other materials available at the library. Thus, it is appropriate to have one library in each school. However, in the lower basic schools, the capability of pupils to read books is extremely limited and special lessons such as those mentioned may not be conducted. Thus, instead of a library, a multipurpose room with open-shelves in one corner will act as a small library.

d) Art Room

There are two hours a week of art lessons for all grades which include painting, sculpture, crafts, music and dancing. Only a few schools have art rooms. Thus, in order to prevent excess noise, lessons in music are mostly centered on theory and provided in the ordinary classrooms. As art classes do not necessarily require special rooms, painting and crafts are mostly conducted in the ordinary classrooms.

If one of the two art lessons is music and if one out of every two music lessons is conducted in a special room, the use of the art room even for 20-class schools will be only 10 hours a week. As the rate of use will be 30%, it will not be appropriate to construct a special room as the cost effect will be low. Thus, an art room will not be constructed and special lessons will be conducted in the multipurpose room.

e) Computer Room

High basic schools are actively introducing computer lessons in the Gaza Strip and the West Bank. However, in most cases computer lessons are not compulsory and are considered elective subjects. The new curriculum stipulates that computer lessons should be included as part of the one hour of free activity a week. Thus, it is not appropriate to have a special computer room just for this purpose. Considering the possibility of computer lessons, a place in the library will be allocated for computer use. Computer lessons will thus be in the same category as the class lessons using the library and the library will be considered as a special classroom for integrated information study.

f) Home Economics Room

According to the new curriculum, home economics is conducted in girls' high basic schools as a part of elective subject which will be provided two hours a week. Thus, a home economics room will be necessary once a week at most per class. There are no separate girls' secondary schools in the Project schools and all are combined with elementary schools. Thus the number of classes in the high basic grade is small and it is not effective to have a special home economics room. The multipurpose room may serve as a home economics room if it is provided with cooking utensils, tableware, other household goods and books on child-care and hygiene. Thus, home economics shall be conducted in the multipurpose room.

g) Multipurpose Room

As mentioned above, the multipurpose room shall be used for art lessons in all the schools, science in small low basic schools, technical/applied science, elective subjects such as home economics and second foreign languages in high basic schools, and vocational training. There shall be two types of multipurpose rooms: one having a science experiment table for small low basic schools and another to be used as an ordinary type room. Apart from these lessons, the room will also be used for meetings and various ceremonies. Thus, the furniture in the room shall be removable and a storage room shall be set up nearby.

h) Headmaster's Room

All existing schools have a separate room for the headmaster. The headmaster is responsible for the management of the teachers and a separate room is necessary to meet with parents and officials from regional educational offices, as well as to hold small meetings with the teachers.

i) Secretary's Room

The secretary to the headmaster is the only clerical employee in the school. As the secretary is responsible for the entire management of the school including the accounts, together with the headmaster, a separate room next to the headmaster's room is necessary.

j) Teachers' Room

In order that teachers may conduct educational duties, prepare for lessons and take rests, a teachers' room equipped with desks and lockers for each teacher is necessary.

k) First Aid Room

At present, no public schools have school nurses. MOE hopes that the Ministry of Health will provide nurses in charge of several schools, however, this has not yet materialized. MOE has the science teachers trained in first aid in order to look after the pupils, as well as assist during medical checkups. Thus, a first aid room is necessary which will serve as a place to rest and as a one for physical and medical checkups. A toilet is necessary to be located near the first aid room, which will also be utilized by physically disabled pupils.

l) Social Worker's Room

Due to repulsion towards the religious and conservative society, as well as admiration to the diversified world, and feelings of suppression and irritation brought about by long years of occupation, it is said that psychological and mental care is important in the schools in the Gaza Strip and West Bank. Thus, MOE has employed counselors responsible for the mental care of pupils. A social worker's room has thus been requested. However, a special room is not necessary considering the rate of use. The first aid room will be appropriate in a case where such use is required.

m) Teacher Toilets

It is necessary to separate the toilets for teachers and guests from the pupil toilets from an educational viewpoint. According to the MOE's standard layout plan for the teachers' toilets area which was provided to the B/D team of the previous project in the Gaza Strip had some problems in room layout such as shortage of necessary consideration to the society and

probability of sanitary problems, The team proposed and MOE accepted the following improvement:

