

CHAPTER 3. BASIC DESIGN

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3-1 Design Policy

The purpose of the Project is to construct school facilities and provide basic educational equipment to alleviate classroom shortages at the existing primary schools that are scattered in the Thanh Hoa, Nghe An, and Ha Tinh Provinces. The Basic Design of the school facilities was prepared based on the contents of the Government of Vietnam's request and the discussions held during the site survey period as well as on the following policies:

(1) Policy Concerned With Natural Conditions

As described in Section 3-5-1, "Project Site Conditions, Natural Conditions," the natural conditions in the Project Area is quite severe. Frequent typhoons and floods inflict heavy damage on the school facilities annually. When preparing the Basic Design, special attention must be given to the natural conditions. In particular, roofs are most often subject to typhoon damage and must therefore be designed to resist the natural conditions in order to minimize building damage.

(2) Policy Concerned With Social Conditions

The Basic Design must be prepared by respecting MOET's school facility design standards as well as by taking to consideration the way of life and social situations in Vietnam. It is assumed that Project facilities will be used as places of refuge for area residents during natural calamities. Also, they may be used during nights for non-formal education. Facility plans should be made taking these situations into consideration.

(3) Policy Concerned With Construction Situations

Vietnam has its own building standard laws which correspond to the building standard laws of Japan. To construct a building, a permit is required. It takes about one month to obtain a permit. In Vietnam the technical level of construction and consultant firms is not yet satisfactory. There are many cases of building construction not being completed on schedule. As for the work force, there is an excess number of general laborers, but

there is only a few who are skilled in structure and interior finish work. Appropriate guidance and training will be required to produce accurate and efficient work. The construction schedule must be prepared by taking these situations into account.

(4) Policy for Utilizing Local Contractors and Material Suppliers

The construction and consultant firms are, in particular, familiar with the technologies of the former Soviet Union. These firms may be utilized for Project construction by providing technical training through a technical transfer program under the guidance of Japanese engineers. For easy maintenance of Project facilities after they are completed and transferred to the Vietnam side, local equipment and material should be adopted as much as possible. Some local products in Vietnam are of low quality and the material plan should take into consideration the possibility of providing a sufficient quantity of spare parts. The testing of material strength and quality control should be conducted for material, such as the concrete work, whose strengths may vary widely depending upon the accuracy of the placing work at the site.

(5) Policy for the Operation and Maintenance Capabilities of the Project
Implementing Agency

By taking into consideration the financial difficulties of the Government of Vietnam, the Project facility plan should be carefully prepared so that the school operation and maintenance work will be easy and inexpensive. Also, it should be considered that the repair of damaged or deteriorated Project facilities can be easily made if the construction material are procured locally. The participation of area residents in land clearing and construction work for the Project facilities will help them to better understand the operation and maintenance aspects of the school facilities.

(6) Policy for Establishing the Limitations and Grades of Project
Facilities and Equipment

The Project includes the construction of classroom buildings, toilets, and management buildings and the provision of associated basic educational equipment. All of the facilities and equipment provided by the Project are basic educational requirements. Their specifications should chosen so that

they will make classroom activities easy and comfortable. The facilities should be planned so that they will also be usable as places of refuge for area residents during natural calamities. As a general principle, local products should be adopted as Project equipment and should meet MOET's standard specifications.

(7) Policy Concerned With the Construction Schedule

The Project Area is widely distributed in the Thanh Hoa, Nghe An, and Ha Tinh Provinces; it runs approximately 300 km in a north-south direction and 220 km in an east-west direction. To construct the school buildings of the 40 selected primary schools within the shortest period of time, many buildings will be constructed simultaneously. By establishing construction bases in Thanh Hoa City, Vinh City, and Ha Tinh City, construction supervision will be conducted within each area by responsible personnel from these bases. The construction base in Vinh City, located in the center of the Project area, will be the location of the management headquarters for all Project construction. Japanese consultants will be stationed at this headquarters. Based on the above policies, a detailed construction schedule will be prepared so that Project construction can be completed within a set period of time.

3-2 Study and Examination on Design Criteria

In order to meet each Project school's site conditions, facility size, and the number of classrooms needed, several facility types were planned and a combination of optimum types was made for each school.

(1) Classroom Buildings

As in the Phase I Project, classroom building sizes for the Project were determined by adopting the basis of 1.08 to 1.20 m² per pupil with 36 to 40 pupils to a classroom (5.7 m X 7.6 m - 43.32 m²) that was proposed in the Workshop on Design Samples for Primary Schools prepared by MOET. This classroom size is slightly smaller than an average Japanese classroom size (1.26 m² per pupil) but, it is evaluated as be appropriate by taking into account furniture arrangement methods. The plan of a classroom with furniture is shown in Fig 3-1.

to be accommodated. The planned management buildings types are listed in Table 3-2. Administration buildings have staff room with conference corners or rooms, and multi-purpose classrooms. A multi-purpose classroom is the same size as a classroom (43.32 m²). It is planned that the school principal will share the staff room. When there are more than 16 teachers at one school, an independent conference room is planned. For reference, a staff room in a Japanese school is approximately 4.3 to 5.4 m² per person.

Table 3-2 Features of Each Administration Building Type

Admi Bldg Type	Applicable Classroom Block Type	Capacity (Teachers)	Floor Area(m ²)				Total
			Staff Room	Conference Room	Multi-purpose Cls. Rm.	Open Corridor	
S	①, ②, ③	11	43.32	-	43.32	51.68	138.32
M	①+①, ①+②	15	64.98	-	43.32	64.60	172.90
L	②+②, ②+③, ③+③	21	64.98	21.66	43.32	77.52	207.48

(3) Toilets

As in the Phase I Project, three types of toilet facilities are planned for the various sizes of schools. The planned sizes are shown in Table 3-3. The toilet-use method in Vietnam is different from it is in Japan. By respecting the way of life in Vietnam, toilet facility sizes are planned based on standards established by MOET's School Facilities Research Institute. Rain water and well water are to be utilized as water supply, and lavatories are planned to be installed. The sewerage systems are planned to be a simple infiltration type septic tanks. The combination of planned facility types for each Project school is shown in Table 3-4. The total space of each Project school's new facility is shown in Table 3-5.

Table 3-3 Toilet Building Types and Their Features

Building Type	Applicable Classroom Block Type	No. of Persons to be Accomodate	Number of Facilities				Area (m ²)
			Male		Female		
			Stool	Urinal	Stool	Urinal	
A Type	①, ②, ③	411	3	10	3	10	44.00
B Type	①+①, ①+②, ②+②	657	4	12	4	12	55.00
A+A Type	②+③, ③+③	821	6	20	6	20	88.00

Table 3-4 List of the Combination of Planned Facility Types for Each Project School

Name of School	Classroom block						Admi. Block			Sani. Block			Number of Classrooms	Existing Classrooms to be Used	Total No. of Classrooms		
	①	②	③	①+①	①+②	②+②	②+③	③	S	M	L	A				B	A+A
Tanh Hoa Province																	
TH-1 Hai Ninh P.S.		○							○			○			8	9	17
TH-2 Quang Giao P.S.	○								○			○			6	2	8
TH-3 Quang Cu P.S.						○					○		○		16	0	16
TH-4 Hoang Trung P.S.				○					○				○		12	0	12
TH-5 Minh Loc P.S.							○				○			○	18	4	22
TH-6 Nga Dien P.S.			○						○			○			10	0	10
TH-7 Nguyen Van Troi P.S.			○						○			○			10	14	24
TH-8 Ha Ngoc P.S.		○							○			○			8	1	9
TH-9 Tuong Linh P.S.		○							○			○			8	5	13
TH-10 Truc Lam P.S.	○								○			○			6	5	11
TH-11 Quang Nham P.S.							○				○			○	20	0	20
TH-12 Hoang Dong P.S.	○								○			○			6	7	13
TH-13 Da Loc P.S.		○							○			○			8	8	16
TH-14 Nga An P.S.				○					○				○		12	0	12
TH-16 Nam Ngan P.S.	○								○			○			6	4	10
TH-17 Trieu Duong P.S.	○								○			○			6	3	9
TH-AL Quang Thach P.S.		○							○			○			8	5	13
Nghe An Province																	
NA-1 Quynh Thuan P.S.	○								○			○			6	10	16
NA-3 Dien Trung P.S.							○				○			○	20	0	20
NA-4 Dien Hoang P.S.				○					○				○		12	0	12
NA-5 Nghi Yen P.S.		○							○			○			8	0	8
NA-7 Hung Nhan P.S.						○					○		○		16	0	16
NA-8 Nguyen Truong To P.S.			○						○			○			10	0	10
NA-9 Long Thanh P.S.				○					○				○		12	0	12
NA-10 Ma Thanh P.S.	○								○			○			6	8	14
NA-11 Hung Hoa P.S.	○								○			○			6	13	19
NA-12 Hung Loc P.S.	○								○			○			6	16	22
NA-13 Quynh Long P.S.							○				○			○	20	0	20
NA-14 Dien Bich P.S.							○				○			○	20	0	20
NA-AD1 Nam Hung P.S.		○							○			○			8	4	12
NA-AD2 Nam Hung P.S.		○							○			○			8	6	14
Ha Tinh Province																	
HT-1 Xuan Lien P.S.				○					○				○		14	0	14
HT-2 Xuan Song 1 P.S.				○					○				○		12	9	21
HT-3 Hong Loc P.S.							○				○			○	20	0	20
HT-4 Tung Loc P.S.							○				○			○	20	0	20
HT-5 Thach Chau P.S.	○								○			○			6	10	16
HT-6 Dai Nai P.S.			○						○			○			10	0	10
HT-8 Cam Hoa P.S.			○						○			○			10	0	10
HT-9 Cam Trung P.S.	○								○			○			6	8	14
HT-AL Yen Ho P.S.	○								○			○			6	5	11
Total	12	8	5	5	1	2	1	6	25	6	9	25	8	7	430	156	586

Classroom Block ①:6 Classrooms ②:8 Classrooms ③:10 Classrooms
Administration Block S:For 10 Classrooms M:For 14 Classrooms L:For 20Classrooms
Sanitary Block A:For 10 Classrooms B:For 16 Classrooms

Table 3-5 Total Facility Area of Each Project School

No.	Name of School	Classroom Block	Admi. Block	Sanitary Block	Entrance	Total
Tanh Hoa Province						
TH-1	Hai Ninh P.S.	691.60	138.32	44.00	34.20	908.12
TH-2	Quang Giao P.S.	553.28	138.32	44.00	34.20	769.80
TH-3	Quang Cu P.S.	1,383.20	207.48	55.00	34.20	1,679.88
TH-4	Hoang Trung P.S.	1,106.56	172.90	55.00	34.20	1,368.66
TH-5	Minh Loc P.S.	1,521.52	207.48	55.00	34.20	1,818.20
TH-6	Nga Dien P.S.	829.92	138.32	44.00	34.20	1,046.44
TH-7	Nguyen Van Troi P.S.	829.92	138.32	44.00	34.20	1,046.44
TH-8	Ha Ngoc P.S.	691.60	138.32	44.00	34.20	908.12
TH-9	Tuong Linh P.S.	691.60	138.32	44.00	34.20	908.12
TH-10	Truc Lam P.S.	553.28	138.32	44.00	34.20	769.80
TH-11	Quang Nham P.S.	1,659.84	207.48	88.00	34.20	1,989.52
TH-12	Hoang Dong P.S.	553.28	138.32	44.00	34.20	769.80
TH-13	Da Loc P.S.	691.60	138.32	44.00	34.20	908.12
TH-14	Nga An P.S.	1,106.56	172.90	55.00	34.20	1,368.66
TH-16	Nam Ngan P.S.	553.28	138.32	44.00	34.20	769.80
TH-17	Trieu Duong P.S.	553.28	138.32	44.00	34.20	769.80
TH-AL	Quang Thach P.S.	691.60	138.32	44.00	34.20	908.12
Sub Total		14,661.92	2,628.08	836.00	581.40	18,707.40
Ha Tinh Province						
HT-1	Xuan Lien P.S.	1,244.88	172.90	55.00	34.20	1,506.98
HT-2	Xuan Song I P.S.	1,106.56	172.90	55.00	34.20	1,368.66
HT-3	Hong Loc P.S.	1,659.84	207.48	88.00	34.20	1,989.52
HT-4	Tung Loc P.S.	1,659.84	207.48	88.00	34.20	1,989.52
HT-5	Thach Chau P.S.	553.28	138.32	44.00	34.20	769.80
HT-6	Dai Nai P.S.	829.92	138.32	44.00	34.20	1,046.44
HT-8	Cam Hoa P.S.	829.92	138.32	44.00	34.20	1,046.44
HT-9	Cam Trung P.S.	553.28	138.32	44.00	34.20	769.80
HT-AL	Yen Ho P.S.	553.28	138.32	44.00	34.20	769.80
Sub Total		8,990.80	1,452.36	506.00	307.80	11,256.96
Nghe An Province						
NA-1	Quynh Thuan P.S.	553.28	138.32	44.00	34.20	769.80
NA-3	Dien Trung P.S.	1,659.84	207.48	88.00	34.20	1,989.52
NA-4	Dien Hoang P.S.	1,106.56	172.90	55.00	34.20	1,368.66
NA-5	Nghi Yen P.S.	691.60	138.32	44.00	34.20	908.12
NA-7	Hung Nhan P.S.	1,383.20	207.48	55.00	34.20	1,679.88
NA-8	Nguyen Truong To P.S.	829.92	138.32	44.00	34.20	1,046.44
NA-9	Long Thanh P.S.	1,106.56	172.90	55.00	34.20	1,368.66
NA-10	Ma Thanh P.S.	553.28	138.32	44.00	34.20	769.80
NA-11	Hung Hoa P.S.	553.28	138.32	44.00	34.20	769.80
NA-12	Hung Loc P.S.	553.28	138.32	44.00	34.20	769.80
NA-13	Quynh Long P.S.	1,659.84	207.48	88.00	34.20	1,989.52
NA-14	Dien Bich P.S.	1,659.84	207.48	88.00	34.20	1,989.52
NA-AD1	Nam Hung P.S.	691.60	138.32	44.00	34.20	908.12
NA-AD2	Nam Hung P.S.	691.60	138.32	44.00	34.20	908.12
Sub Total		13,693.68	2,282.28	781.00	478.80	17,235.76
Total		37,346.40	6,362.72	2,123.00	1,368.00	47,200.12

3-3 Basic Plan

3-3-1 Site and Layout Plan

As building site conditions vary from school to school, optimum facility arrangement plans for each school shall be made by examining the site conditions (shape and size), infrastructure conditions, and arrangement conditions of existing facilities. Major policies for facility arrangement plans are described below. The facility arrangement plan for each Project school is listed in the Appendix.

- 1) The arrangement of existing facilities should be examined and the new Project facilities should be planned so that all of the existing and new facilities will function as one school complex.
- 2) By taking into account the safety of the foundation structure, school buildings should not be arranged on sloped land.
- 3) To utilize natural ventilation, the predominant wind direction should be determined and the new buildings should be arranged so that they have sufficient clearance between existing buildings.
- 4) New buildings should not be arranged in locations that may possibly receive heavy damage from typhoons and floods.
- 5) New buildings should be arranged so that they do not interfere with existing facilities and allow for the installation of economic electricity and water supply and drainage systems. In particular, the buildings for toilets should be arranged by taking into account the surrounding environment and the odor problem.
- 6) Classroom buildings should be arranged in an east-west direction in view of climatic conditions in Vietnam.

3-3-2 Architectural Designs

Although the contents of the architect plan of the Phase I Project are basically adopted by the Project, the following items are revised as a result of discussions held with the Vietnam side:

* To meet the needs of various educational activities in each Project school, 8 different facility combinations will be possible by selecting the most appropriate ones from the planned 3 different types of classroom buildings and the most appropriate building arrangement shall be made to suit each school site.

* Vertical posts for handrails at the open corridors are to be adopted to prevent accidental fall of the students.

