

No. 1

JAPAN INTERNATIONAL COOPERATION AGENCY

THE MINISTRY OF EDUCATION AND TRAINING  
THE SOCIALIST REPUBLIC OF VIET NAM

BASIC DESIGN STUDY REPORT  
ON  
THE PROJECT FOR  
IMPROVEMENT OF PRIMARY SCHOOLS  
IN  
THE TYPHOON AREAS (PHASE II)

MARCH 1995

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## PREFACE

In response to a request from the Government of the Socialist Republic of Viet Nam, the Government of Japan decided to conduct basic design study on the Project for Improvement of Primary Schools in the typhoon areas (Phase II) and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Viet Nam a study team headed by Mr. Masao Takai, Director, Second Basic Design Study Division, Grant Aid Study and Design Department, JICA and constituted by members of Mohri, Architect and Associates, INC., 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 study at the study area. After the team returned to Japan, further studies were made. Then, a mission was sent to Viet Nam in order to discuss a draft report, and as this result, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Socialist Republic of Viet Nam for their close cooperation extended to the teams.

March, 1995



Kimio Fujita  
President

Japan International Cooperation Agency

March, 1995

Mr. Kimio Fujita  
President  
Japan International Cooperation Agency  
Tokyo, Japan

### Letter of Transmittal

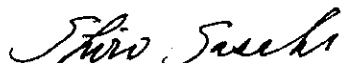
We are pleased to submit to you the basic design study report on the Project for Improvement of Primary Schools in the Typhoon Areas (Phase II) in the Socialist Republic of Viet Nam.

This study was conducted by Mohri, Architect and Associates, INC., under a contract to JICA, during the period November 11, 1994 to March 31, 1995. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Viet Nam and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

We wish to take this opportunity to express our sincere gratitude to the officials concerned of JICA, the Ministry of Foreign Affairs. We would also like to express our gratitude to the officials concerned of the Ministry of Education and Training, the Embassy of Japan in Viet Nam for their cooperation and assistance throughout our field survey.

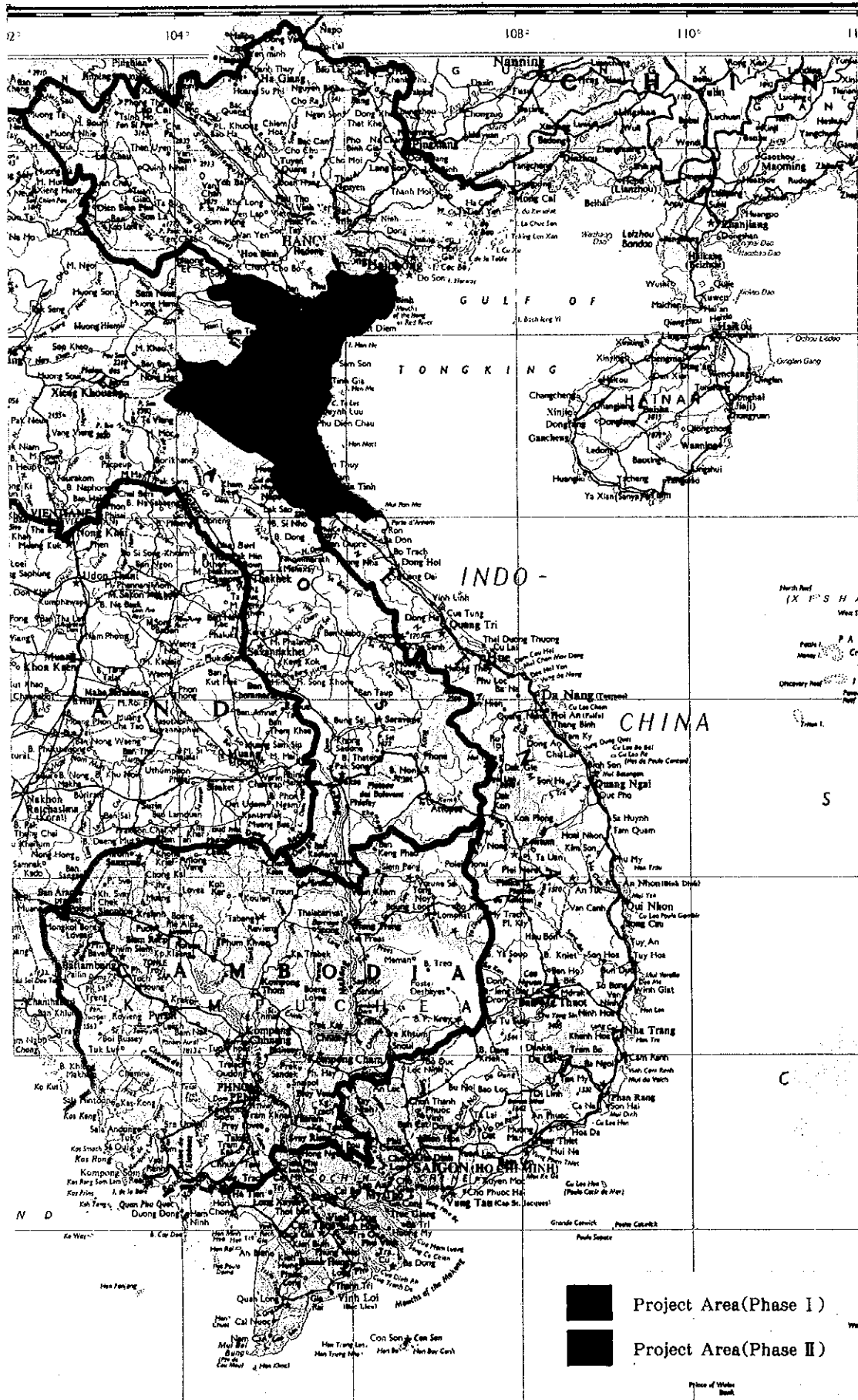
Finally, we hope that this report will contribute to further promotion of the Project.