- ① To separate male and female toilets each other
- ② To separate path to toilets from that to kitchen

In the West Bank, apart from exceptional coeducation schools, only male teachers teach at boys' schools and female teachers teach at girls' schools. Thus, there is no mixture of male and female teachers. The toilets need not always be separated, but considering the visitors who come to the schools, separate toilets are preferable. However, there shall be only one toilet booth for another gender.

n) Pupil Toilets

In the previous project, the pupil's toilets were separated from the main school building for the reasons of sanitary considerations and easier supervision of pupil's bad behavior around the toilets. However, in winter, it is much colder in the West Bank than in the Gaza Strip and it is common to locate the pupil's toilets in the main school building. The West Bank type is more convenient but the Gaza type is recommendable from the view point of a more desirable sanitary environment. Considering the regional characteristics, the toilet shall be located in the same building. However, it shall be located at the end of the school building where offensive odors will not fill the school corridors taking into account the direction of the prevailing wind.

o) Canteen

It is customary for schools in the Gaza Strip and West Bank to have facilities to provide pupils with snacks and drinks, and most of the existing schools have canteens. The canteen may be run by an outside person or by the school. Part of the profit from the canteen is added to the operation and maintenance funds of the school. Thus, it is an important facility. However, it will be costly to construct a separate building as in the previous project in the Gaza Strip, thus it shall be conveniently located under the stairs as far as possible.

p) Ordinary Storage

Storage is absolutely necessary in order to store Physical exercise equipment, cleaning tools and other miscellaneous items. It shall be located in an appropriate place in the school building.

q) Sunshade

In the Project for Construction of School Facilities for Basic Education in the Gaza Strip, sunshades were considered as necessary because pupils in the Gaza Area come to school early and need to be protected from the strong sunlight until the classrooms are opened. However, shades are mostly necessary in double shift schools. As there are no such schools in this Project, shades will be omitted.

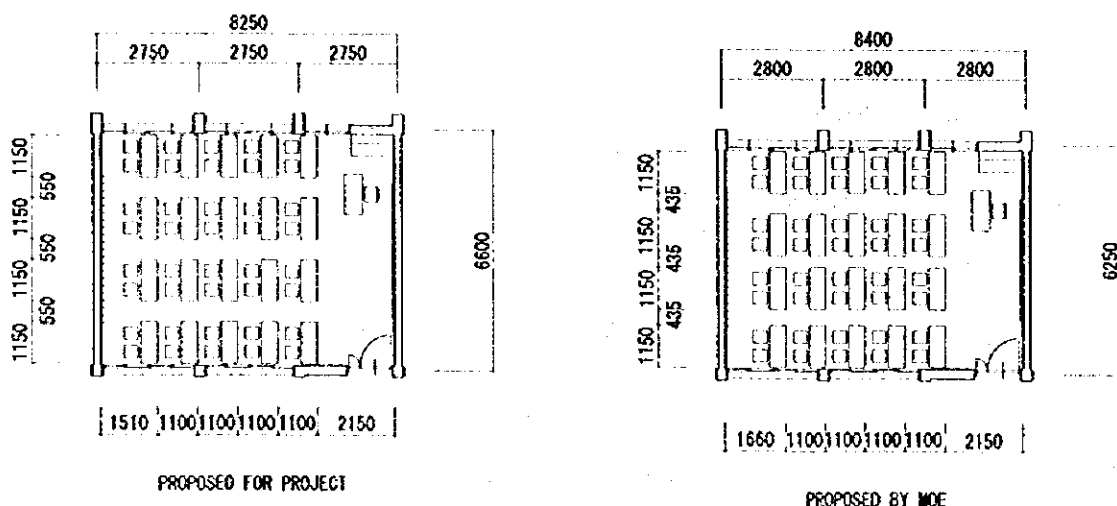
3) Size of the Rooms

The size of the rooms applied for the Project for Construction of School Facilities for Basic Education in the Gaza Strip was decided upon after carefully evaluating a number of standard plans. Thus, the same size of facilities for the above mentioned project shall be applied for the Project if the conditions for designing are the same. However, the teachers' room and other management quarters do not need to be separated between men and women, therefore some reduction in the size is possible.

a) Ordinary Classroom

The ordinary classroom shall be the size of 3 basic modules of 6.6m x 2.75m, equalling 6.6m x 8.25m, with an area of 54.45 m² (by wall axis measurement). This is one of the minimum possible size, allowing four rows of five standard desks (seating two), accommodating 40 pupils. The size of classroom proposed in the Answer to the Questionnaire will be ten narrow for four rows of desks as shown below right.