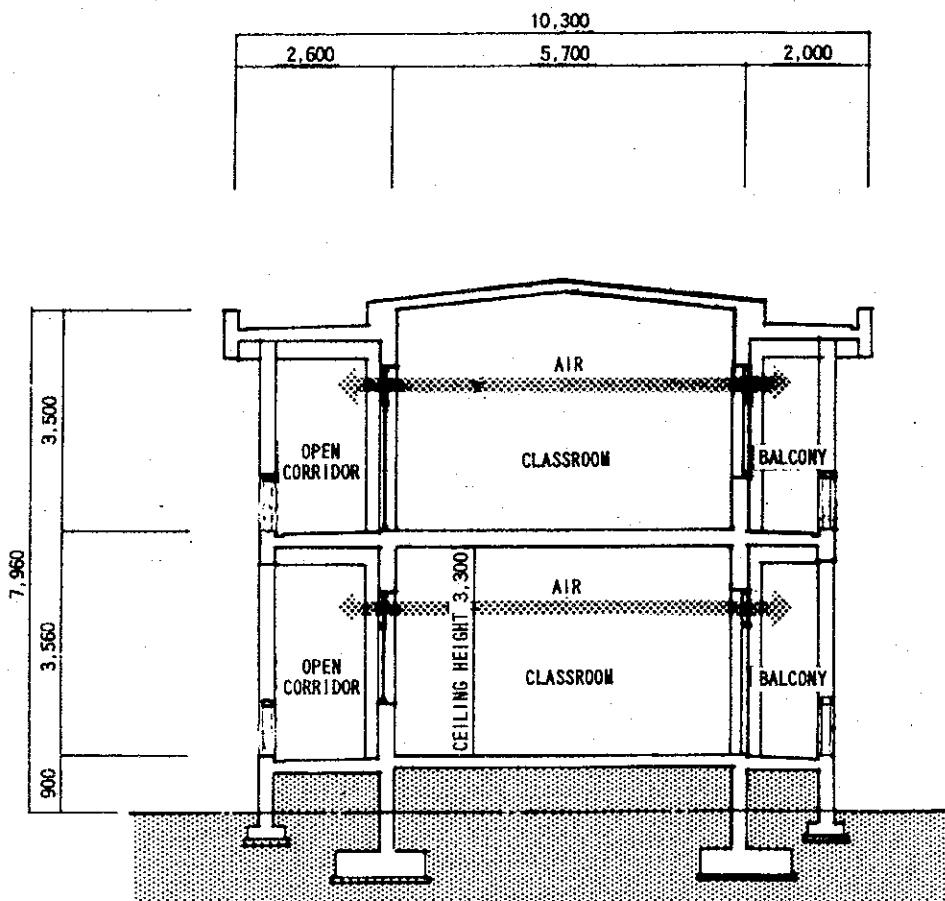
a) Floor Plan

The size of planned Project classrooms is 43.32 m^2 (5.7 m X 7.6 m). Thus, the minimum module of the building was decided upon as being 5.7 m X 3.8m. By placing the module units an appropriate floor plan will be possible for each Project school requiring a different number of classrooms. The reinforced concrete columns are arranged outside the exterior walls so that no structural obstructive structures will exist in the classrooms. Thus, arrangement of furniture will be easily made. For quick evacuation during an emergency, each classroom, staff room and multi-purpose classroom is designed to have 3 doors.

b) Section Plan

The same section plan of the Phase I Project, which was designed after the careful examination of Vietnamese semitropical climate, shall be adopted to the Project. Sufficient ceiling height (3.3 m) should be given to classroom, and large window areas should be installed to fully utilize the natural ventilation system. By examining the strong uplifting forces of wind, the length of eaves was decided upon as being 2.0 m from the handrail to the exterior wall, and 2.60 m from the exterior wall to the tip of the eaves in order to prevent the intrusion of direct sunlight. By taking into account natural ventilation, classroom ceiling heights are planned to be 3.30m. A large vent hole in the upper part of the toilet building shall be installed to allow the escape of odors. Same as in the Phase I Project, the Project Area is subjected to flood damage and the floor height of each school must be decided upon by examining past flood records. The planned standard sections are shown in Fig. 3-2.

Fig. 3-2 Standard Section of Classroom Building



c) Structure Plan

1. Structure Type:

The building structure should be of a type having a framework of durable reinforced concrete, which is most conventional type generally used in Vietnam. Soft ground is predominant in the Project Area. The foundation for each school should be carefully designed. At the Project implementation stage of the 1st Phase Project, precast concrete floor and roof was revised to the concrete slabs which would be constructed at each site to avoid the difficulty of delivery of, and future possibilities of water leakage from precast concrete. Same revision shall be applied to the 2nd Phase of the Project.

2. Load and External Force

As a general principal, same design standards applied for 1st Phase Project shall be used for design load conditions. Though the Project Area is located in a frequent earthquake zone having many faults, there is no existing structural design code for the earthquake in Viennum. Also, structural design adopted for 1st Phase Project is more solid than general standard in Vientum. As a results of the above considerations, the following design loads shall be adopted for the Project:

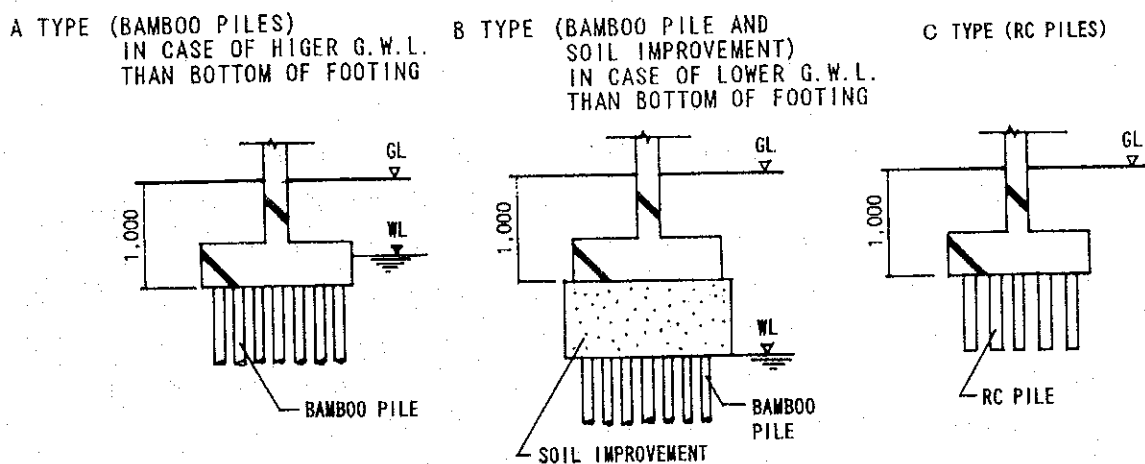
- a. Uniform load, floor : 230 kg/m²
- b. Wind force : Qs = 150 kg/m²
- c. Bearing strength of ground: 10 t/m²

Though new structural design code for the earthquake would become effective in the near future, there was no information available regarding this new code. Thus, it is decided that the existing structural design code effective during the period of field survey of the Basic Design Study would be applied to this Project.

3. Building Structure Plan

The vertical component of the fixed load shall be taken by the reinforced concrete frame (column and beam combined frame) have 3.8m X 5.7m spans. The horizontal force of the wind load shall also be taken by the rigid frame structure. In the Project Area, the ground water table is high at all times and many schools have soft ground. In these sites, locally used bamboo piles shall be adopted. In such sites having a low ground water table, reinforced concrete piles shall be used.

Fig. 3-3 Type of Foundation Piles



4. Structure Materials

All structure materials shall be locally procured. The following major materials are to be used for the Project:

Cement: Ordinary portland cement
Aggregates: Crushed stone, river sand
Steel bars: Round bars, deformed bars, welded steel-fabric
Bricks: Structural bricks
Piles: Reinforced concrete piles, bamboo piles

d) Building Facility Plan

(1) Electrical Facility Plan

Utmost use of natural lighting will be made for the Project facilities in order that daytime education may be conducted without electrical lighting. However, electrical lighting facilities will be provided for school buildings in view of their use for informal education and teacher's meetings held at night. Electric lights and electrical outlets will be provided with all materials procured in Vietnam. As ceiling fans will be installed in the future by the Vietnam side, electrical conduits and switches for easy installation will be provided in the classrooms and staff rooms. As for schools not having electricity, electrical conduits will also be provided for future installment of electricity. The average luminous intensity for the various rooms will be as follows:

Classrooms.....250-300 lux
Staff Rooms.....250-300 lux

(2) Water Supply Plan

The major source of water supply for the Project schools will be from the municipal water supply or from wells. A water tank installed next to the toilet will be used to deal with both types of water supply sources. The tank will hold slightly more than the average volume necessary per student per day with the supposition that 6 litres is necessary for one student. As a water supply is not available in some areas, and considering cuts in the municipal water supply, wells will be constructed at all schools. To cope with

defective wells, however, a system for the use of rainwater will be considered. For easy maintenance, the well should be equipped with a hand pump and the water tank with a simple filter system. To lessen the burden on a student using the hand pump the water tank in the First Phase Plan should be improved to utilize the maximum volume of rainwater. The water supply facility system is shown in Fig. 3-4.

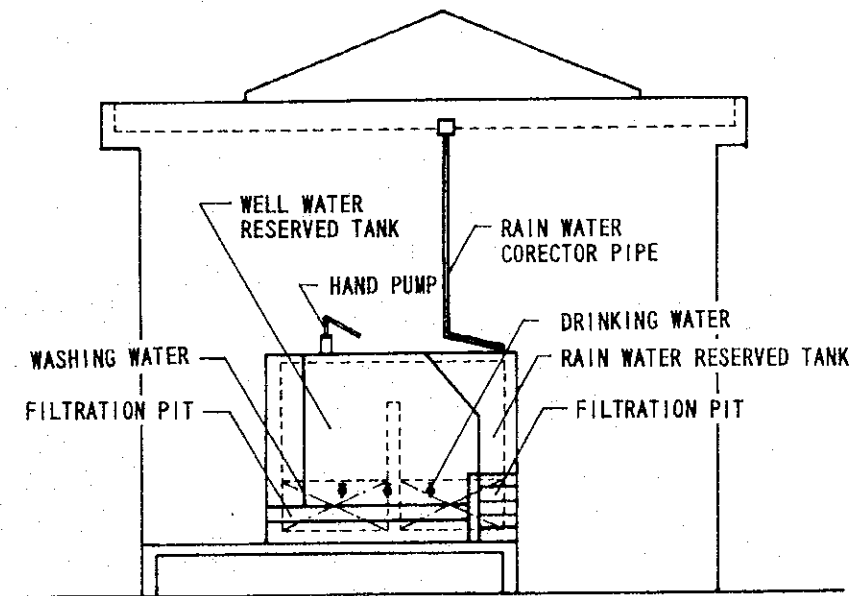
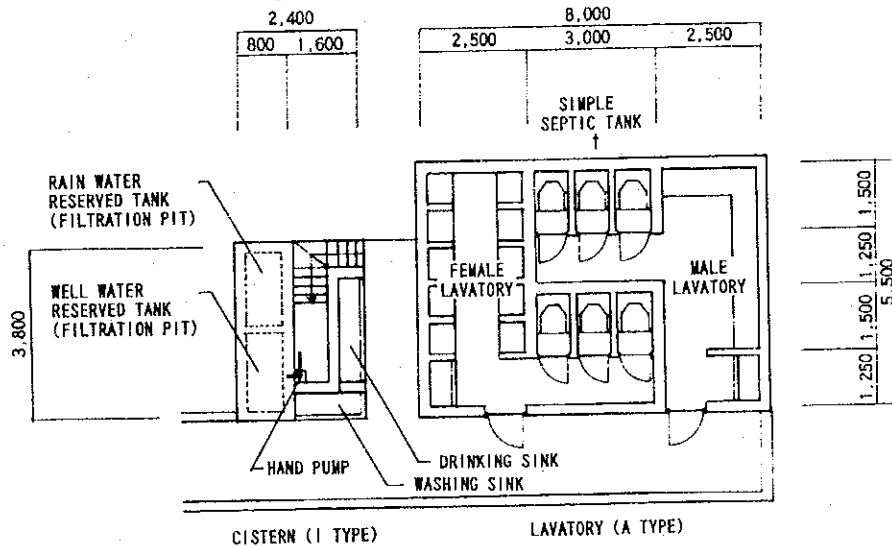
Water Tank - Locally made brick masonry

Volume	Type I	for 400 people	2.5m ³
	Type II	for 560 people	3.5m ³
	Type III	for 640 people	4.0m ³

Water Supply Pipe - PVC pipe

Rainwater flume - Horizontal pipe: Concrete
Down spout: PVC pipe

Fig. 3-4 Water Supply System



(3) Drainage Facility Plan

Vietnam is still behind with regard to drainage facilities, and the schools in this Project are not equipped with drainage facilities. Thus, the plans should be drawn up with these facts in mind. The drainage system for this Project will have to cope with sewer from the toilet lavatories, toilet bowls, and urinals. The drainage system will be a combined sewer and trickling filter water treatment system. After decomposition through a trickling filter type simple septic tank, the treated waste water is infiltrated into the ground. Four types of septic tank, from Type "A" to Type "D" will be prepared according to the number of users. As there is no standard in Vietnam for the disposal capacity of septic tanks, the standard used by the Ministries of Construction, Public Welfare and the Environmental Agency at the time of installing the simple type septic tanks will be used. Table 3-6 shows the types of septic tank to cover the number of users.

Calculation method $V=1.5-0.1(n-5)$ (n= no. of users)

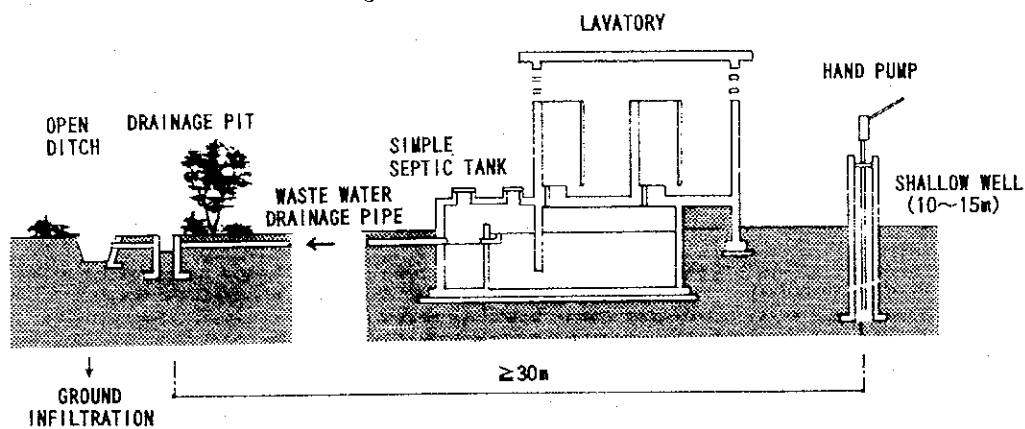
Table 3-6 Types of Septic Tank

Type of Classroom Block	Number of Classroom	Target No. of Users	Type of Septic Tank	Septic Tank Capacity (m ³)
①	6	240	a	17.28
②	8	320	a	17.28
③	10	400	b	21.12
①+①	12	480	c	30.24
①+②	14	560	c	30.24
②+②	16	640	d	34.56
②+③	18	720	a+b	38.40
③+③	20	800	b+b	42.24

The facilities and equipment to be used for this Project will basically be the standard types used in Vietnam. Fig. 3-5 shows the drainage facility system.

- Toilet Bowls - Asian type
- Urinals - Locally used open type
- Lavatories - Reinforced concrete
- Piping - PVC pipes
- Septic Tank - Reinforced concrete (Simple trickling filter type)

Fig. 3-5 Darainage System



e) Main Building Material Plan

(1) Basic Items

Most of the building materials for the Project will be procured locally to save on costs and thereby construct more classrooms and allowing easy maintenance.

(2) Major Building Materials

a) Structural Material

Locally used reinforced concrete will be used for the major structures, such as for foundations, columns and beams. As the quality of materials, such as cement and aggregate, may differ according to the region, adequate attention must be paid to quality control. Wooden trusses are used locally for supporting roof structures; however, for increased durability an RC beam will be used.

b) Roofing Material

School building roofs are usually composed of wooden or metal trusses with roofing tiles placed directly on wooden frames. However, due to their lack of durability against typhoons, clay tiles over RC slabs will be used in this Project.

c) Windows, Doors

In Vietnam, large openings with wooden shutters are normally used as

windows of school buildings. In the Project, wooden frame glass windows are adopted by taking into account the cold winter air. Wooden doors that are widely used in Vietnam are also adopted.

d) Floors, Walls, Ceilings

In terms of durability, reinforced concrete slabs on floors, both with cement tile finish, will be used. For effective insulation, the exterior walls will be brick masonry with mortar finish. The interior partition walls will also have brick masonry with mortar finish. The ceilings will be spray painted on the concrete finish. Table 3-7 shows the major finishing materials.

Table 3-7 Finish Material to be Used for the Project Facilities

Portion		Local Method	This Project's Method	Reason for Adoption
Exrior Finish				
Roofs		Clay Tile	Clay Tile double Layer on Waterproofing Mortar	Durability
Underside of Eaves		—	Color Mortar Spray	Durability
Walls		Paint on Mortar Finish	Paint on Mortar Finish	Easy Maintenance
Windows		Wooden Shutter	Wooden Frames with Glass	Insulating effect Natural Lighting
Doors		Wooden Doors	Wooden Door Paint Finish with Glass Window	Natural Lighting
Baseboard		Mortar Finish	Mortar Steel Trowel Finish	Durability
Corridor Floors		Mortar Finish	Local Cement tile	Easy Maintenance
Interior Finish				
•Classrooms •Multi Purpose Rm. •Conference room •Stuff Room	Floors	Mortar Finish	Local Cement tile	Easy Maintenance
	Walls	Paint on Mortar Finish	Paint on Mortar Finish (H ≤ 2,600mm)	Easy Maintenance
Color Mortar Spray on Mortar Finish (H ≥ 2,600mm)			Workability	
	Ceilings	—	Color Mortar Spray	Workability
Toilet	Floors	Mortar Finish	Mosaic Tile	Easy Maintenance
	Walls	Mortar Finish	Tile(H ≤ 1500mm)	Easy Maintenance
			Color Mortar Spray (H ≥ 1500mm)	Workability
	Ceilings	Mortar Finish	Color Mortar Spray	Workability

3-3-3 Equipment Plan

In order to satisfy the educational activities after the completion of facilities, adequate educational equipment must be available. After the

completion of the school buildings, various equipment will be needed. Thus, reviewing the contents of the request and the results of local studies, this Project will cover the basic educational equipment in the amounts needed.