Very truly yours,



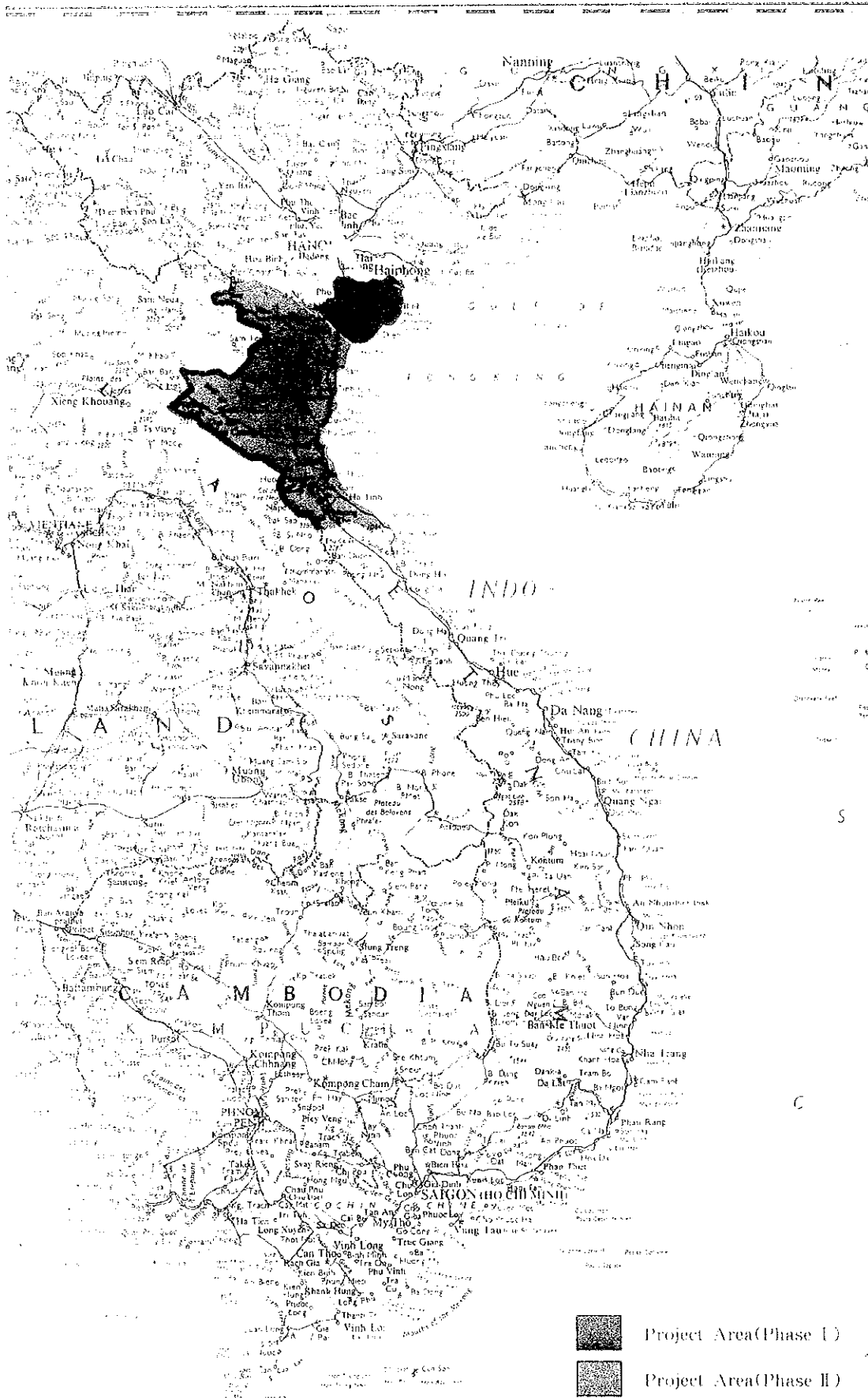
Shiro Sasaki  
Project Manager,  
Basic design study team on  
the Project for Improvement  
of Primary Schools in the  
Typhoon Areas (Phase II)  
Mohri, Architect and Associates, Inc.