Figure 3-1. Comparison of Floor Plans for Ordinary Classroom



b) Science Laboratory

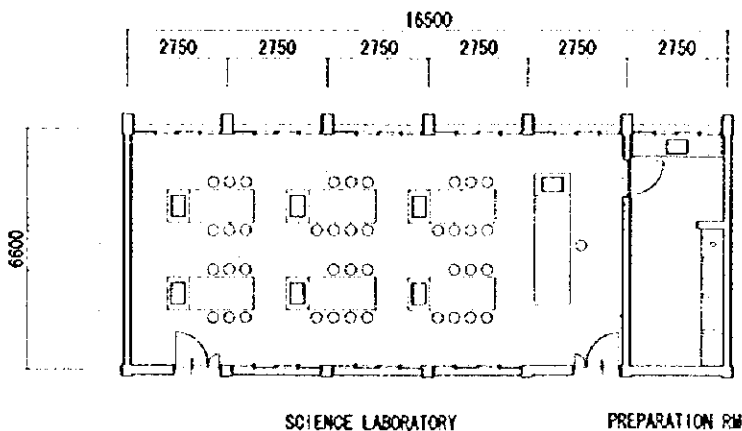
In the previous project, the science laboratory was decided upon as follows:

- ① As the science experiments differ for low basic and high basic schools, the size of the laboratory will be different.
- ② The standard science laboratory size, including a preparation room, of MOE for high basic schools is 108.8 m². As a result of site investigation, the size of laboratory tables, their arrangement and passage width are considered to be appropriate.
- ③ Science lessons in the low basic schools will be limited to observing matters and doing simple experiments. As most of the experiments will be demonstrated by the teacher, the space around the pupils' tables may be small. Compared to high basic schools, the amount of experimental apparatus is small and the preparation room may also be small.
- ④ Based on the above-mentioned conditions, the size of the science laboratory was decided upon during trial design as follows:

- Low basic school laboratory 4 span
 preparation room 1/2 span
- High basic school laboratory 5 span
 preparation room 1 span

In this Project, the laboratory shall be basically designed as stated above. However, for high basic schools, the tables will have sinks as requested by MOE.

Figure 3-2. Floor Plan of Science Laboratory (high basic)



c) Library

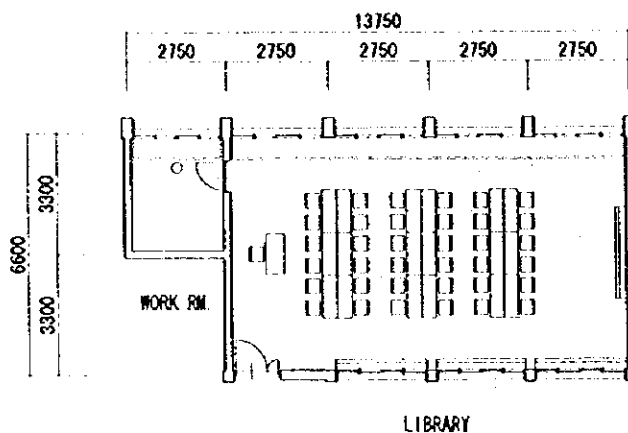
In the previous project, the library was decided upon as follows:

- ① In the standard plan of MOE, the size of the library was to be twice the size of ordinary classrooms (6 span, 108.90 m²), with 1 span for a small room to repair books and store important material, and 5 span for reading space. However, the existing schools do not have many books and libraries are not effectively used. Thus, this size is considered too big for an open-shelf type library.
- ② As previously mentioned, if the library is used as a general information room to be used during class lessons for each grade, a size slightly bigger than an ordinary classroom will be necessary for low basic schools.
- ③ For high basic schools, a space for computers shall be considered.
- ④ Based on the above-mentioned conditions, the size of the library was decided upon during trial design as follows:

- | | |
|-----------------------------------|------------------------------------|
| - Low basic school reading space | 4 span |
| work room | 1/2 span |
| - High basic school reading space | 6 span (including computer corner) |
| work room | 1 span |

Project libraries will be planned based on the same examination results above because of no difference in functions.