1) Educational Equipment

The selection of educational equipment will be based on the standards of the Ministry of Education and Training (MOET) and should be products easily obtainable and manufactured in Vietnam. Furthermore, 2-seater desks and chairs should be installed in primary schools, with a selection of two sizes to cope with the different sizes of children. Considering that the equipment will be installed in primary schools, durability rather than lavishness will be emphasized. Table 3-8 and table 3-9 show the list of education equipment.

Table 3-8 Equipment List

Name of Room	No.	Name of Item No. of Units for One Room	Number of Units			
			Building Type			
Classroom Building			①	②	③	
Classroom	D4	Teacher's Desk	1	6	8	10
	C2	Teacher's Chair	1	6	8	10
	D1/D1'	Student's Desk (For Two)	20	120	160	200
	C1/C1'	Student's Chair	40	240	320	400
	CC1	Cabinet with Tray	1	6	8	10
	CC2	Teacher's Cabinet	1	6	8	10
	B1	Blackboard	1	6	8	10
Administration Building			S	M	L	
Multi Purpose Classroom	D2	Working Table	20	20	20	
	C1'	Student's Chair	40	40	40	
	S2	Cabinet	2	2	2	
	B1	Blackboard	1	1	1	
Stuff Room	D4	Teacher's Desk	1	1	1	
	C2	Teacher's Chair	1	1	1	
	D5	Desk for Principal	1	1	1	
	C3	Chair for Principal	1	1	1	
	S1	Cabinet for Principal	1	1	1	
	D3	Conference Table	2	6	2	
	C2	Chair for Conf. Room	7	19	7	
	D4	Teacher's Desk	10	14	20	
	C2	Teacher's Chair	10	14	20	
	S2	Cabinet	2	2	2	
Conference Room	B1	Blackboard	1	1	1	
	D3	Conference Table	0	0	6	
	C2	Teacher's Chair	0	0	14	
	B1	Blackboard	1	1	1	

Table 3-9 Equipment List per School Building Type

Type of Block	Name of Equipment		Type															
	Student's Desk (Small)	Student's Desk (Big)	Student's Chair (Small)	Student's Chair (Big)	Teacher's Desk	Teacher's Chair	Working Table	Student's Chair	Teacher's Cabinet	Cabinet with Tray	Desk For Principal	Chair for Principal	Cabinet for Principal	Cabinet	Conference Table	Teacher's Chair	Blackboard	
	D1	D1'	C1	C1'	D4	C2	D2	C1'	CC2	CC1	D5	C3	S1	S2	D3	C2	B1	
Classroom Block	① Type	80	80	160	6	6	0	0	6	6	0	0	0	0	0	0	6	
	6 Classrooms																	
	Sub Total	920	1840	1840	3680	138	138	0	0	138	138	0	0	0	0	0	138	
	② Type	60	100	120	200	8	8	0	0	8	8	0	0	0	0	0	0	8
	8 Classrooms																	
	Sub Total	840	1400	1680	2800	112	112	0	0	112	112	0	0	0	0	0	0	112
③ Type	80	120	160	240	10	10	0	0	10	10	0	0	0	0	0	0	10	
10 Classrooms																		
Sub Total	1440	2160	2880	4320	180	180	0	0	180	180	0	0	0	0	0	0	180	
Sub Total (54 Buildings)	3200	5400	6400	10800	430	430	0	0	430	430	0	0	0	0	0	0	430	
Administration Block	S Type	0	0	0	0	11	20	40	0	0	1	1	1	2	2	7	2	
	23 Buildings																	
	Sub Total	0	0	0	0	275	500	1000	0	0	25	25	25	50	50	175	50	
	M Type	0	0	0	0	15	20	40	0	0	1	1	1	2	6	19	2	
	6 Buildings																	
	Sub Total	0	0	0	0	90	120	240	0	0	6	6	6	12	36	114	12	
L Type	0	0	0	0	21	20	40	0	0	1	1	1	2	8	21	3		
9 Buildings																		
Sub Total	0	0	0	0	189	180	360	0	0	9	9	9	18	72	189	27		
Sub Total (40 Buildings)	0	0	0	10800	554	800	1600	0	0	40	40	40	80	158	478	89		
Total	3200	5400	6400	10800	984	984	800	1600	430	430	40	40	40	80	158	478	519	

2) Education Material

As with the equipment, educational material will also be procured within Vietnam based on MOET's standard specifications. Table 3-10 lists the educational material per school.

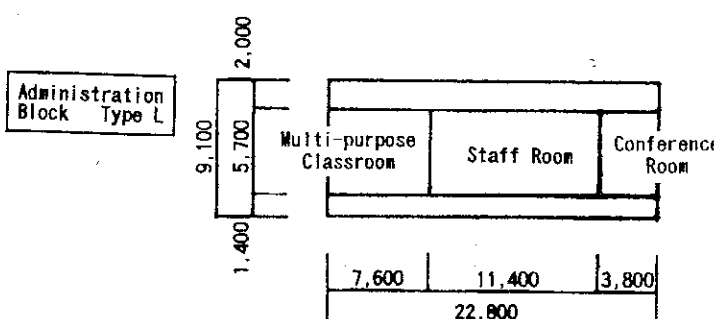
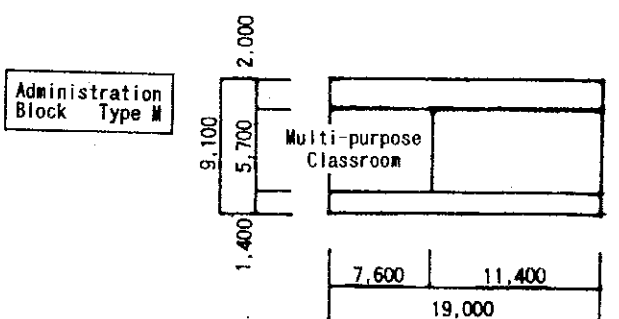
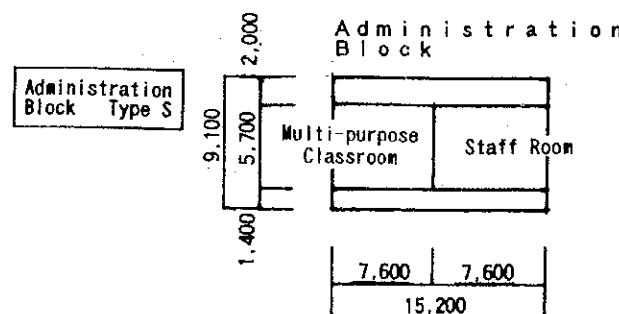
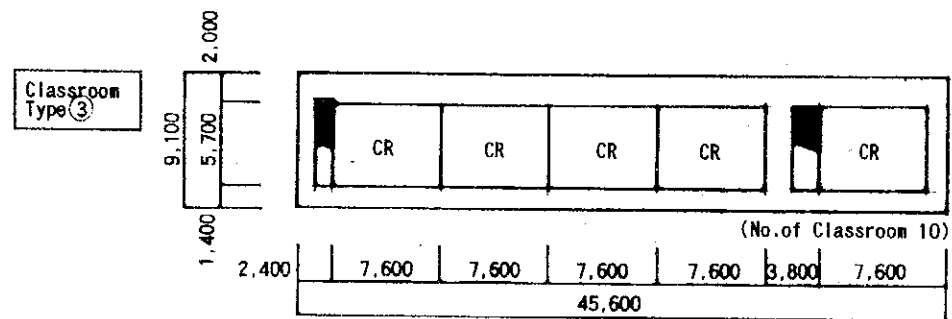
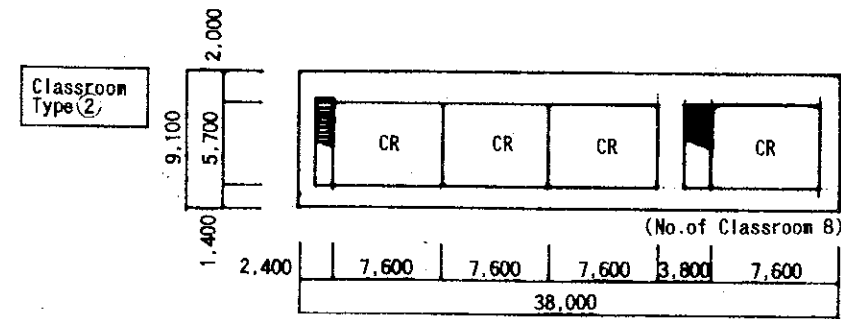
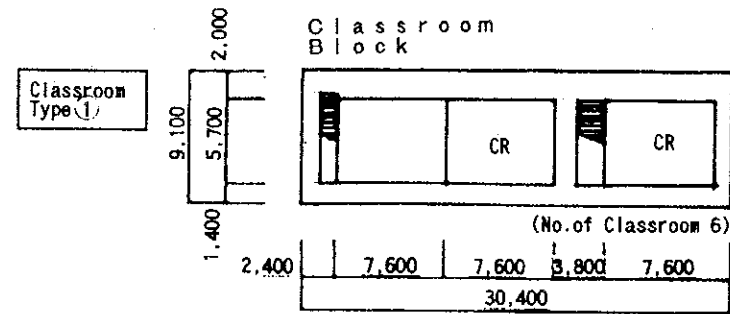
Table 3-10 List of Educational Materials for Each School

No.	Instrument Name	Quantity
I	For Vietnamese Language	
I-1	Set of pictures of model letters and number for learning syllables Grade 1	2
I-2	Set of pictures for learning syllables Grade 1	2
I-3	Alphabet set for learning syllables	2
I-4	Set of letters for teaching writing practice	2
I-5	Set of pictures for teaching reading in Vietnamese	2
I-6	Set of pictures for teaching Vietnamese in Grade 2	2
I-7	in Grade 3	2
I-8	in Grade 4	2
I-9	in Grade 5	2
II	For Arithmetic	
II-10	Magnetic board (40cmx30cm)	2
II-11	Magnetic block (ø 15mm)	60
II-12	Abacus with 2 lines	2
II-13	Abacus with 3 lines	2
II-14	Scale and weight (200g)	1
II-15	Demonstration clock face	2
II-16	Set of measuring devices	
	• Compass	2
	• Right triangle	2
	• Protractor	2
	• Meter stick	2
II-17	Set of plastic measuring cups (1 liter)	2
II-18	Set of plastic cubes for demonstrating volume	2
II-19	Rectangle block capacity demonstration	2
III	For Other Subject	
III-20	Wall thermometer	1
III-21	Directional compass	1
III-22	Globe	1
III-23	Water turbine	1
III-24	Plastic gyroscope	1
III-25	Arrow for showing wind direction	1
III-26	Administrative map of Vietnam	1
III-27	Physical map of Vietnam	1
III-28	Set of simple tools	1
III-29	Mechanical model making set	1
III-30	Set of pictures for teaching Vietnamese history in Grade 4	1
III-31	Set of pictures for teaching Vietnamese history in Grade 5	1
III-32	Mandolin	1
III-33	Bamboo flute	40
III-34	Magnifying glass with metal frame	2
III-35	Set of model teeth	1
III-36	Primary school reference book	
	• Atlas	1
	• Dictionary	1
	• Picture encyclopedia	1
III-37	Pedal organ	1

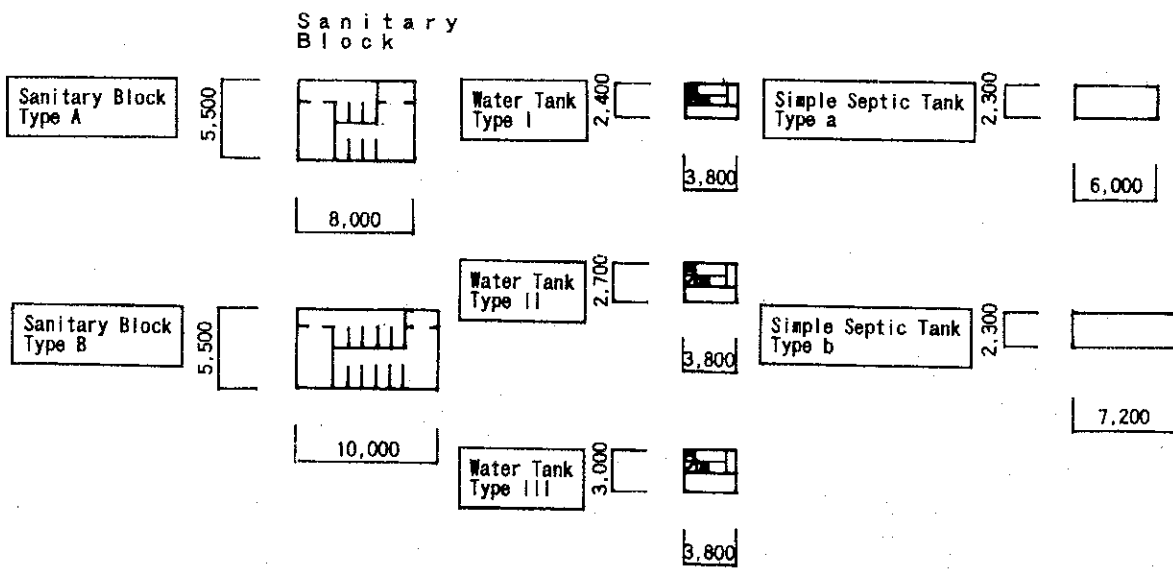
3-3-4 Basic Design Drawings

List of Drawings:

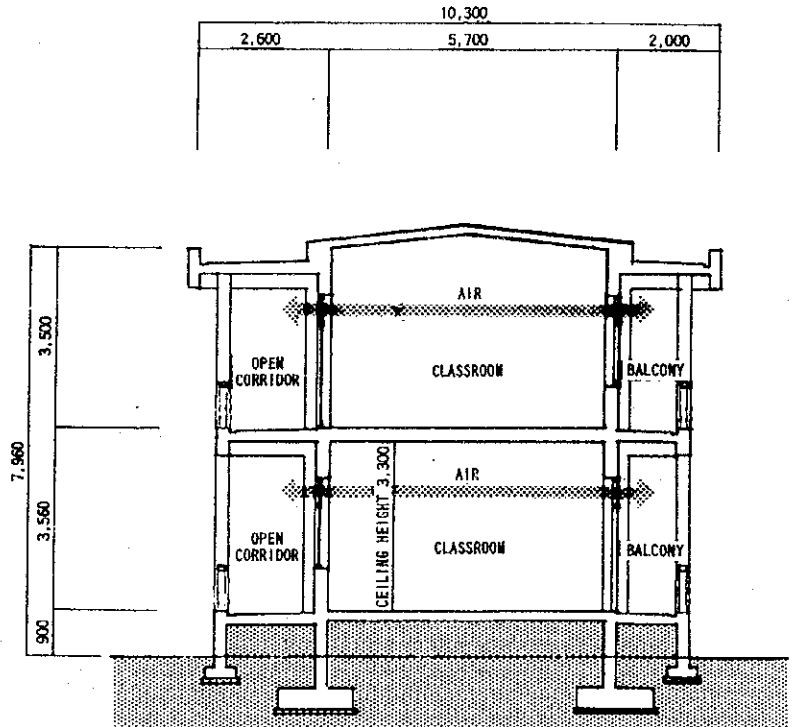
01. Types of Each Component of School Facilities
02. Typical First Floor Plan
03. Typical Second Floor Plan
04. Typical Elevation