# MAP OF VIET NAM

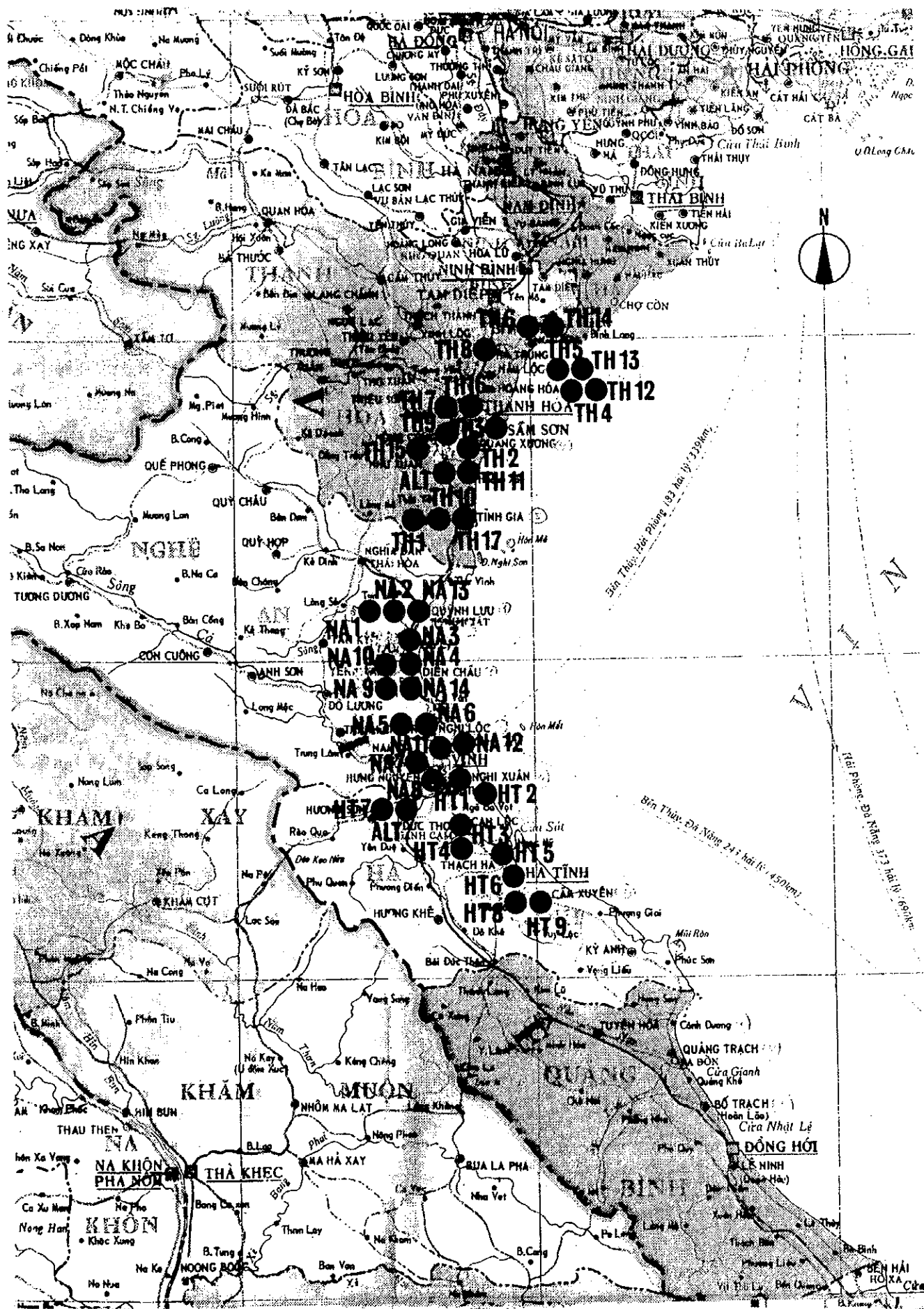