Figure 3-3. Floor Plan of Library (Low Basic School)

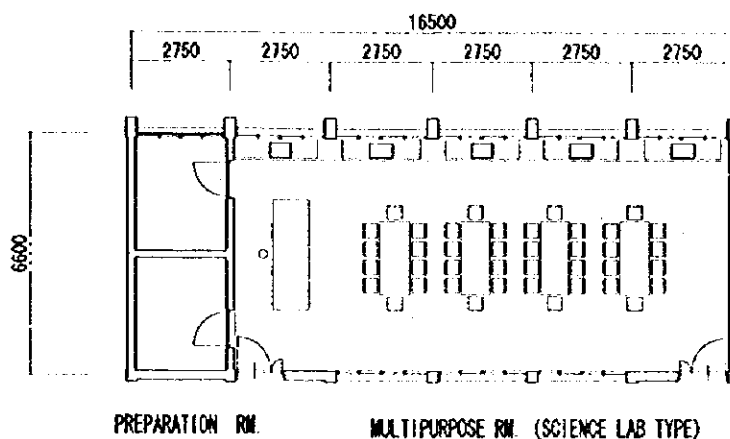


d) Multipurpose Room

The multipurpose room was originally planned as an alternative for a special classroom for home economics, science laboratory and so on. It was planned based on the premise that it would be mainly used for group lessons per class. In the previous project in the Gaza Strip, the multipurpose room was planned to be the same size as the science laboratory. If the multipurpose room were to be used for a group lesson consisting of 40 pupils, it was thought to be appropriate, in view of the similarity of the lessons, to be the same size as the science laboratory. In addition to ordinary lessons, the multipurpose room will be used for meetings and ceremonies. However, it was not taken into consideration how many people would attend meetings and ceremonies when deciding the size of the multipurpose room. The size meetings and ceremonies would be adjusted to the size of the room.

In this Projects' multipurpose room, arts and crafts, applied science, and work shops of elective subjects for high basic school, will be taught. For small size low basic schools, the room will be used also as a science laboratory. Thus, the size and functions of the multipurpose room shall be the same as the previous project.