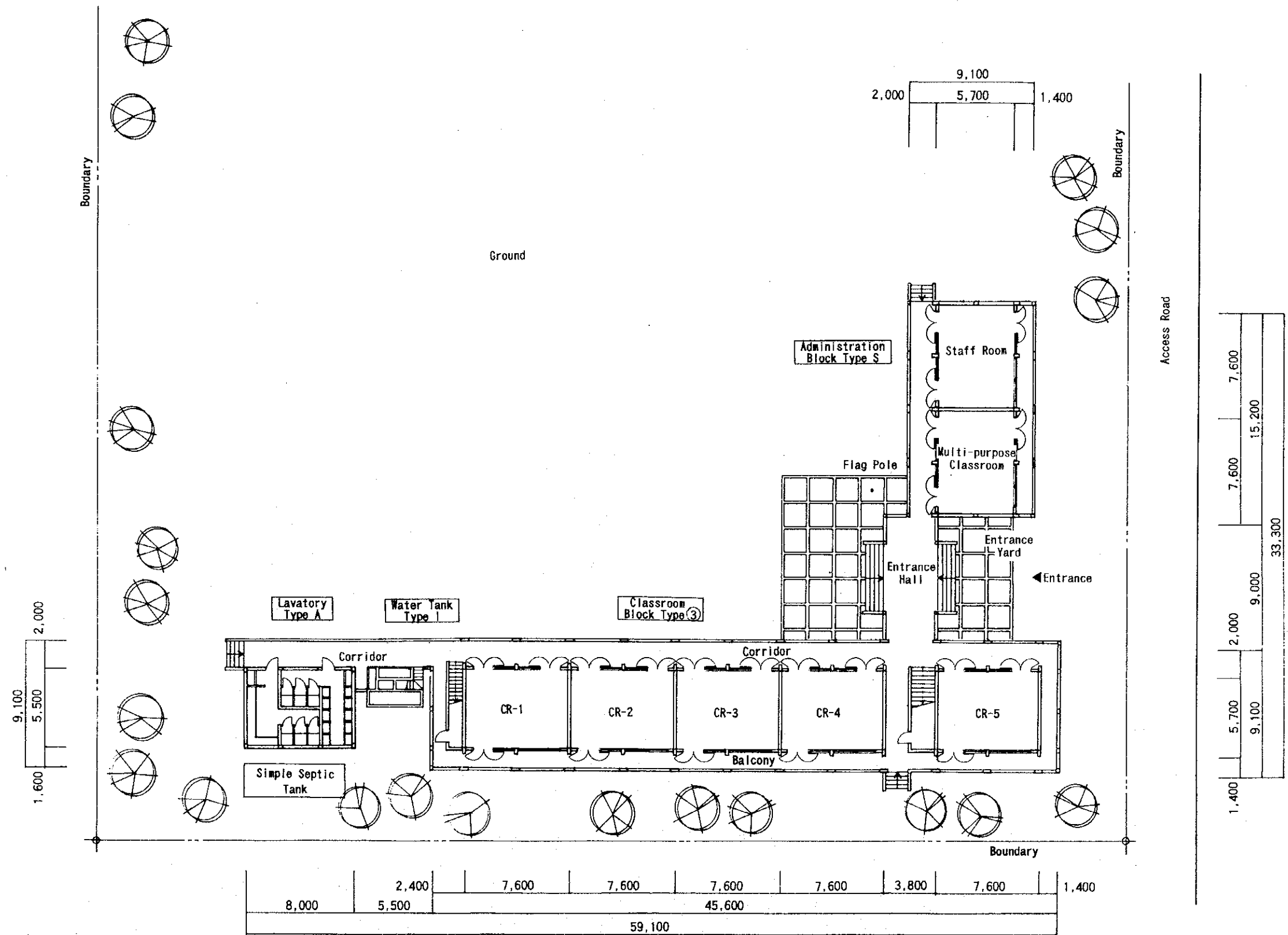


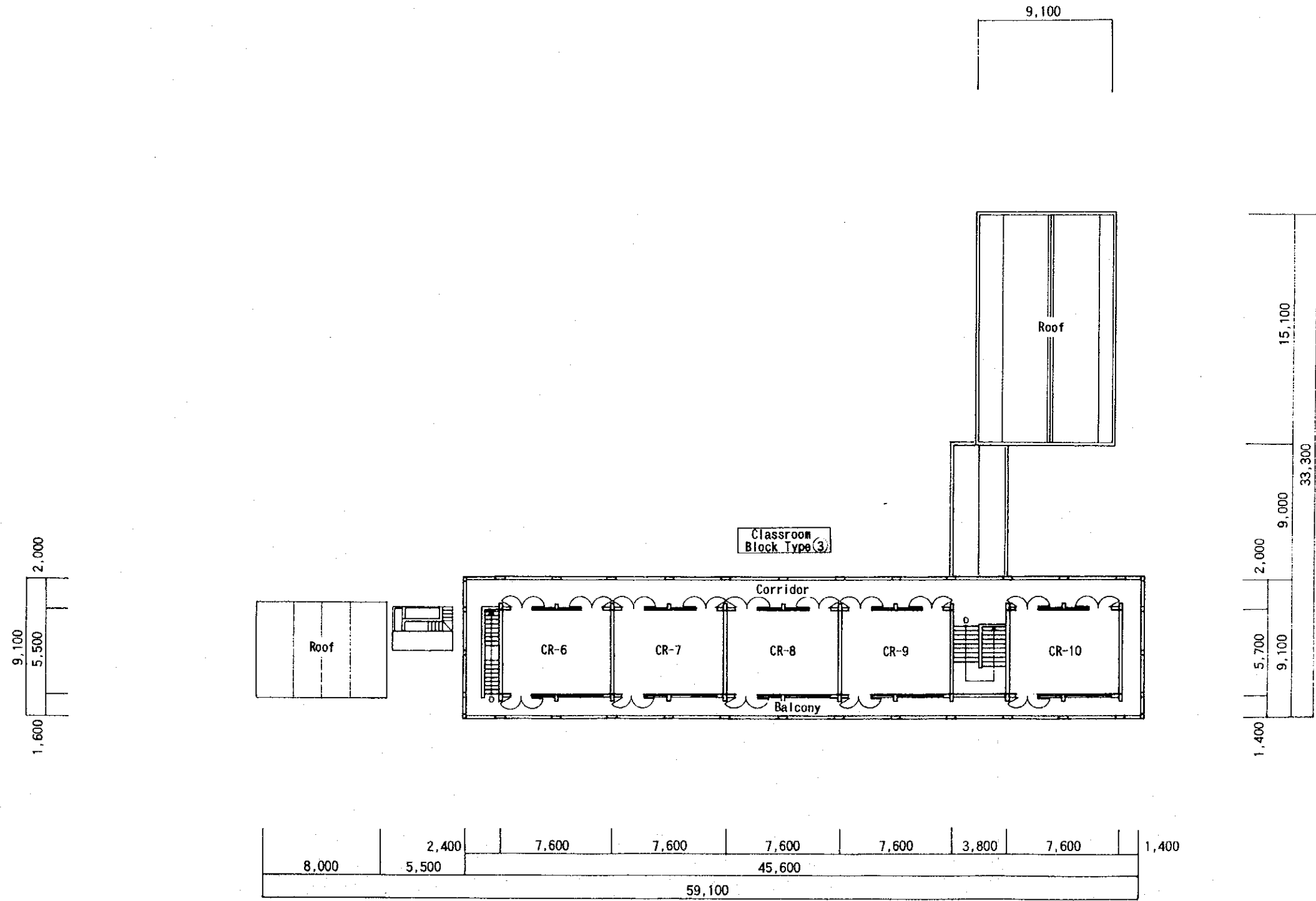
No. of Pupiles	240	320	400	480	560	640	720	800
No. of Classroom	6	8	10	12	14	16	18	20
Classroom Block Type	①	②	③	①+①	①+②	②+② ①+③	②+③	③+③
Administration Block Type	S	S	S	M	M	L	L	L
Sanitary Block Type	A	A	A	B	B	B	A+A	A+A
Simple Septic tank Type	a	a	b	c	c	d	a+b	b+b
Water Tank Type	I	I	I	II	II	III	I+I	I+I

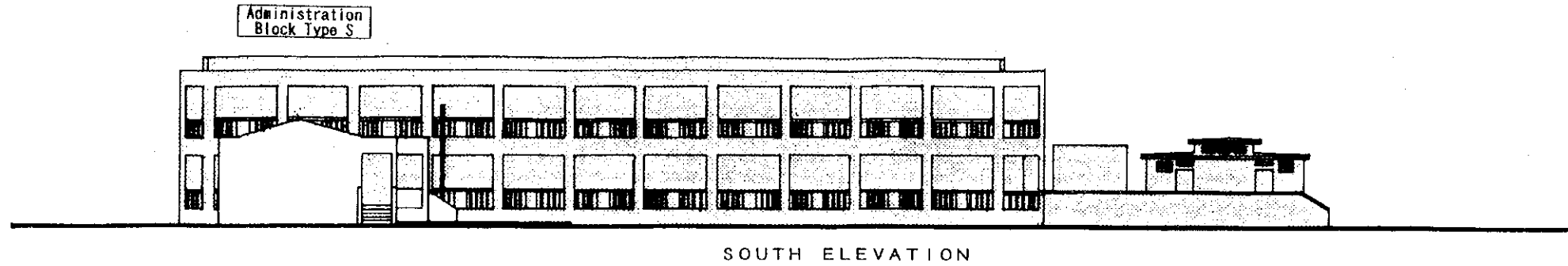


TYPICAL SECTION

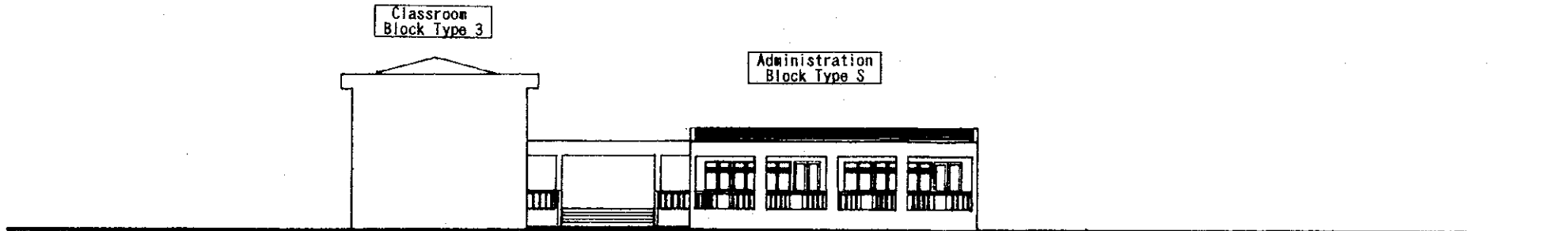




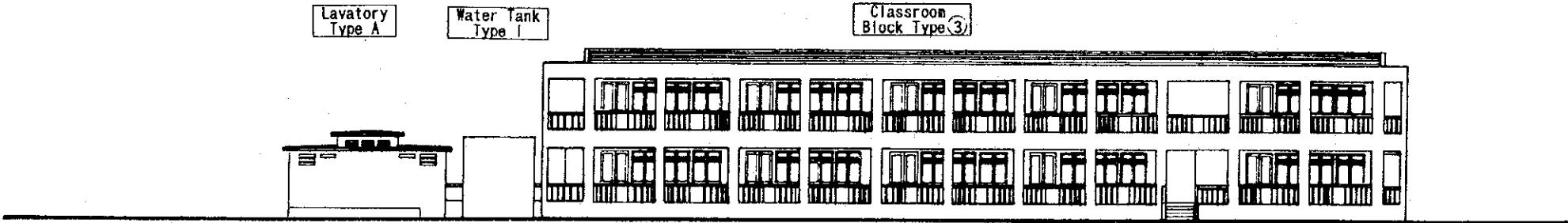




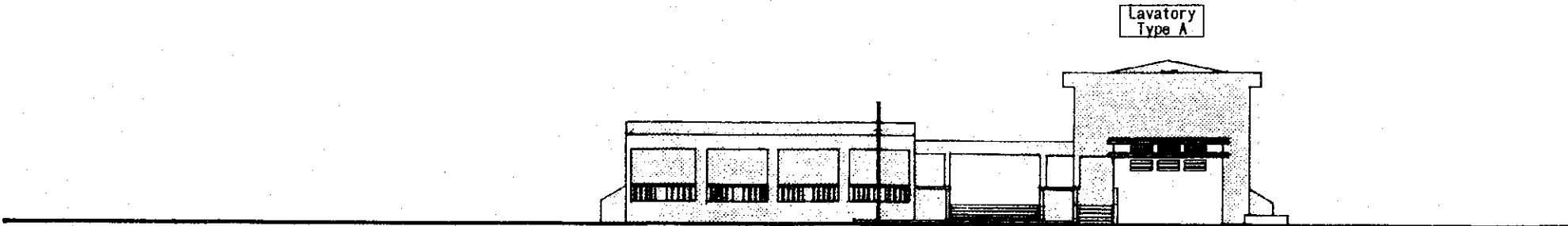
SOUTH ELEVATION



EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION

3-4 Implementation Plan

3-4-1 Construction Conditions

The aim of this Project is to construct a great number of school buildings within a limited period covering a vast area of 300 km in a north-south direction and 220 km in an east-west direction under a construction plan suited to local conditions. The major procedures of the construction plan are as follows:

- 1) The Project Areas will be divided into 3 construction areas according to each province, with construction bases in Nghe An, Than Hoa and Bihn city, constructing from 9 to 17 schools in each province.
- 2) As construction will be conducted at existing school sites, care must be taken not to interfere with school activities and to maintain the safety of the students.
- 3) As many school buildings will be conducted simultaneously, the people in charge of construction should keep in touch with one another in order to maintain a smooth construction plan.
- 4) In schools not having electricity, small generators will be used. Water from wells will be used for construction purposes.
- 5) Public peace and order and the prevention of burglary within the construction site must be maintained throughout the construction period.
- 6) Cooperation with the local construction companies is absolutely necessary for the success of the Project. The roles of the contractor and subcontractors must be clarified and an organization system with appropriate posting of personnel for smooth management must be set up.

3-4-2 Implementation Method

The RC structure selected for the Project will be widely affected by the conditions of each Project site. Thus, under the guidance of a Japanese

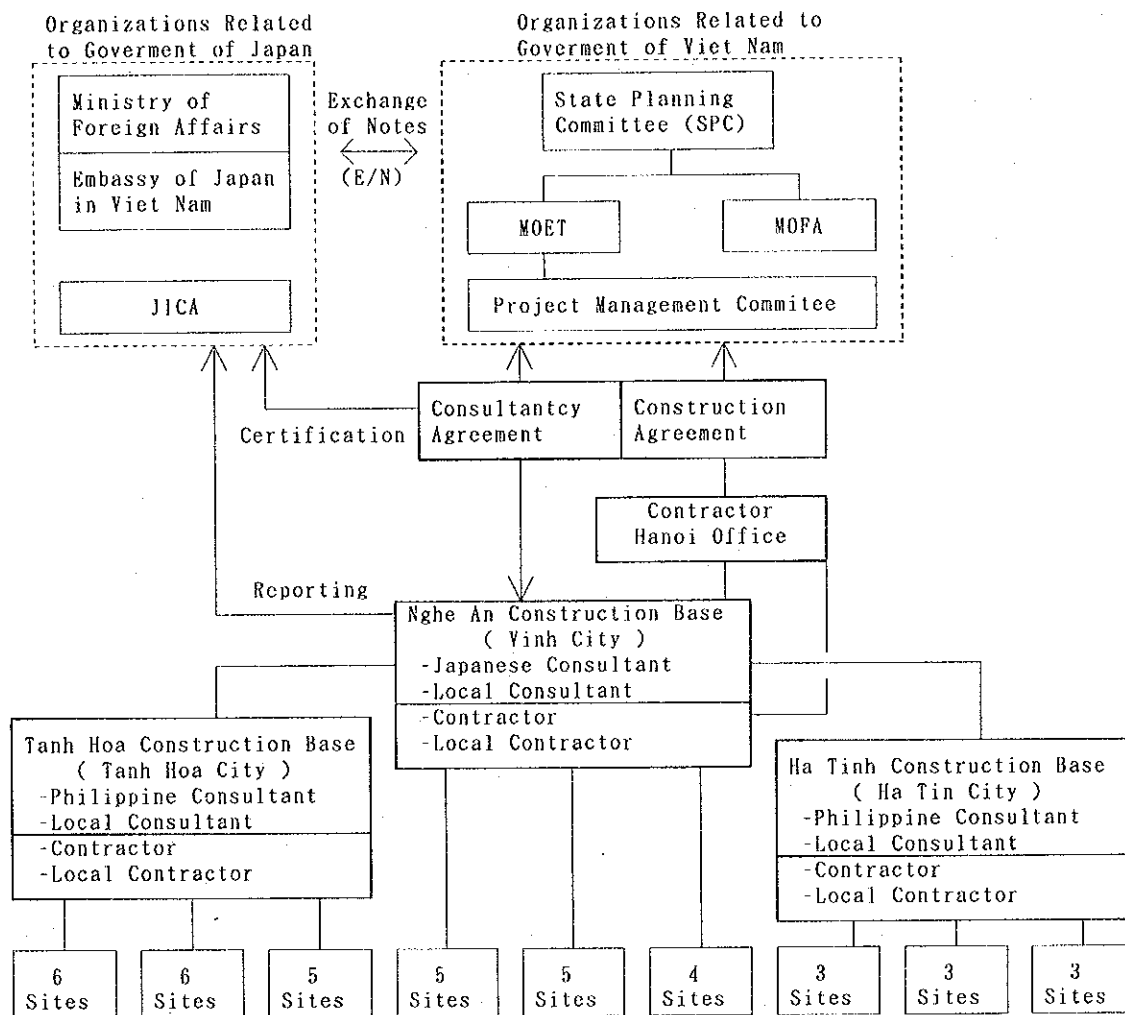
consultant, the local consultant will have to closely monitor each procedure. The quality of the construction material and laborers will depend on the skill of the local construction companies. Strict quality control must be imposed, especially with regard to inspecting basic materials, such as concrete and steel bars. As many schools will be constructed simultaneously, construction plans must be approved at each stage, site inspections should be conducted at all times, and regular consultations shall be held with the project steering committee of MOET, for the smooth operation of the construction work. As it will require nearly a month to apply for the construction permit, the work schedule should be planned with such things in mind.

Punctual construction by the Vietnam side is a necessity for the smooth progress of the Project (Refer to Section 4-5-5 Construction Schedule (1) Division of Work). As the sites need to be promptly leveled in order for the construction work to begin, the improvement of access roads, the removal of existing facilities, and ground preparation by the Vietnam side must be appropriately carried out.

3-4-3 Construction and Supervisory Plan

As the Project construction sites are widely spread over three provinces (Thanh Hoa, Nghe An, Ha Tinh), adequate attention must be given to the construction management system. By dispatching one Japanese consultant and two Philippine Consultants having experience in foreign construction supervision, a system appropriate for the construction procedures and quality control will be established. To supervise the entire construction, the consultant and contractor will both set up construction management headquarters in Vinh city, Nghe An province. Under their supervision, construction bases will be set up in Thanh Hoa City, Thanh Hoa Province and Ha Tinh City, Ha Tinh Province. The bases will be used for delivering material to the sites as well as for providing close supervision of the sites by the consultant, local consultant, contractor and the local engineer. The construction management system chart is shown in Fig. 3-6.

Fig. 3-6 Project Construction Management Organization Chart



3-4-4 Procurement Plan

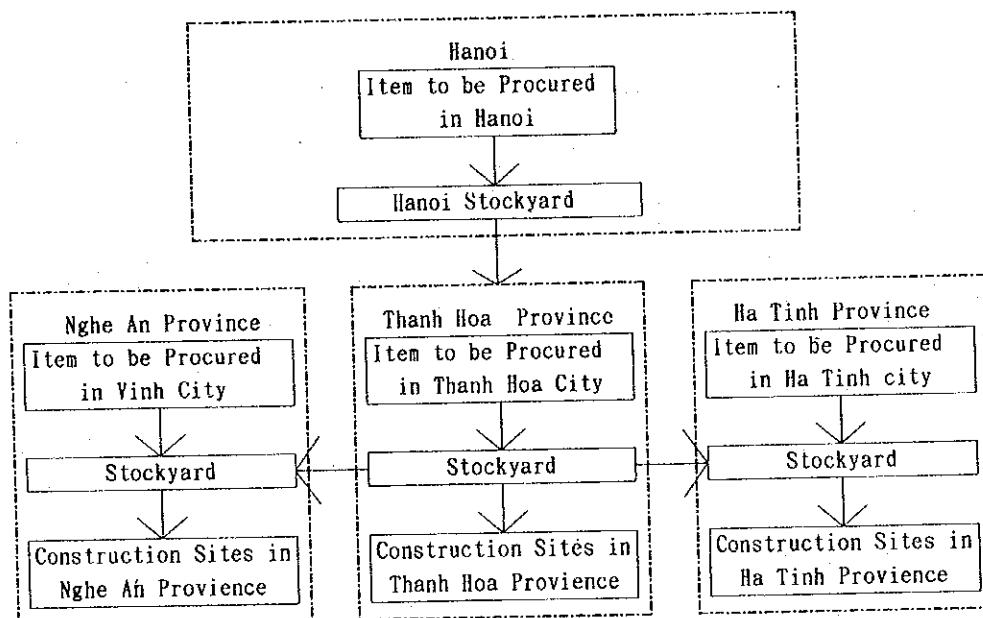
(1) Policy of the Equipment and Material Procurement Plan

To facilitate the maintenance and management of the facilities after completion, most of the equipment, material, furniture and educational material will be procured locally. Most of the construction equipment and material should be obtainable in each major city; however, for those available only in Hanoi, they will be transported over land. Especially, with regard to educational equipment, transportation schedules must be set up to meet the completion date of the school buildings so that no problems with delivery will occur.

(2) Transportation and Storage Plan

The equipment and materials procured in Hanoi will be transported by land to the main storage base in Thanh Hoa city, then distributed to other storages in each province. As for transportation, trunk roads, such as State Route 1A, are relatively well maintained, but the sub-trunk roads and bridges towards inland areas have problems in withstanding heavy loads and are very rough and narrow. As the bridges may become damaged during the rainy season -- which will have a great affect on the construction schedule -- a detailed transportation plan, such as the use of alternate access roads, must be considered. The transportation plan for construction material and equipment is shown in Fig. 3-7.

Fig. 3-7 Transportation Plan for Construction Material and Equipment



3-4-5 Implementation Schedule

The Project's implementation within the framework of the grant aid system will become effective after the division of work by the Governments of Japan have been conducted and the necessary procedures have been completed. The Project will commence following the signing of the E/N by the two countries. After the signing, the Project will be implemented in 5 stages: detailed design; tender; procurement of equipment and materials; and transportation and construction.

***Detailed Design;**

After approval of the consultant agreement, the Consultant will prepare the tender documents based on the basic design, and will consult with the representatives of MOET to decide on specifications. Regarding the size of the Project based on the E/N and grant aid system and the division of work, confirmation must be received at the early stage of the basic design thereby allowing the Government of Vietnam to set up budget and construction management systems, adjusting it to a single year budget of the grant aid system method. Two months will be required to prepare the detailed design.

***Tender;**

This includes the announcement of the tender, qualification examination of the companies, open tender, results, and the construction agreement. The methods for construction orders and bids will be decided on beforehand through consultation. For projects costing more than ten million dollars, the Government of Vietnam has a system for the evaluation and approval of procurements and bids. The evaluation and approval of the Project is needed by the National Committee for Project Approval (NCPA) before the tender. The evaluation and examination of the tender will be conducted by the Expenditure Evaluation Committee, and, only after its approval, is the Project formally approved. The procedures prior to the tender will take at least three months and the results and approval after the tender will take one month. Thus, nearly four months are required for the tender and contract.

***Procurement of Materials and Equipment;**

Following the signing of the construction agreement, the construction plan is drawn up. Nearly 20 days are needed for plan approval. Following this, the materials and equipment are procured; however, the delivery of the first items will arrive one month after the signing of the agreement.

***Construction;**

After a month of preparation after the signing of the agreement, the construction work commences. The three construction bases will be responsible for constructing from 9 to 17 schools. Basically, three to six teams at each base will be responsible for 3-4 schools. A total of 12 months will be

required to complete all of the schools. The Project schedule is shown in Table 3-11.

Table 3-11 Project Schedule

	1	2	3	4	5	6	7	8	9	10	11	12	
Basic Design		Consultancy Agreement/Field Survey (Total; 2 Months)											
		Detailed Design/Analysis in Japan (Total; 6 Months)											
		Tender, 4 Months											
	1	2	3	4	5	6	7	8	9	10	11	12	
Construction Procurement		Work Preparation											
		Foundation Work											
		Structural Work											
		Facility & Finishing Work											
		Manufacture - Procurement of Equipment											
								Transportation					
								Inspection & Turn over					

3-4-6 Scope of Work

The scope of work by the Governments of Japan and Vietnam relating to this Project is shown in Table 3-12.

Table 3-12 Project Construction Boundaries to be Undertaken by
the Japanese and Vietnam Sides

Work Item	Japanese Side	Viet Nam Side
1. Securing of Project sites.		○
2. Site measurement and boring of proposed sites.		○
3. Site clearing prior to commencing Project construction work.		○
4. Incidental work, such as gardening and fencing.		○
5. Securing access road to Project sites prior to the commencement of Project construction work.		○
6. Installation of facilities for distribution of electricity water supply, drainage and other incidental facilities to project sites when needed.		○
7. Obtaining building, occupancy and all necessary permits for the Project with respect to the laws and regulations of Viet Nam Government.		○
8. Securing the necessary budget and personnel for the proper and effective maintenance of Project schoolbuilding and equipment.		○
9. Procurement of Project use equipment and materials in Japan and their shipment to Project sites in Viet Nam.	○	
10. Procurement of Project use equipment, materials and labour in Viet Nam and their.	○	
11. Construction of project Facilities.	○	
12. Exempting Taxes and all other levies and duties and ensuring prompt unloading and customs clearances at the port of disembarkation in Viet Nam for Project use materials and equipment.		○
13. Exemption Japanese nationals involved in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in Viet Nam with respect to the supply of the equipment and services under the verified contracts.		○
14. According Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contracts for their entry into Viet Nam and stay therein for execution of the projects.		○
15. Bearing of commissions to the Japanese foreign exchange bank for the banking services based on the Banking Arrangement in accordance with the standard grant procedure		○
16. bearing all expenses other than those to be borne by the Grant, necessary for the construction of the schoolbuilding as well as for the transportation and installation of the equipment.		○
17. Effective operation and management of the facilities and equipment to be provided under the grant Aid.		○

CHAPTER 4. PROJECT EVALUATION AND CONCLUSION

Chapter 4 Project Evaluation and Conclusion

The Government of Vietnam places importance on improving the level of education, improving and adding educational facilities and creating a base for the development of manpower. However, due to such reasons as the financial state of the government, a number of school facilities and equipment are still lacking. Moreover, due to the aging of school buildings, damages caused by natural disasters such as typhoons, and a yearly population increase, there is a great shortage of classrooms. Thus, the construction of additional facilities and the rebuilding of facilities are major problems for the Government of Vietnam.

1. Beneficial Effects

Under these conditions, the following effects will be obtained by constructing 40 primary school buildings in the Project Area of Thanh Hoa, Nghe An and Ha Tinh Provinces.

(a) Increased Opportunities for Children to Attend School

There are 1,119 classes being conducted in 312 classrooms at 40 Project schools, and 807 classrooms are lacking as a result. To alleviate this severe shortage of classrooms, the Project is to construct 430 classrooms accommodating 17,200 students. By adding the 778 classrooms to be constructed under the Phase II project, a total of 31,120 students will be accommodated. Thus, the Project will be a meaningful contribution towards increasing the opportunities for children to attend schools.

(b) Improvement of Educational Environment

The necessity to construct the lacking classrooms is urgent but there is also a dire need for appropriate facilities, such as proper management buildings, to be used in the management of Project school activities. To improve this situation, administration buildings consisting of staff rooms with conference spaces and multi-purpose rooms with necessary educational equipment will be constructed under the Project. As a result the educational environment of each Project school will be greatly improved.

(c) Improvement of Sanitary Conditions

As there are no adequate toilet facilities available for students at any of the Project schools, there is a risk that epidemics caused by noxious insects and the pollution of drinking water may break out. To prevent this, toilet facilities with proper water supplies and drainage systems will be provided at all Project school. As a result, it is expected that the sanitary condition at each school will be improved.

(d) Contribution to Area Residents

School facilities and residences suffer severe damage from typhoons that hit the Project area annually. Project facilities are designed by considering their ability to withstand the force of typhoons, thus, they will be usable as places of refuge for area residents during natural calamities. Lighting facilities will be installed in the Project facilities where electricity is available, and classrooms will also be used as places to conduct non-formal education and meetings for area residents during evenings and nighttimes. These additional uses of the school facilities will be beneficial contribution to the area residents.

(e) Transfer of Architectural Technology

In Vietnam there is an excess number of general laborers, but there are only a few skilled engineers. Thus, as a part of the construction management work under the Project, construction schedule management and quality control management on-the-job training will be provided to the local consultants and to the architectural engineers of subcontractors. As a result of this training, Project construction will contribute immensely to the transfer of technology to the architectural engineers in Vietnam.

(f) Activation of Rural Economics

The Project area is economically very poor due to the lack of industry other than agriculture and fishery. The average annual income per person is approximately 90 US dollars. The procurement of manpower and construction material in the Project area will make a substantial contribution towards stimulating the rural economics.

2. Conclusion

The chronic shortage of school facilities is a major problem for the Socialist Republic of Vietnam. The construction of additional classrooms is necessary each year to cope with the damages brought about by typhoons and other natural disasters, and to cope with the yearly population increase of 2.1%. The Fifth Term 5-Year National Development Plan adopted by the Government of Vietnam emphasizes that the improvement of education will lead to the development of manpower. Thus, the Government of Vietnam's priority is to determine how to improve the education of the people while emphasizing the growth of industry and the economy. Thus, the construction of school facilities in this Project is a major item in achieving the goals of the educational plans of the country. Also, it plays a major role in promoting national development. The contents of the maintenance and management plans for the school buildings are adequate and the construction of school facilities will greatly ease the shortage of classrooms thereby allowing more educational opportunities for children. As the Project will also contribute significantly to the improvement of education of the general public, its implementation as a grant aid project of the Government of Japan is deemed to be highly appropriate.

3. Recommendation

As mentioned above, it is expected that implementing the Project will produce great effects and will contribute to the improvement of the educational conditions in the country. It is confirmed that it will be appropriate and worthwhile to implement the Project under the Grant Aid Cooperation Program of Japan.

(1) Full Implementation of Work to be Borne by the Viet Nam Side

As this is a joint Project of the Japanese and Vietnamese governments, the work to be borne by the Vietnam side must be thoroughly executed for its success. Especially, the preparation of land, prior to the construction that is to be carried out in a short period of time, must be completed without delay. Thus, the operation plan must be adequately reviewed and schedules must be checked closely with the Vietnam side.

(2) Securing of Teachers Necessary for Classrooms to be Built Under the Project

To efficiently conduct classes in the classrooms to be built under the Project, it will be necessary to secure teachers. As there is a shortage of primary school teachers in the Project Area, MOET has a program whereby the excess number of lower secondary teachers will be shifted to the primary schools. Under the program, teachers will be assigned to project schools. To meet the needs of the new classrooms that are to be completed under the Project, this program should be carried out without delay.

(3) Improvement of Educational Contents

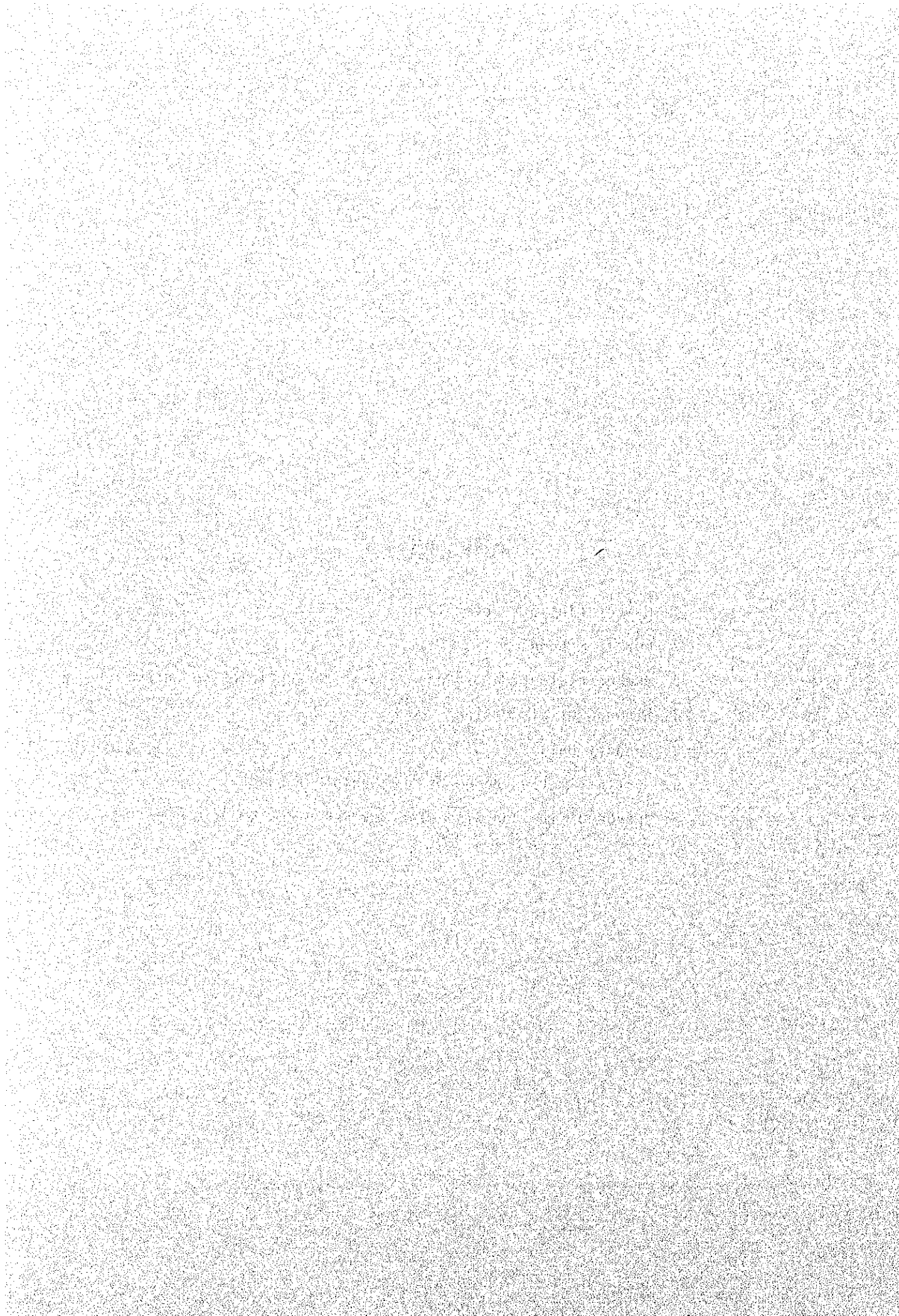
To efficiently and usefully utilize the facilities that are to be provided by the Project, it is imperative that the teachers conduct appropriate classes. It is highly desired that teacher training and reeducation as well as the provision of textbooks be carried out by the Viet Nam side. As the successful school graduation ratio throughout the country is very low (estimated to be 50%), it would be necessary to improve the educational contents, such as present curriculums, in order to provide continuous education.

(4) Appropriate Maintenance and Management of Project's School Facilities

Although the maintenance and management of the Project's school facilities are planned to be conducted with ease, simple maintenance, such as the cleaning of facilities and the drawing of water from wells, are expected as part of the students' education.