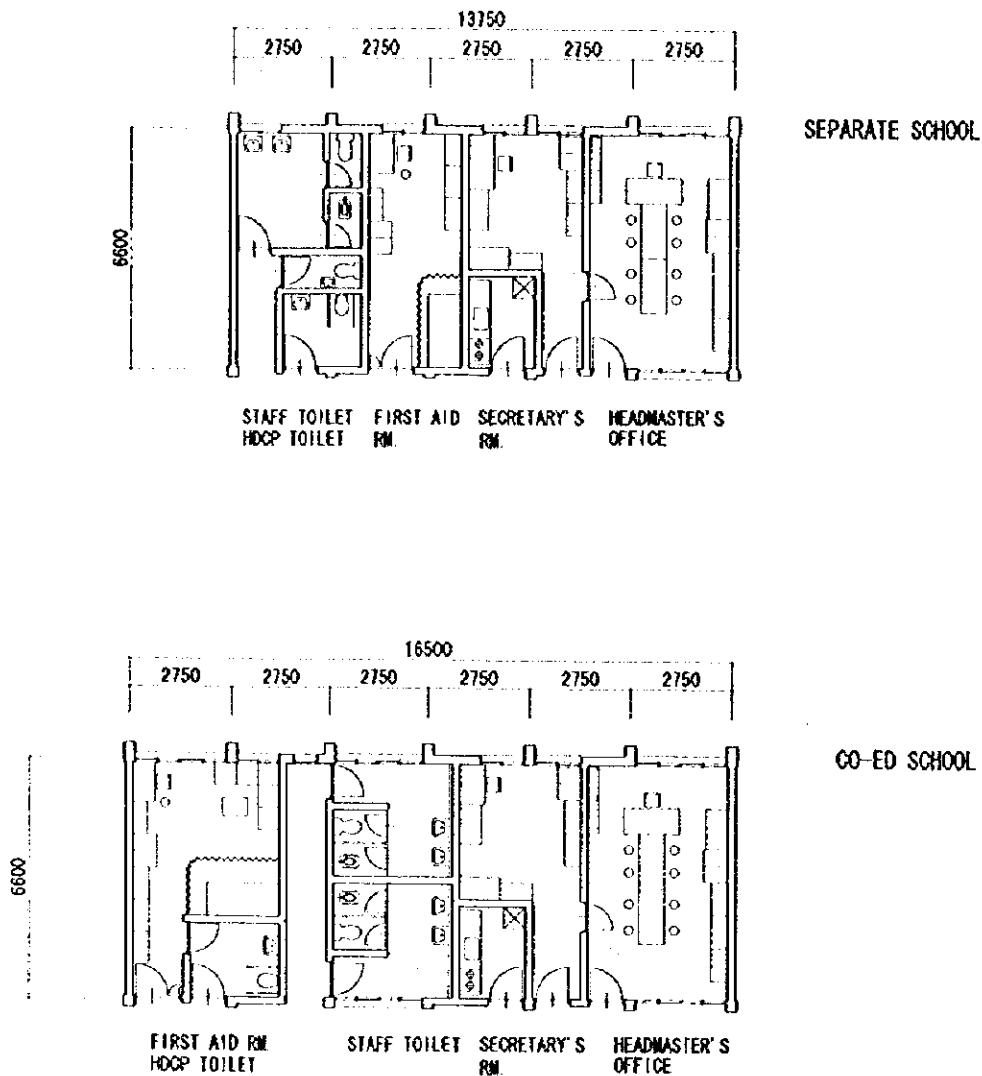
Figure 3-4. Floor Plan of Multipurpose Room (Science Lab. Type)



e) Administration Area

Due to the changes in the teacher toilets, the floor plans for the headmaster's room, secretary's room, First aid room, teacher toilets and kitchenette will be reviewed. However, the basic size of the rooms shall be the same as in the previous project. Thus, the 6 span for the rooms in the previous project may be reduced to a total of 5 span as shown below.

Figure 3-5. The Floor Plan of Administration Rooms



f) Teachers' Room

The size of the teachers' room in the questionnaire is very large, perhaps because the previous project was referred to. In the previous project, the size of the teachers' room was large due to the fact that men and women had to be separated. However, in the West Bank, men and women do not work in the same place, thus the size of the room may be reduced.

The size of the teachers' room shall differ according to the type and size of the school and the number of teachers. The size of the room was decided by the correlation of the number of teachers and number of classes in the present schools in the West Bank and as follows:

- | | |
|-------------------------|--|
| ① Lower basic school | 1.1 person/class |
| ② Low basic school | 1.2 person/class |
| ③ High basic school | 1.5 person/class |
| ④ Combined basic school | According to class distribution using ① and ②. |

As a result of the trial design, the size of the teachers' room shall be one of the following three types:

- | | |
|------------------------|--|
| ① Small size (2 span) | Estimated number of teachers = ~ 12 |
| ② Medium size (3 span) | Estimated number of teachers = 13 ~ 22 |
| ③ Large size (4 span) | Estimated number of teachers = 23 ~ 32 |

g) Pupils' Toilet

By taking into account social customs, Asian type closet shall be installed for both male and female pupils. The number of closets shall be the same as the previous project, with basically one to a class. There shall be six closets, with the following changes according to the size of the school.

- | | | |
|-----------------|------------|-----------------------|
| ① One toilet | 6 closets | = Up to 9 classrooms |
| ② Two toilets | 12 closets | = Up to 15 classrooms |
| ③ Three toilets | 18 closets | = Up to 21 classrooms |
| ④ Four toilets | 24 closets | = Over 22 classrooms |

h) Storage Rooms

Various educational material, documents, sports items, maintenance items and others will be stored in the rooms. There shall be at least three storage rooms. The size of the rooms shall be 18.15 m² module. The storage rooms shall be arranged basically on the management floor, and also on the second and third floors if deemed necessary.