APPENDIX

1. Member List of Survey Team
2. Survey Schedule
3. Member List of Party Concerned in the Recipient Country
4. Minutes of Discussion
5. Country Data
6. Cost Estimation Borne by the Recipient Country
7. Proposed Site and Site Plan for Recipient Schools



APPENDIX 1. Member list of survey team

Basic Design Study team (November 18, 1994 to December 22, 1995)

Masao Takai	Leader	Director, Second Basic Design Division Grant Aid Study and Design Department Japan International Cooperation Agency
Reiko Akezumi	Project Coordinator	Second Basic Design Division Grant Aid Study and Design Departmen Japan International Cooperation Agen
Shiro Sasaki	Project Manager	Mohri, Architect and Associates, INC.
Yutaka Inagaki	Facilities Planner I	Mohri, Architect and Associates, INC.
Shinsuke Nomura	Facilities Planner II	Mohri, Architect and Associates, INC.
Kazuna Koizummi	Facilities Planner III	Mohri, Architect and Associates, INC.
Ran Nagai	Interpreter	Mohri, Architect and Associates, INC.
Mai Hatukano	Interpreter	Mohri, Architect and Associates, INC.

Basic Design Study Draft Report Explanation

(February 26, 1995 to March 7, 1995)

Yasujiro Suzuki	Leader	Study Review and Coordination Division Grant Aid Study and Design Department Japan International Cooperation Agency
Reiko Akezumi	Project Coordinator	Second Basic Design Division Grant Aid Study and Design Departmen Japan International Cooperation Agen
Shiro Sasaki	Project Manager	Mohri, Architect and Associates, INC.
Yutaka Inagaki	Facilities Planner	Mohri, Architect and Associates, INC.
Tetuya Yamada	Interpreter	Mohri, Architect and Associates, INC.

APPENDIX 2. Survey schedule

(1) Basic Design team

No	Month/Date	Wk	Team Leader/Masao Takai Project Coordinator/ Reiko Akezumi Translator/Ran Nagai	Project Manager/ Shiro Sasaki (Team A)	Facilities Planning I/ Yutaka Inagaki (Team A)	Facilities Planning II/ Shinsuke Nomura (Team B)	Facilities Planning III/ Kazuna Koizumi (Team C)	Translator/ Mai Hatukano	
1	11/18	Fr	Narita 10:55(JL717) → Bangkok 15:45						
2	19	Sa	Bangkok 10:30(TG682) → Hanoi 12:20						
3	20	Su	Meeting among team members						
4	21	Mo	Courtesy call to Embassy of Japan and SPC, Discussion with WOET						
5	22	Tu	Discussion with WOET						
6	23	We	Site Inspection (Thanh Hoa Province TH-8, TH-10)						
7	24	Th	Discussion with WOET						
8	25	Fr	Discussion with WOET, Discussion with SPC						
9	26	Sa	Meeting among team members, Signing of minutes					Manila → Hanoi	
10	27	Su	Hanoi → Ho Chi Minh Discussion with WOET, Thanh Hoa Provincial Office Discussion with People's Committee (Nge An Province)	Preparation for site inspection, Meeting among team members					
11	28	Mo	Site inspection	Discussion with WOET, Thanh Hoa Provincial Office					
				Discussion with People's Committee (Nge An Province) Stay Vinh city	TH-16				
12	29	Tu	Ho Chi minh → Bangkok	NA-8, NA-7, NA-11, NA-12 Stay Vinh city	TH-14, TH-6 Stay Thanh Hoa city				
13	30	We	Bangkok → Hong Kong → Narita	NA-6, NA-5, NA-12 Stay Ha Tinh city	TH-4, TH-12, TH-8 Stay Thanh Hoa city				
14	12/1	Th		HT-6, HT-8, HT-9 Stay Ha Tinh city	TH-11, TH-2, TH-3 Stay Thanh Hoa city				
15	2	Fr		HT-4, HT-3, HT-5 Stay Ha Tinh city	TH-17, TH-1, TH-10 Stay Thanh Hoa city				
16	3	Sa		HT-AL, HT-2, HT-1, NA-8 Stay Vinh city	TH-15, TH-9 Stay Thanh Hoa city				
17	4	Su		NA-10, NA-9, NA-14, NA-3 Stay Vinh city	TH-5, TH-13, TH-7 Stay Thanh Hoa city				
18	5	Mo		NA-4, NA-1, NA-13, NA-2 Stay Thanh Hoa city	Thanh Hoa → Hanoi				
19	6	Tu		Thanh Hoa → Hanoi	Site inspection data analysis				
20	7	We		Data analysis					
21	8	Th		Site inspection, Data analysis, Discussion with WOET					
22	9	Fr		Summary report to Embassy of Japan					
23	10	Sa		Data analysis, Discussion among team members	Hanoi → Hong Kong → Narita				
24	11	Su		Data analysis, Discussion among team members				Narita → Hong Kong → Hanoi	
25	12	Mo		Data analysis				Same as team B	
26	13	Tu		Discussion with WOET				Same as team B	
27	14	We		Site inspection, Discussion with SPC				Same as team B	
28	15	Th		Site inspection				Same as team B	
29	16	Fr		Discussion with WOET				Same as team B	
30	17	Sa		Site inspection TH-4, TH-8, TH-3, TH-1, TH-AL Stay Vinh city	Data analysis			Same as team B	
31	18	Su		HT-6, NA-7 Stay Thanh Hoa	Data analysis			Same as team B	
32	19	Mo		Thanh Hoa → Hanoi				Same as team B	
33	20	Tu		Discussion with WOET				Same as team B	
34	21	We		Discussion with WOET, Site inspection				Same as team B	
35	22	Th		Report to Embassy of Japan				Same as team B	
				Hanoi → Hong Kong → Narita				Same as team B	

(2) Basic Design Study Draft Report Explanation Team

No	Month/Day	Wk	Team Leader/Yasujiro Suzuki, Project Coordinator/Reiko Akezumi, Project Manager/Shiro Sasaki, Facilities and Sanitary Facilities Planner/Yutaka Inagaki, Translator/Tatuya Yamada
1	2/26	Su	Narita 9:50AM(CX509) → Hanoi 3:30PM(VN791) AM: Meeting with Embassy of Japan, Courtesy call to SPC, PM: Discussion with WOET
2	27	Mo	Explanation of draft final report
3	28	Tu	Explanation of draft final report
4	3/1	We	Explanation of draft final report
5	2	Th	Site inspection
6	3	Fr	Meeting with WOET
7	4	Sa	Meeting among team members (Akezumi: Hanoi 9:55AM(CX509) → Narita 19:45(JL064))
8	5	Su	Data analysis
9	6	Mo	AM: Signing of minutes PM: Report to Embassy of Japan and SPC
10	7	Tu	Hanoi 9:55AM(VN790) → Narita 19:45PM(JL064)

APPENDIX 3. Member list of party concerned in the recipient country

During the Basic Design Study's field survey, the Study Team interviewed the following personnel:

*Concerned personnel of the Vietnam side:

• State Planning Committee (SPC)

Pham Quang Trung	General Director, Department of Science and Education
Pham Kim Cung	Expert, DSE
Duong Duc Ung	Director General, Foreign Economic Relations Department
Nguyen Tien Thuan	Vice Director General, FERD
Ho Quang Minh	Deputy General Manager, FERD
Nguyen Xuan Tien	Expert, FERD
Tran Tuan Anh	Senior Expert, FERD
Tran Thi Oang	ODA Office
Cao Van Ban	ODA Office

• The Ministry of Education and Training (MOET)

Pham Minh Hac	First Vice Minister
Tran Van Nhung	Director, International Relations Department
Hoang Ngoc Ha	Vice Director, IRD
Bui Cong Tho	Vice Director, IRD
Nguyen Thi Ngoc	Expert, IRD
Dao Duc Chung	Vice Director, Department of Planning and Finance
Nguyen Huy Than	Senior Expert, DPF
Quach Xuan Cau	Expert, DPF
Pham An Toan	Architect, DPF
Dang Thi Lanh	Expert, Department of Primary Education

Le Duc Long	Expert
• Institute of Research and Design of School (IRDS)	
Hoang Huy Thang	Director
Pham Chi Dai	Vice Director
Nguyen Dinh Duc	Head of Secretary and Planning
• Other Agency	
Kieu Tien Quang	Director General, Office of the Government
Bui Van Quyen	Senior Expert, Ministry of Construction
Nguyen Thi Ngoc Mai	Head, Investment Office, Ministry of Finance
Cao Kim Dung	Deputy Director, Vietcombank
Le Hong Diep	Assistant, Vietcombank
• Thanh Hoa Province	
Wong Duy Thai	Deputy Director, Department of Education and Training
Nguyen Duc Von	Expert, DET
Nguyen Quoc Hoat	Construction Engineer, DET
Le Vu Tieu	Chairman, HAI NINH Village, People's Committee
Nguyen Van Hoan	Vice Chairman, TINH GIA District, PC
Le Ngoc Danh	Director, TINH GIA District, DET
Pham Viet Sam	Head Master, HAI NINH Primary School
Nguyen Si Thang	Chairman, QUANG GIAO Village, PC
Pham Xuan Phieu	Head Master, QUANG GIAO Primary School
Pham Giang Chau	Vice Chairman, SAMSON Town
Le Van Ngu	Chairman, QUANG CU Village, PC
Le The Bang	Director, SAMSON Town, DET
Nguyen Van Hong	Head Master, QUANG CU Primary School
Nguyen Huu Hoan	Vice Chairman, HOANG HOA District, PC
Le Van giao	Director, HOANG HOA District, DET

Le Phuong Hanh	Deputy Director, HOANG HOA District, DET
Le Hong Trong	Head Master, HOANG TRUNG Primary School
Dao Minh Tuan	Chairman, HOANG TRUNG Commune
Do Thi Nam	Vice Chairman, HOANG TRUNG Commune
Vu Manh Thai	Secretary, HOANG TRUNG Commune
Nguyen Duy Khuong	Vice Chairman, HAU LOC District, PC
Hoang Tien Hied	Director, HAU LOC District, DET
Nguyen Trung Chieng	Chairman, MINH LOC Commune
Nguyen Van Dien	Head Master, MINH LOC Primary School
Dinh Van Que	Chairman, NGA DIEN Commune
Mai Van Lan	Head Master, NGA DIEN Primary School
Hoang Si Binh	Director, THANH HOA City, DET
Vu Duc Phuc	Chairman, NGOC TRAO SNB District, PC
Nguyen Thi Hong	Vice Chairman, NGOC TRAO SNB District, PC
Le Huu Nhan	Manager of Education
Le Thi Tinh	Head Master, NGUYEN VAN TROI Practionary School
Nguyen Thi Tuyet	Deputy Head Master, NGUYEN VAN TROI Practionary School
Ha To Oanh	Deputy Head Master, NGUYEN VAN TROI Practionary School
Nguyen Viet Duc	Chairman, HA TRUNG District, PC
Ta Xuan Ky	Vice Chairman, HA TRUNG District, PC
Cu Ming Tam	Officer, HA TRUNG District, PC
Mai Duy Thang	Head, HA TRUNG District, DET
Nguyen Van Chi	Chairman, HA NGOC Commune, PC
Le Thi Dinh	Head Master, HA NGOC Primary School
Do Ba Phuoc	Teacher, HA NGOC Primary School
Le Thi Ty	Director, NONG CONG District, DET
Trong Loi	Chairman, TUONG LINH Commune, PC
Nguyen The Truong	Head Master, TUONG LINH Primary School
Nguyen Thi Huong	Deputy Head Master, TUONG LINH Primary School
Dinh Van Cay	Chairman, TINH GIA District, PC

Nguyen Van Hoan	Vice Chairman, TINH GIA District, PC
Le Ngoc Danh	Director, TINH GIA District, DET
Hoang Van Bac	Head Master, TRUC LAM Primary School
Le Van Ro	Deputy Head Master, TRUC LAM Primary School
Ho Van Tuoi	Chairman, TRUC LAM Commune, PC
Do Dinh Ung	Vice Chairman, QUANG NHAM District, PC
Pham Van Hai	Director, QUANG NHAM District, DET
Tran Thanh Tung	Chairman, QUANG NHAM Commune, PC
Ngo Xuan Nhung	Head Master, QUANG NHAM Primary School
Nguyen Huu Hoan	Vice Chairman, HOANG HOA District, PC
Le Van Giao	Head, HOANG HOA District, DET
Le Phuong Hanh	Deputy Director, HOANG HOA District, DET
Truong Khac Man	Head Master, HOANG HOA Primary School
Cao Van Tan	Chairman, HOANG DONG Commune, PC
Chu The Linh	Member, HOANG DONG Commune, PC
Nguyen Thi Nga	Deputy Head Master, HOANG DONG Primary School
Nguyen Duy Khuong	Vice Chairman, HAU LOC District, PC
Hoang Tien Hien	Director, HAU LOC District, DET
Dinh Ngoc Dau	Chairman, DA LOC Commune, PC
Vu My Hung	Head Master, DA LOC Primary School
Pham Duy Hieu	Vice Chairman, NGA SON District, PC
Tran Duy Manh	Head, NGA SON District, DET
Mai Xuan Nhu	Chairman, NGA SON Commune
Mai Van Thi	Head Master, NGA AN Primary School
Hoang Canh	Chairman, NAM NGAN District, PC
Hoang Si Binh	Head, THANH HOA City, DET
Do Thi Huong	Deputy Director, NAM NGAN Primary School
Le Dinh Tuyen	Head Master, TRIEU DUONG Primary School
Le Nghia Duong	Chairman, TRIEU DUONG Commune, PC

• Nghe An Province

Le Van Phot	Director, DET
Le Tien Hung	Vice Director, DET
Hung	Vice Director, DET
Dung	Vice Director, DET
Phan Duc Ai	Chief, Service Planning and Accounting
Vu Viet	Vice Chief, SPA
Nguyen Van Chung	Vice Chairman, QUYNH LUU District, PC
Kieu Ngoc Bat	Chief, QUYNH LUU District, Education Service of District
Ho Si Long	Chairman, QUYNH THUAN Village, PC
To Thi Phuong	Head Master, QUYNH THUAN Primary School
Nguyen Van Dan	Chairman, QUYNH THUAN Village, PC
Vu Thi Cu	Head Master, QUYNH LOC Primary School
Dang But	Vice Chairman, DIEN CHAU District, PC
Vu Duy Quang	Chief, DIEN CHAU Village, ESD
Tran Duc Hien	Vice Chairman, DIEN TRUNG Village, PC
Pham Ding Thong	Head Master, DIEN TRUNG Primary School
Vu Duy Quang	Chief, DIEN CHAU District, ESD
Cao Dang Vinh	Deputy Chief, DIEN CHAU District, ESD
Nguyen Huu Hinh	Chairman, DIEN HOANG Village, PC
Vo Huy Quang	Head Master, DIEN HOANG Primary School
Dau Duc Than	Chairman, DIEN BICH Village, PC
Nguyen Xuan Hung	Head Master, DIEN BICH Primary School
Nguyen Duc Dan	Deputy Chief, NGHI LOC District, ESD
Hoang Trung	Head Master, NGHI YEN Primary School
Nguyen Thi Mai	Deputy Head Master, NGHI YEN Primary School
Nguyen Huy Chap	Chairman, NGHI LOC District, PC
Hoang Hieu	Vice Chairman, NGHI LOC District, PC
Nguyen Minh Thinh	Chairman, NGHI TIEN Village, PC

Vo Dinh Hieu	Head Master, NGHI TIEN Primary School
Nguyen Quoc Cu	Chief, HUNG NGUYEN District, People's Committee Secretariat
Thai Huy Bich	Chief, HUNG NGUYEN District, ESD
Dang Dinh Quang	Officer, HUNG NGUYEN District, ESD
Phan Dinh Luc	Head Master, HUNG NHAN Primary School
Tran Trung	Head Master, NGUYEN TRUONG TO Primary School
Nguyen Dinh Chi	Chairman, YEN THANH District, PC
Dang Trong Duong	Chairman, LONG THANH Village, PC
Duong Quang Nhi	Head Master, LONG THANH Primary School
Tran Dinh Long	Chairman, MA THANH Village, PC
Pham Thi Lan Phuong	Head Master, MA THANH Primary School
Le Huy To	Chief, VINH City, Education Sector
Duong Duoc	Member, CU HURAL Village, PC
Tran Xuan Khang	Head Master, HUNG HOA Primary School
Le Tien Hung	Deputy Director, DET
Nguyen Thi Ly	Head Master, HUNG LOC Primary School
Tran Thi Chuong	Deputy Head Master, HUNG LOC Primary School
Nguyen Van Chung	Vice Chairman, QUYNH LUU District, PC
Kieu Ngoc Bat	Chief, QUYNH LUU District, ESD
Ho Si Son	Vice Chairman, QUYNH LONG Village, PC
Tran Ngoc Thu	Head Master, QUYNH LONG Primary School
• Ha Tinh Province	
Tran Dinh Tieu	Director, DET
Dinh Le Bau	Vice Director, DET
Lam Xuan	Expert of Planning, DET
Tran Duc Thang	Chief, NGHI XUAN District, ESD
Nguyen Duc Tung	Vice Chairman, NGHI XUAN District, PC
Tran Que	Chairman, XAN LIEN Village, PC

Phan Xuan Hoach	Head Master, XUAN LIEN Primary School
Nguyen Van Trinh	Chairman, XUAN SONG Village, PC
Tran Duy Bang	Head Master, XUAN SONG Primary School
Dinh Le Bau	Vice Director, CAN LOC District, DET
Phan Dinh Tu	Chairman, HONG LOC Village, PC
Hoang Thi Thang	Head Master, HONG LOC Primary School
Phan Xuan Hoanh	Expert of Planning and Construction Section, CAN LOC District, ESD
Tran Duc Liem	Chairman, TUNG LOC Village, PC
Nguyen Duc Toan	Head Master, DANG DUNG Primary School
Pham Huu Tuat	Expert of Planning, THACH HA District, ESD
Le Dinh Xuan	Chairman, THACH CHAU Village, PC
Le Thi Xuan	Head Master, THACH CHAU Primary School
Nguyen Hong Tu	Deputy Chief, HA TINH City, Education and Training Service
Nguyen Hong Ninh	Chairman, DAI NAI Village, PC
Le Thanh Quang	Head Master, DAI NAI Primary School
Luong Xuan Trung	Chief, DUC THO District, ESD
Nguyen Ngoc Duong	Head Master, YEN HO Primary School
Nguyen Xhuong	Deputy Chief, CAM XUYEN District, ESD
Tran Thanh Tung	Chairman, CAM HOA Village, PC
Le Xuan Dan	Head Master, CAM HOA Primary School
Nguyen Xuan Thon	Chairman, CAM TRUNG Village, PC
Pham Huu Quang	Head Master, CAM TRUNG Primary School

*Concerned personnel of the Japanese side:

• Embassy of Japan

Akihiko Fujita Ministry

Shiro Sadoshima Counsellor

Masao Miyazaki Second Secretary

Minutes of Discussions
on
the Basic Design Study on the Project for
Improvement of
Primary Schools in the Typhoon Areas (Phase II)
in
the Socialist Republic of Viet Nam

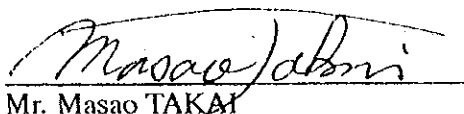
In response to a request from the Government of Viet Nam, the Government of Japan has decided to conduct a Basic Design Study on the Project for Improvement of Primary Schools in the Typhoon Areas (Phase II) in Viet Nam (hereinafter referred to as "the Project"), and entrusted the study to Japan International Cooperation Agency (JICA).

JICA sent to Viet Nam a Basic Design Study Team headed by Mr. Masao TAKAI, Director, Basic Design Study Division, Grant Aid Study and Design Department, JICA, and is scheduled to stay in the country from November 18 to December 22, 1994.

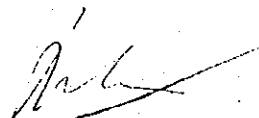
The team held discussions with the officials concerned of the Government of Viet Nam and conducted a field survey at the study area.

As a result of discussions and field survey, both parties confirmed the main items described on the attached sheets.

Hanoi, November 26, 1994



Mr. Masao TAKAI
Leader
Basic Design Study Team
JICA



Prof. Dr. TRAN Van Nhung
Director
International Relations Department
Ministry of Education and Training

ATTACHMENT

1. OBJECTIVE OF THE PROJECT

The objectives of the Project are to construct school buildings and facilities and supply educational equipment for primary schools in the typhoon affected areas in the Socialist Republic of Viet Nam.

2. PROJECT IMPLEMENTING AGENCY

Ministry of Education and Training (MOET) is the implementing Agency of the Project.

3. CANDIDATE RECIPIENT SCHOOLS TO BE SURVEYED FOR THE PROJECT AND PROJECT AREA

The forty (40) schools listed in Annex - 1, which are located in the provinces of THANH HOA, NGHE AN and HA TINH, shall be the candidate schools to be surveyed for the Project.

4. ITEMS REQUESTED BY VIET NAM SIDE

The major items requested by Viet Nam side for the Project are listed in Annex - 2.

5. JAPAN' S GRANT AID SYSTEM

Viet Nam side has understood the system of Japan' s Grant Aid Programme explained in Annex - 3.

6. NECESSARY MEASURES TO BE TAKEN BY VIET NAM SIDE

The Government of Viet Nam will take necessary measures described in Annex - 4 for smooth implementation of the Project on condition that the Grant Aid by the Government of Japan is extended to the Project.

7. FURTHER SCHEDULE OF THE STUDY

- 1) The Team will proceed to further study in Viet Nam until the 22nd of December, 1994.
- 2) JICA will prepare a DRAFT STUDY REPORT and dispatch a DRAFT REPORT EXPLANATION TEAM in February, 1995 in order to explain and to confirm the contents of the Draft Study Report.
- 3) In case that the Draft Study Report is accepted by Viet Nam side, JICA will complete the STUDY REPORT and send it to Viet Nam side by April, 1995.

ANNEX - 1 LIST OF CANDIDATE RECIPIENT SCHOOLS TO BE SURVEYED FOR THE PROJECT

I. THANH HOA PROVINCE

1. Primary School Hai Ninh
2. Primary School Quang Giao
3. Primary School Quang Cu
4. Primary School Hoang Trung
5. Primary School Minh Loc
6. Primary School Nga Dien
7. Primary School Nguyen Van Troi
8. Primary School Ha Ngoc
9. Primary School Tuong Linh
10. Primary School Truc Lam
11. Primary School Quang Nham
12. Primary School Hoang Dong
13. Primary School Da Loc
14. Primary School Nga An
15. Primary School Mau Lam
16. Primary School Nam Ngan
17. Primary School Trieu Duong

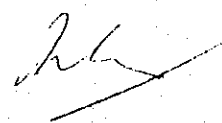
District Tinh Gia
District Quang Xuong
Provincial Town Sam Son
District Hoang Hoa
District Hau Loc
District Nga Son
City Thanh Hoa
District Ha Trung
District Nong Cong
District Tinh Gia
District Quang Xuong
District Hoang Hoa
District Hau Loc
District Nga Son
District Nhu Xuan
City Thanh Hoa
District Tinh Gia

II. NGHE AN PROVINCE

1. Primary School Quynh Thuan
2. Primary School Quynh Loc
3. Primary School Dien Trung
4. Primary School Dien Hoang
5. Primary School Nghi Yen
6. Primary School Nghi Tien
7. Primary School Hung Nhan
8. Primary School Nguyen Truong To
9. Primary School Long Thanh
10. Primary School Ma Thanh
11. Primary School Hung Hoa
12. Primary School Hung Loc
13. Primary School Quynh Long
14. Primary School Dien Bich

District Quynh Luu
District Quynh Luu
District Dien Chau
District Dien Chau
District Nghi Loc
District Nghi Loc
District Hung Nguyen
District Hung Nguyen
District Yen Thanh
District Yen Thanh
City Vinh
City Vinh
District Quynh Luu
District Dien Chau

M.J



III. HA TINH PROVINCE

- | | |
|-------------------------------|-------------------------|
| 1. Primary School Xuan Lien | District Nghi Xuan |
| 2. Primary School Xuan Song 1 | District Nghi Xuan |
| 3. Primary School Hong Loc | District Can Loc |
| 4. Primary School Tung Loc | District Can Loc |
| 5. Primary School Thach Chau | District Thach Ha |
| 6. Primary School Dai Nai | Provincial Town Ha Tinh |
| 7. Primary School Duc Chau | District Duc Tho |
| 8. Primary School Cam Hoa | District Cam Xuyen |
| 9. Primary School Cam Trung | District Cam Xuyen |

MJ

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ANNEX - 2 ITEMS REQUESTED BY THE VIET NAM SIDE

Classrooms
Laboratories
Libraries
Administration Offices
Blackboards
Desks
Chairs
Cabinets
Teaching Instruments

Toilets
Water Facilities
Electricity Preparation
Others

MJ

1
20/6

ANNEX - 3 JAPAN'S GRANT AID PROGRAM

1. Japan's Grant Aid Procedures

The Japan's Grant Aid Program is extended in the following procedures.

- | | |
|-----------------------------------|---|
| 1) * Application | (A request made by the recipient country) |
| * Study | (Basic Design Study conducted by JICA) |
| * Appraisal & Approval | (Appraisal by the Government of Japan and Approval by the Cabinet of Japan) |
| * Determination of Implementation | (Exchange of Notes between both Governments) |
| * Implementation | (Implementation of the Project) |

- 2) At the first step, application, a request made by the recipient country, is examined by the Government of Japan (the Ministry of Foreign Affairs), whether or not it is suitable for Grant Aid. If the request is confirmed that it has the high priority as the Project for Grant Aid, the Government of Japan instructs JICA to conduct the Study.

At the second step, the Study (the Basic Design Study) is conducted by JICA basically under contracts with a Japanese consulting firm to carry out.

At the third step (appraisal & approval), the Government of Japan appraises whether or not the Project is suitable for Japan's Grant Aid Program based on the Basic Design Study report prepared by JICA and is then submitted for approval by the Cabinet.

At the fourth step, the Project approved by the Cabinet is officially determined to implement by signing the Exchange of Notes between both Governments.

In the course of implementation of the Project, JICA will take charge of expediting the execution by assisting the recipient country in terms of the procedures of tender, contract and others.

2. Contents of the Study

1) Contents of the Study

The purpose of the Study (the Basic Design Study), conducted by JICA, is to provide basic document necessary for the appraisal by the Government of Japan whether or not the Project is viable for Japan's Grant Aid Program. The contents of the Study are as follows:

- a) to confirm the background of the request, objectives, effects of the Project and maintenance ability of the recipient country necessary for the implementation,
- b) to evaluate the appropriateness of the Grant Aid from the technological, social and economical points of views,
- c) to confirm the basic concept of the plan mutually agreed upon through discussion between both sides,
- d) to prepare the basic design of the Project,
- e) to estimate the rough cost of the Project.

The contents of the original request are not necessarily approved as the contents of the Grant Aid as it is. The Basic Design of the Project is confirmed considering the Japan's Grant Aid scheme.

In the implementation of the Project, the Government of Japan requests the recipient country to take necessary measures in order to promote its self-reliance. Those undertakings must be guaranteed even if the recipient implementing entity does not have jurisdiction. Therefore the implementation of the Project is confirmed by all relevant organizations in the recipient country in the Minutes of Discussions.

2) Selection of Consultants

For the smooth implementation of the study, JICA selects a consultant among those consultants who registered at JICA by evaluating proposals submitted by those consultants. The selected consultant carries out the Basic Design Study and prepares a report based upon the terms of reference made by JICA.

At the stage of implementation after the Exchange of Notes, for concluding the contract regarding the Detailed Design and Construction Supervision of the Project between a consultant and the recipient country, JICA recommends the same consultant which participated in the Basic Design Study to the recipient country in order to maintain the technical consistency between the Basic Design Study and the Detailed Design as well as to avoid undue delay caused by the selection of a new consultant.

3. Japan's Grant Aid

1) What is Grant Aid?

The Grant Aid Programme provides the recipient country with nonreimbursable funds needed to procure facilities, equipment and services (labor or transportation, etc.) for economic and social development in the country under the following principles in accordance with the relevant laws and regulations of Japan. The Grant Aid is not extended in a form of donation in kind to the recipient country.

2) Exchange of Notes (E/N)

The Japan's Grant Aid is extended in accordance with the Exchange of Notes between both Governments, in which the Objectives of the Project, Period, Conditions and Amount of the Grant etc. are confirmed.

3) "The period of the Grant Aid" is within the Japanese fiscal year in which the Cabinet approved the Project. Within the fiscal year, all procedure such as the Exchange of Notes, concluding contracts by the recipient country with the consultant and contractor and the final payment to them must be completed.

In the case of a big project which requires a net construction period of more than 12 months, the period of the Grant Aid is designated covering more than one fiscal year depending on Basic Design Study Report.

However, in case of the delay of delivery, installation or construction due to events such as weather, the period of the Grant Aid can be further extended for one fiscal year at most by mutual agreement between both Governments.

- 4) The Grant Aid is to be used properly and exclusively for the purchase of the products, in principle, of Japan or the recipient country and the services of the Japanese or the recipient country's nationals. The term "Japanese nationals" means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons.

When both Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of the third country (other than Japan or the recipient country).

However in terms of the principle of the Grant Aid, the prime contractors, that is the Consultant, Contractor and Procurement firm, necessary for the implementation of the Grant Aid are limited to "Japanese nationals".

- 5) Necessity of the "Verification"

The Government of recipient country or its designated authority will conclude the contracts in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. The "Verification" is necessary because the source of the Grant Aid is the taxes of Japanese nationals.

- 6) Undertakings required to the Government of recipient country

As described in Annex-4.

- 7) "Proper Use"

The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those to be borne by the Grant Aid.

- 8) "Re-export"

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

- 9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the contracts verified.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay issued by the Government of the recipient country or its designated authority.

ANNEX-4 NECESSARY MEASURES TO BE TAKEN BY VIET NAM SIDE

Following necessary measures should be taken by the Government of Viet Nam on condition that the Grant Aid by the Government of Japan is extended to the Project:

1. To provide data and information necessary for the Project.
2. To secure, clear, level and reclaim the site for the Project prior to the Project implementation.
3. To provide proper access road to the Project area.
4. To undertake incidental outdoor works, such as gardening, fencing, exterior lighting and other incidental facilities in and around the Project site, if necessary.
5. To bear commissions to the Japanese foreign exchange bank for its banking services based upon the Banking Arrangement, namely the advising commission of the "Authorization to Pay" and payment commission.
6. To ensure prompt unloading, tax exemption, customs clearance at the port of disembarkation in Viet Nam and prompt internal transportation therein of the materials and equipment for the Project purchased under the Grant Aid.
7. To exempt Japanese juridical and physical nationals engaged in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in Viet Nam with respect to the supply of the products and services under the verified contracts.
8. To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into Viet Nam and stay therein for the performance of their work.
9. To provide necessary permissions, licenses and other authorizations for implementing the Project, if necessary.
10. To assign appropriate budget and teaching and administrative staff members for proper and effective operation and maintenance of equipment provided under the Grant Aid.
11. To maintain and use properly and effectively the facilities constructed and the equipment provided under the Project.
12. To bear all the expenses, other than those to be borne by the Japan's Grant Aid within the scope of the Project.

Minutes of Discussions
on
the Basic Design Study on the Project for
Improvement of
Primary Schools in the Typhoon Areas (Phase II)
in
the Socialist Republic of Viet Nam
(Consultation on Draft Report)

In November 1994, Japan International Cooperation Agency (JICA) dispatched a Basic Design Study Team on the Project for Improvement of Primary Schools in Typhoon Areas (Phase II) (hereinafter referred to as "the Project") to Viet Nam, and through discussions, field survey, and technical examination of the results in Japan, has prepared the draft report of the Study.


In order to explain and to consult to the Vietnamese side on the components of the draft report, JICA sent to Viet Nam a Study Team, which is headed by Mr. Yasujiro SUZUKI, Study Review and Coordination Division, Grant Aid Study and Design Department, JICA, and is scheduled to stay in the country from February 26 to March 9, 1995.

As a result of discussions, both parties have confirmed the main items described on the attached sheets.

Hanoi, March 6, 1995



Mr. Yasujiro SUZUKI
Leader
Draft Report Explanation Team
JICA



Prof. Dr. TRAN Van Nhung
Director
International Relations Department
Ministry of Education and Training

A T T A C H M E N T

1. Components of Draft Report
The Vietnamese side has agreed and accepted in principle the contents of the Draft Report proposed by the Team.
2. Implementing Agency
 - 2-1 Ministry of Education and Training (MOET) is the responsible agency for the Project.
 - 2-2 The project steering committee under the MOET has been set for implementing the Project.
3. Schools to be Covered by the Project
Both Parties have confirmed the primary schools to be covered under the Project as listed in Annex-1
4. Japan's Grant Aid Scheme
The Vietnamese side has understood the system of the Japan's Grant Aid explained by the Team as shown in Annex-2.
5. Necessary Measures to be taken by the Vietnamese Side
 - 5-1 The Vietnamese side will take the necessary measures described in Annex-3, for smooth implementation of the Project, on condition that the Grant Aid by the Government of Japan is extended to the Project.
 - 5-2 The Vietnamese side should complete topographic survey and mechanical boring test at the Project sites by the end of May, 1995. The result of such survey and test will be sent to the Team through the Embassy of Japan in Viet Nam as soon as possible.
 - 5-3 The Vietnamese side has assured to secure, clear, reclaim, and level the land necessary for implementing the Project in the confirmed sites before the commencement of the Project construction work.
6. Further Schedule of the Study
The Team will make a Basic Design Study Report in accordance with the confirmed items, and send it to Vietnamese side by

June, 1995.

7. Other Relevant Issues

7-1 Both State Planning Committee (SPC) and MOET strongly requested to include two additional candidate primary schools in Nam Dan district, Nghe An province as replacement of disqualified schools. The team made an additional field survey for the following two schools and one alternative school.

1. Nam Hung Primary School
2. Van Dien I Primary School
3. Nam Hung Primary School (Alternative School)

- a) Based on the result of field survey and analysis of two candidate schools and one alternative school, the Japanese side will decide whether these two schools should be covered by the Project or not.
- b) The Vietnamese side will be informed the study result of these two schools through the Embassy of Japan by the end of March, 1995.
- c) Both parties have confirmed that this type of additional request at this stage of the Study is usually out of the Study scope.

7-2 ~~The~~ sanitary system will be further studied to consider the way of life in the Project area.

7-3 The Vietnamese side requested to the Team to reconsider additional structure of the roof (two-separate roofs) of school buildings. However the Team emphasized that the additional structure should be avoided not to increase the construction cost of the Project.