4) Design Grade of the Rooms

The grade of the rooms requested by MOE is basically the same as the grade used in the projects of the EU, Norway and UNDP in the West Bank. It is similar to the grade applied in the Project for Construction of School Facilities for Basic Education in the Gaza Strip except for the exterior wall finish with limestone. Most of the exterior walls of the buildings in the West Bank are of limestone finish and even the schools of MOE are the same. The initial cost of stone finish is higher than that of mortar paint finish. The reasons why people in the West Bank prefer stone finish walls are their attachment to the local stone material and their maintenance free material. This concept is widely accepted in the area.

In this Project, stone finish wall will be adopted considering the harmony to the surrounding environment. However, to continue building classrooms as many as possible, it is necessary to reduce construction costs. Thus, it is also necessary to minimize the use of stone finish walls by the preparation of suitable designs.

As other building materials can be locally procured, it is possible to build Project facilities by using standard local construction methods. In view of the above, it is appropriate to adopt the requested grade for the Project.

(5) Contents of Requested Equipment and Appropriateness

1) Contents of Requested Equipment

The Request from the Palestinian side does not mention any specific items of equipment being required. However, the following items were confirmed at meetings during the field study period:

- a) The requested equipment shall be science laboratory equipment and school furniture.
- b) The items, specifications and quantity of science laboratory equipment shall be the same as those for the Project for Construction of School Facilities for Basic Education in the Gaza Strip.
- c) The items, specifications and quantity of school furniture for each room shall be basically the same as those for the previous project. However, there have been changes in standards of some of the cabinets, thus those cabinets shall be changed.

2) Appropriateness of Science Laboratory Equipment

In the previous project, the standards for each necessary item of science laboratory equipment, grade and appropriate quantity were decided upon. The requested items were evaluated and additions and omissions to items were made. The grade was decided upon and the appropriate quantity for each science laboratory was calculated. The outline is as follows:

a) Standards for Selecting Items

- ① As a unified curriculum has not been established, the items to be procured for this Project shall be limited to minimum items, as required by the present science textbooks.
- ② The science lessons in low basic schools are completely different to those in high basic schools. In high basic schools, the lessons are taught by teachers specializing in the subject. However, in low basic schools, the lessons are taught mostly by the normal class teacher. Thus, taking this point into due consideration necessary items shall be selected.
In low basic schools most of items will be for teacher use only for demonstration, while in high basic schools they are for pupil participated experiment as many as possible.
- ③ Textbooks and other materials for individual use shall be omitted from this Project.
- ④ Chemicals, such as reagents that alter with time, need to be procured when necessary. Thus, they shall be omitted from the Project.
- ⑤ Educational videos and charts are effective in helping the understanding of the pupils. However, due to translation problems, they shall be omitted from the Project.

b) Standards for Establishing Specifications

The appropriateness for the specifications of science material shall be evaluated on the following points:

- ① The grade of the equipment for low and high basic schools shall be in accordance with the contents of the textbooks, and they shall be different from those used in secondary schools or research institutes.
- ② For ease in obtaining expendable supplies and spare parts, the equipment shall be procured locally.
- ③ Even if equipment is considered educationally useful, if it requires the preparation of manuals or training of teachers, it shall be omitted.

As a result of evaluating the requested items by the above standards, they have all been selected from the school materials catalogue, based on experience and are considered appropriate. Most of the items are made in the U.S.A. and have been previously ordered by MOE through a local agent. Thus, there are no problems in procuring expendable items and spare parts. Considering the above, the specifications for the materials for this Project shall be those that are procurable locally and are in accordance with the school materials.

c) Standards for Establishing Quantity

The quantity shall be decided upon according to the method of use for each item (such as number of groups participating in experiments):

- ① Most experiments in low basic schools are demonstrated by the teacher.
However, when experiments are conducted by pupils, they shall be conducted in 8 groups of five pupils. In high basic schools, there shall be 10 groups of four pupils.
- ② Taking this into account, the basic quantity and reserve quantity are obtained, making up the total for the planned quantity.
- ③ The basic quantity shall be as follows:

- Items to be used by teacher	1
- Items to be used by each group (low basic school)	8
(high basic school)	10
- Items to be used by individual	40
- ④ Reserve quantity
As there are breakable items in the equipment such as glass and expendable items, the reserve quantity shall be as follows:

- Expendable items (test tubes etc.)	100%
- Breakable items (other glass items)	20%
- Ordinary items (dissection sets etc.)	10%
- Non-breakable items (clamps)	0%
- Expensive items to be handled with care (microscopes)	0%

This was the standard used in the previous project when choosing the equipment. The items were selected in accordance with the policy of obtaining the precise number of required items for basic experiments to be conducted in low and high basic schools, and the quantity was decided upon by assuming the type of experimental methods (individual basis or group basis). The specifications were based on European and American made items that were already easily procurable in both the Gaza Strip and West

Bank. Currently, MOE does not have any official standards in deciding upon the items, quantity and specifications for science materials. In such circumstances MOE evaluates the procurement plan for the previous project as a superb plan.

Considering it together with the fact that the conditions for the selection of for the Project, i.e. educational system, science laboratory equipment number of pupils per class, the method of utilization and implementation methods of experiments are basically the same, even though the curriculums are different, the science laboratory equipment shall be selected according to the procurement plans applied for the Project for Construction of School Facilities for Basic Education in the Gaza Strip.

3) Appropriateness of School Furniture

The school furniture procured for the previous project were manufactured by companies in the Gaza Strip, according to the standards of MOE, which are strong as the steel parts are coated by electrostatic powder-coating method and melamine resin laminated plywood is used for desk-Tops. As there are several manufacturers, there are no problems regarding repair or obtaining spare parts. Thus, it is appropriate to mostly follow the Project for Construction of School facilities for Basic Education in the Gaza Strip because there is no change in the number of pupils per class and conditions for utilization of school facilities. However, the following shall be improved:

Table-2-4 Modification List of School Furniture

Room	Item	Reason
Multipurpose room	Teacher's Experiment Table	In small low basic schools, the multipurpose room will also be used as a science room. Thus, instead of a teacher's desk and chairs, it will be changed to an experiment table (construction work) and a stool.
Multipurpose room	Bookshelf	In lower basic schools, bookshelves will be installed in the multipurpose room to serve as a library.
Teachers room	Work table (n=70) and Chairs	In the previous project, it was necessary for the preparation of school materials and considered miscellaneous activities. As it is not an essential item and due to the size of the teachers' room, it shall be omitted in this Project.

2 - 2 - 2 Basic Policy of the Project

As a result of evaluating the requested contents in the previous sections, it has been confirmed that the Project is a necessity in the West Bank. The objective of this Project is to construct schools in the West Bank to improve the shortage of classrooms in low and high basic schools, to solve the problem of leased classrooms, discontinue the double shift system and to provide materials necessary for the running of a school, such as school furniture and equipment (science equipment). As a result of evaluation and including some modifications, the basic policy for the facility and the selection of school furniture and equipment shall be decided upon as follows:

(1) Project Area and Project Contents

Of the 28 requested sites, a total of 25 sites have been selected as the Project sites to construct either a lower basic, low basic, high basic or combined basic school as shown in Table 2-5 below.

(2) Building Facility

One school building shall be constructed for each Project school. Toilets for pupils and a canteen shall basically be included inside the main school building; however, guardrooms and sheds shall be omitted. Upon evaluating the results of the previous sections, the Project rooms for each site will be as listed in Table 2-6.

(3) Equipment

The equipment necessary for the operation of the school includes general instructional materials, science laboratory equipment, school furniture, and office equipment and others. However, based on the results of the previous sections, this Project shall center on science laboratory equipment and school furniture. The contents and grade of the items shall be basically the same as those of the previous project in the Gaza Strip.