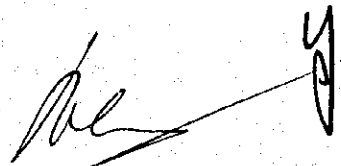
7-4 Both parties agreed that the effective architectural code and relevant regulations against earthquakes and typhoons in Viet Nam during the Basic Design Study period should be adopted to the Project.

7-5 The Vietnamese side strongly requested that the minimum number of classrooms to be increased for each school should

be ten because of the following reasons.

- a) Existing school buildings are not guaranteed for the safety against typhoon damages.
- b) 40 students in one classroom are not desirable conditions due to the severe hot climate in the Project area.
- c) The increase ratio of population in the Project area should be considered to determine the number of classrooms of each school.

However the Team emphasized that the number of increased classrooms of each school was determined based on the statistical data such as the number of students in each school, the degree of dilapidation of each school building collected in the field survey and analysis in Japan, considering the target ratio of classes/classrooms (1.5) set by the MOET.

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ANNEX-1 LIST OF RECIPIENT SCHOOLS FOR THE PROJECT

I. THANH HOA PROVINCE

1. Primary School Hai Ninh	District Tinh Gia
2. Primary School Quang Giao	District Quang Xuong
3. Primary School Quang Cu	Provincial Town Sam Son
4. Primary School Hoang Trung	District Hoang Hoa
5. Primary School Minh Loc	District Hau Loc
6. Primary School Nga Dien	District Nga Son
7. Primary School Nguyen Van Troi	City Thanh hoa
8. Primary School Ha Ngoc	District Ha Trung
9. Primary School Tuong Linh	District Nong Cong
10. Primary School Truc Lam	District Tinh Gia
11. Primary School Quang Nham	District Quang Xuong
12. Primary School Hoang Dong	District Hoang Hoa
13. Primary School Da Loc	District Hau Loc
14. Primary School Nga An	District Nga Son
15. Primary School Nam Ngan	City Thanh Hoa
16. Primary School Trieu Duong	District Tinh Gia
17. Primary School Quang Thach	District Quang Xuong

II. NGHE AN PROVINCE

1. Primary School Quynh Thuan	District Quynh Luu
2. Primary School Dien Trung	District Dien Chau
3. Primary School Dien Hoang	District Dien Chau
4. Primary School Nghi Yen	District Nghi Loc
5. Primary School Hung Nhan	District Hung Nguyen
6. Primary School Nguyen Truomg To	District Hung Nguyen
7. Primary School Long Thanh	District Yen Thanh
8. Primary School Ma Thanh	District Yen Thanh
9. Primary School Hung Hoa	City Vinh
10. Primary School Hung Loc	City Vinh
11. Primary School Quynh Long	District Quynh Luu
12. Primary School Dien Bich	District Dien Chau

III. HA TINH PROVINCE

1. Primary School Xuan Lien	District Nghi Xuan
2. Primary School Xuan Song 1	District Nghi Xuan
3. Primary School Hong Loc	District Can Loc
4. Primary School Tung Loc	District Can Loc
5. Primary School Thach Chau	District Thach Ha
6. Primary School Dai Nai	Provincial Town Ha Tinh
7. Primary School Cam Hoa	District Cam Xuyen
8. Primary School Cam Trung	District Cam Xuyen
9. Primary School Yen Ho	district Duc Tho

Japan's Grant Aid Scheme

1. *Grant Aid Procedures*

1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of	(The Notes exchanged between the Governments
Implementation	of Japan and the recipient country)

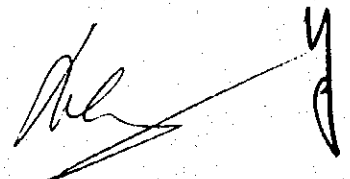
2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.



2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

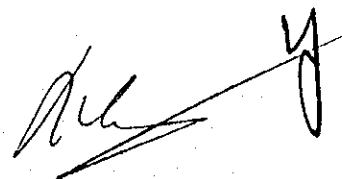
- a) Confirmation of the background, objectives, and benefits of the requested project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.
- b) Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view.
- c) Confirmation of items agreed on by both parties concerning the basic concept of the Project.
- d) Preparation of a basic design of the Project
- e) Estimation of costs of the Project

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA selects (a) firms(s) based on proposals submitted by interested firms. The firm(s) selected carry (ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.



The consulting firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.

3. *Japan's Grant Aid Scheme*

1) What is Grant Aid ?

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

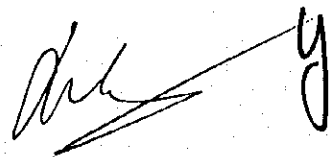
2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

3) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) and final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

4) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

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When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However the prime contractors, namely, consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

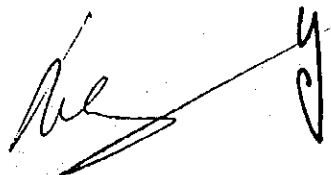
5) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

6) Undertakings required of the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- (1) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- (2) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- (3) To secure buildings prior to the procurement in case the installation of the equipment.
- (4) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- (5) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
- (6) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.



7) "Proper Use"

The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

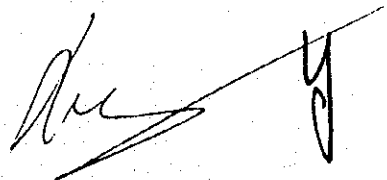
8) "Re-export"

The products purchased under the Grant Aid should not be re-exported from the recipient country.

9) Banking Arrangements (B/A)

a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.

b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay issued by the Government of the recipient country or its designated authority.

A handwritten signature in black ink, consisting of a stylized name followed by a vertical line and a small flourish.

Annex-3 NECESSARY MEASURES TO BE TAKEN BY VIETNAMESE SIDE

Following necessary measures should be taken by the Government of Viet Nam on condition that the Grant Aid by the Government of Japan is extended to the Project:

1. To provide data and information necessary for the Project.
2. To secure, clear, level and reclaim the site for the Project prior to the Project implementation;
3. To provide proper access road to the Project area.
4. To undertake incidental outdoor works, such as gardening, fencing, exterior lighting, and other incidental facilities in and around the Project site, if necessary.
5. To bear commissions to the Japanese foreign exchange bank for its banking services based upon the Banking Arrangement, namely the advising commission of the "Authorization to Pay" and payment commission.
6. To ensure prompt unloading, tax exemption, customs clearance at the port of disembarkation in Viet Nam and prompt internal transportation therein of the materials and equipment for the Project purchased under the Grant Aid.
7. To exempt Japanese juridical and physical nationals engaged in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in Viet Nam with respect to the supply of the products and services under the verified contracts.
8. To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into Viet Nam and stay therein for the performance of their work.
9. To provide necessary permissions, licenses and other authorizations for implementing the Project, if necessary.
10. To assign appropriate budget and teaching and administrative staff members for proper and effective operation and maintenance of equipment provided under the Grant Aid.
11. To maintain and use properly and effectively the facilities constructed and the equipment provided under the Project.
12. To bear all the expenses, other than those to be borne by the Japan's Grant Aid within the scope of the Project.

Appendix 5. Country Data

Name of Country | Socialist of Viet Nam

1994.12

1/2

General Matters					
Form of Government	Communist	*1	Area	3,290,000Km ²	*1
Head of State	President Le Duc Anh	*1	Population	71,787,000 (1993)	*1
Date of Independence	Sept. 2, 1945	*1	Capital	Hanoi	*1
Racial Structure	Vietnamese	*1	Major Cities	Ho Chi Minh City Da Nang, Bien Hoa	*1
			Work Force	32,700,000 (1990)	*1
Official Language	Vietnamese	*1	Compulsory Education	4 Years (1992)	*2
Religion	Buddhism, Taoism	*1	Primary School Enrollment Ratio	-%	*2
Joining to the U.N.	Sept. 1977		Literacy Rate	88.0% (1990)	*1
Joining to World Bank and IMF	Sept. 1956	*1	Population Density	209.0 people/Km ² (1992)	*2
			Population Increase Rate	1.85% (1993)	*2
			Ave. Life Span	Ave.: 65.1 Male: 63.1 Female: 67.3	*1
			Infant Mortality Rate	46.4/1000 (1993)	*1
			Calory Supply	2,220.0cal/day/person	*2

Economic Index					
Currency	Dong	*1	Trade volume		*3
Exchange Rate	1US\$= -	*3	Export	- Million Dallars	*2
Fiscal Year	Jan. - Dec.	*1	Import	- Million Dallars	*2
National Budget		*2	Import Cover Rate	- %	*4
Revenue	- Million Dallars	*2	Major Import Items	Agricultural Product, Handcraft, Coal, Minerals	*1
Expenditure	- Million Dallars	*2	Major Export Items	Petro Product, Steel, Railroad Equipment	*1
International Valance of Payment	- Million Dallars	*2	Export to Japan	870 Million \$ (1992)	*5
Amount of ODA Recieved	58,600 Million \$	*2	Import from Japan	451 Million \$ (1992)	*5
GDP	- Million Dallars	*4	Foreign Currency Reserve	- Million Dallars	*1
GDP per Capita	- Dallars	*4	Foreign Debt		*4
GDP per Industry	Agriculture - %	*4	Interest on Foreign Debt		*4
	Mining & Manufacturing - %		Infration Rate	34.4% (1992)	*2
	Service - %				
Employment per Industry	Agriculture 67.0%	*2			
	Mining & Manufacturing 12.0%				
	Service 21.0%				
Economic Growth Rate	- %	*4	National Development Plan	Fifth Term 5-Year Plan (1991-1995)	*5

Climate (Annual Average; 1946-1979) Location: Hanoi													
Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ave/ Yr.
Max. Temp	20.0	21.0	23.0	28.0	32.0	33.0	33.0	32.0	31.0	29.0	26.0	22.0	27.5°C
Min. Temp	13.0	14.0	17.0	20.0	23.0	26.0	26.0	26.0	24.0	22.0	18.0	15.0	20.3°C
Ave. Temp	16.5	17.5	20.0	24.0	27.5	29.5	29.5	29	27.5	25.5	22.0	18.5	23.9°C
Precipitation	18.0	28.0	38.0	81.0	196	239	323	343	254	99.0	43.0	20.0	1682mm
Wet/Dry Season	Dry Season					Wet Season				Dry Season			

*1 The World Factbook (C.I.A)

*2 Human Development Report (UNDP)

*3 International Financial Standards (IMF)

*4 World Debt Table (WORLD)

*5 Newest World Data (Tokyo Book Publishing)

Name of Country	Socialist of Viet Nam
-----------------	-----------------------

1994.12

2/2

*7

Item \ Year	1989	1990	1991	1992
Grant Aid	2,043.46	2,382.47	2,515.30	2,699.97
Technical Assistance	2,146.74	1,989.63	2,050.70	2,194.95
Financial Assistance With Interest	5,161.42	5,676.39	7,364.47	5,852.05
Total	9,351.62	10,048.49	11,930.47	10,746.97

*7

Item \ Year	1989	1990	1991	12
Grant Aid	1.24	1.31	6.93	50
Technical Assistance	0.31	0.00	0.17	01
Financial Assistance With Interest	0.00	0.00	0.21	2751
Total	1.55	1.31	7.31	2812

*8

	Grant(1)		Chargeable Assistance (2)	Official Development Aid (1)+(2)=(3)	Other Governmental and Non Governmental Fund (4)	Total Amount (3)+(4)
		Technical Assistance				
Bi-country Assistance (Major Donor Country)	175.10	95.20	298.90	569.20	2.10	571.30
1. Sweden	59.70	28.60	0.00	88.30	0.00	88.30
2. Germany	27.70	26.10	0.00	53.80	0.00	53.80
3. France	19.60	11.90	0.00	31.50	0.00	31.50
4. Holland	19.20	12.20	1.00	30.40	0.00	30.40
Multi-National Assistance (Major Assisting Organization)	94.40	61.40	14.90	170.70	0.00	170.70
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
Others	102.50	53.80	18.30	174.60	0.00	174.60
Total	372.00	210.40	332.10	914.50	2.10	916.60

*9

Technical	Organization in charge → Ministry of Foreign Affairs
Grant Aid	Organization in charge → Ministry of Foreign Affairs
Peace Corps.	Organization in charge → Ministry of Foreign Affairs

*7 Japan's ODA (Annual Report)

*8 Geographical Distribution of Financial Flows of Developing Country (OECD/OCDE)

*9 ODA Information

APPENDIX 6. Cost estimation borened by the recipient country

Unit:US\$

Province	District, Provincial town/City	School	Reclamation (53,520m ²)	Backfill (Pond) (7,050m ³)	Demolition (3,420m ²)	Site Levelling (35,880m ²)	Reclamation Paddy Field (94,340m ²)	boring Test 2. site	Topogra- phic Survey	Elect- ricity	Access Road	Total	
Thanh Hoa	Tinh Gia	Hai Ninh Primary School	13,200	-	-	-	-	990	69	1,613	-	14,813	
	Quang Xuong	Quang Giao Primary School	-	-	-	-	320	990	69	1,613	-	1,938	
	Sam son	Quang Cu Primary School	17,900	-	-	-	-	990	69	1,613	-	19,513	
	Hoang Hoa	Hoang Trung Primary School	27,200	-	-	-	-	990	69	1,613	-	28,813	
	Hau Loc	Minh Loc Primary School	5,800	-	-	-	940	990	69	441	-	7,181	
	Nga Son	Nga Dien Primary School	4,400	930	80	-	-	990	69	1,613	-	7,023	
	Thanh Hoa	Nguyen Van Troi Primary School	12,700	-	150	-	-	990	69	1,613	-	14,463	
	Ha Trung	Ha Ngoc Primary School	18,700	300	130	-	-	990	69	1,613	-	20,743	
	Nong Cong	Tuong Linh Primary School	-	-	-	-	-	990	69	1,613	-	1,613	
	Tinh Gia	Truc Lam Primary School	16,800	140	10	2,970	-	990	69	441	-	20,361	
	Quang Xuong	Quang Nham Primary School	-	350	320	-	-	990	69	1,613	-	2,283	
	Hoang Hoa	Hoang Dong Primary School	-	-	70	860	-	990	69	1,613	-	2,543	
	Hau Loc	Da Loc Primary School	-	-	-	-	1,280	990	69	1,613	-	2,893	
	Nga Son	Nga An Primary School	-	-	-	-	1,120	990	69	1,613	-	2,733	
	Thanh Hoa	Nam Ngan Primary School	-	-	170	-	-	990	69	1,613	-	1,783	
	Tinh Gia	Trieu Duong Primary School	-	-	200	-	570	990	69	1,613	-	2,383	
	Quang Xuong	Quang Thach Primary School	-	-	30	1,450	-	990	69	1,613	-	3,093	
	SUB TOTAL			116,700	1,720	1,160	5,280	4,230	16,830	1,173	25,077	0	154,167
	Ha Tinh	Nghi Xuan	Xuyen Lien Primary School	-	-	-	-	1,640	990	69	1,613	6,860	8,475
		Nghi Xuan	Xuan Song I Primary School	-	-	-	-	-	990	69	1,613	-	1,613
Can Loc		Hong Loc Primary School	-	-	-	-	1,860	990	69	1,613	-	1,615	
Can Loc		Tung Loc Primary School	-	-	-	-	2,120	990	69	1,613	-	3,733	
Thach Ha		Thach Chau Primary School	-	-	-	-	-	990	69	441	6,860	7,301	
Ha Tinh		Dai Nai Primary School	-	-	-	-	1,400	990	69	1,613	6,860	9,873	
Cam Xuyen		Cam Hoa Primary School	-	-	-	-	-	990	69	1,613	-	1,613	
Cam Xuyen		Cam Trung Primary School	-	-	-	-	-	990	69	1,613	-	1,613	
Duc Tho		Yen Hoa Primary School	-	-	90	-	-	990	69	1,613	-	1,703	
SUB TOTAL				0	0	90	0	7,020	8,910	621	10,119	20,580	37,809
Nghe An		Quynh Luu	Quynh Thuan Primary School	-	-	-	-	-	990	69	441	-	441
		Dien Chau	Dien Trung Primary School	-	-	-	-	1,790	990	69	1,613	-	3,403
		Nghi Loc	Dien Hoang Primary School	-	-	-	-	1,180	990	69	1,613	-	2,793
		Nghi Loc	Nghi Yen Primary School	-	-	-	-	1,860	990	69	1,613	-	3,473
	Hung Nguyen	Hung Khan Primary School	19,000	1,850	-	-	-	990	69	1,613	-	22,463	
	Hung Nguyen	Nguyen Trung To Primary School	-	-	-	-	1,490	990	69	1,613	6,860	9,963	
	Yen Thanh	Long Thanh Primary School	29,300	-	-	-	-	990	69	1,613	-	30,913	
	Yen Thanh	Va Thanh Primary School	-	-	-	3,630	-	990	69	1,613	6,860	12,103	
	Vinh	Hung Hoa Primary School	-	-	200	4,150	-	990	69	441	-	4,791	
	Vinh	Hung Loc Primary School	-	-	-	3,960	-	990	69	441	-	4,401	
	Quynh Luu	Quynh Long Primary School	31,000	-	-	-	-	990	69	1,613	-	32,613	
	Dien Chau	Dien Bich Primary School	-	-	-	6,650	-	990	69	1,613	-	8,263	
	SUB TOTAL			79,300	1,850	200	18,390	6,320	11,880	828	15,840	13,720	135,620
	TOTAL			196,000	3,570	1,450	23,670	17,570	37,620	2,622	51,036	34,300	367,838