Table 2-5 Project Sites and Schools

Project Site	Directorate of Education	School Type and Size				
		Level	Type	Grade	No. of Cts	
1	Tubas	Jenin	Low Basic	Boys	1- 6	24
2B	Seerces	Jenin	Low Basic	Boys	1- 6	9
3	Jenin	Jenin	Low Basic	Girls	1- 6	23
6	Baqa Al-Sharqia	Tulkarem	Lower Basic	Girls	1- 4	8
7B	Al-Hairy Al-Janooby	Qalqilia	Lower Basic	Girls	1- 4	19
8	Al-Hadiqa	Qalqilia	Low Basic	Boys	1- 6	24
9	Dairista	Salfet	Combined Basic	Girls	1- 10	10
10	Al-Ma'ajeen	Nablus	Combined Basic	Boys	1- 9	22
11	Aqraba	Nablus	High Basic	Boys	7- 10	7
12B	Rafeedia	Nablus	Combined Basic	Girls	1- 9	22
14	Betonia	Ramallah	Low Basic	Boys	1- 6	15
16	Beit Luqia	Ramallah	Lower Basic	Boys	1- 4	13
17B	Anata	Al Ram	Low Basic	Girls	1- 6	10
18	Al-Nwai'meh	Jericho	Combined Basic	Co-ed	1- 9	13
19B	Al-Mahd	Bethlehem	Combined Basic	Boys	1- 9	19
20B	Sa'ir	Hebron	Low Basic	Girls	1- 6	17
21B	Al-Moqata'ah	Hebron	Low Basic	Girls	1- 6	13
22B	Tarqomia	Hebron	Combined Basic	Girls	1- 8	20
23	Kharas	Hebron	Lower Basic	Co-ed	1- 4	11
24	Haba'iel Al-Reyah	Hebron	Low Basic	Boys	1- 6	15
25B	Abu-Romman	Hebron	Combined Basic	Boys	1- 10	17
26B	Mo'tah	South Hebron	Combined Basic	Girls	1- 8	20
27	Raqafa Al-Jadidah	South Hebron	Low Basic	Girls	1- 6	11
28B	Al-Thaheria	South Hebron	Low Basic	Boys	1- 6	11
29	Ithna	South Hebron	Combined Basic	Girls	1- 9	15

Table 2-6 Project Room

Room Name	Floor Area (m ²)	Remarks
Normal Classroom	54.45	Basic module; 2.75×6.6; 3 modules
Science Laboratory - 1	72.60	For low basic school with separated preparatory room (9.07 m ²)
Science Laboratory - 2	90.75	For high basic school with separated preparatory room (18.15 m ²)
Library - 1	72.60	For low basic school with separated preparatory room (9.08 m ²)
Library - 2	108.90	For high basic school, available for computer lesson
Work Room (For Home Economics)	-	Multipurpose room will be substituted
Computer Room	-	Library - 2 will be substituted
Multipurpose Room (General Type)	90.75	With separated preparatory room (18.15 m ²)
Multipurpose Room (Science Laboratory Type)	90.75	With separated preparatory room (18.15 m ²) and equipped with a teacher's demonstration table for experiment
Headmaster Room	26.40	
Secretary Room	16.38	
Teacher Room - 1	36.30	Number of teachers to be accommodated: up to 12 teachers
Teacher Room - 2	54.45	Number of teachers to be accommodated: 13 to 22 teachers
Teacher Room - 3	72.60	Number of teachers to be accommodated: more than 23 teachers
Kitchenette	5.40	
Social Worker's Room	-	First aid room will be substituted
Teacher Toilets	14.67	Two toilets (3 booths)
Pupil Toilets - 1	23.76	6 booths (for a school with less than 9 classrooms)
Pupil Toilets - 2	47.52	12 booths (for a school with less than 15 classrooms)
Pupil Toilets - 3	71.28	18 booths (for a school with less than 21 classrooms)
Pupil Toilets - 4	95.04	24 booths (for a school with more than 22 classrooms)
Canteen - 1	15.30	Located on the floor which is under the staircase
Canteen - 2	18.15	
Canteen - 3	23.76	Located on the floor which is under the toilet
Storage - 1	9.08	
Storage - 2	18.15	
Storage - 3	23.76	Located on the floor which is above the toilet