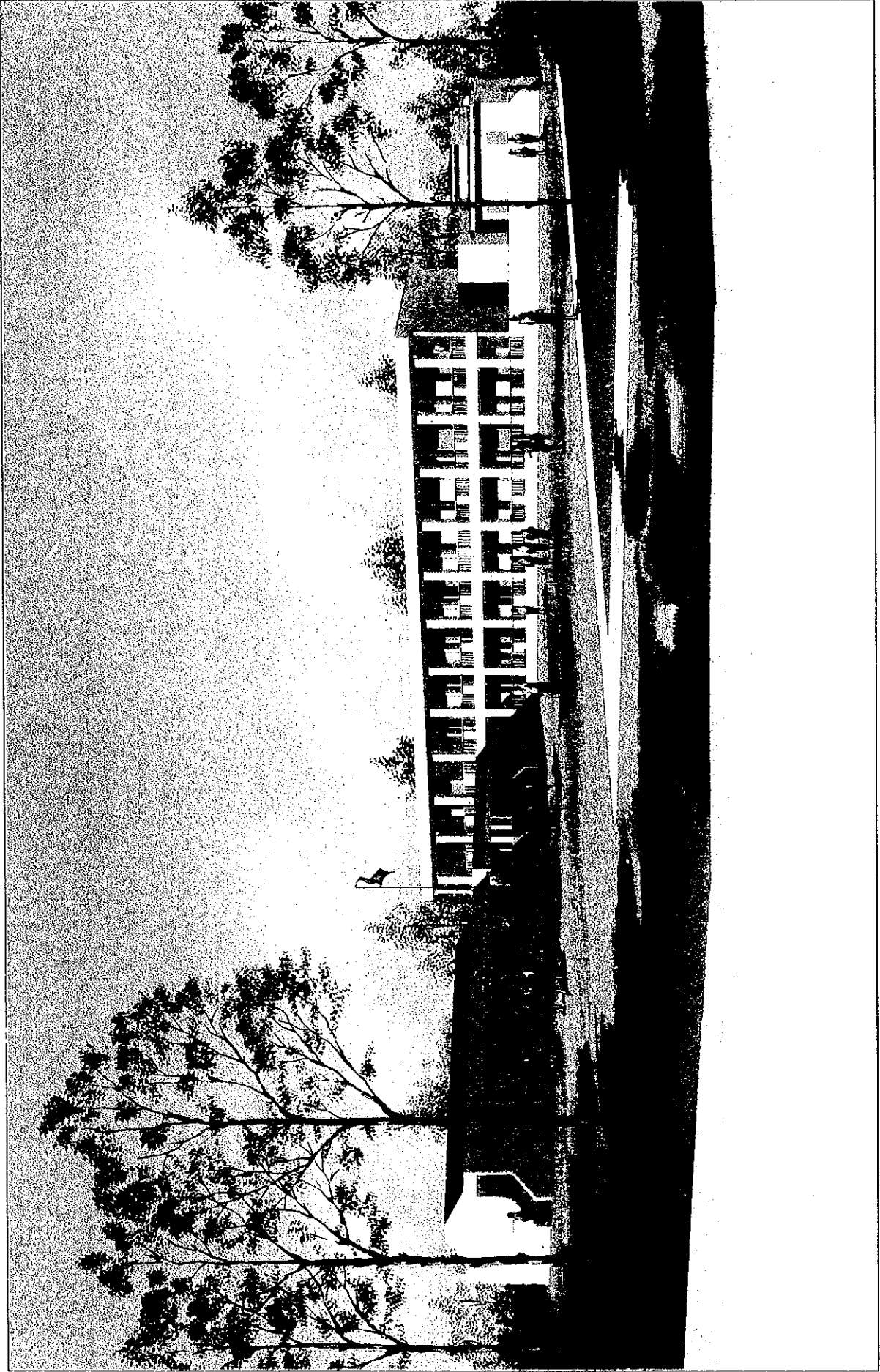
# MAP OF VIET NAM



# PROJECT SCHOOLS LOCATION MAP

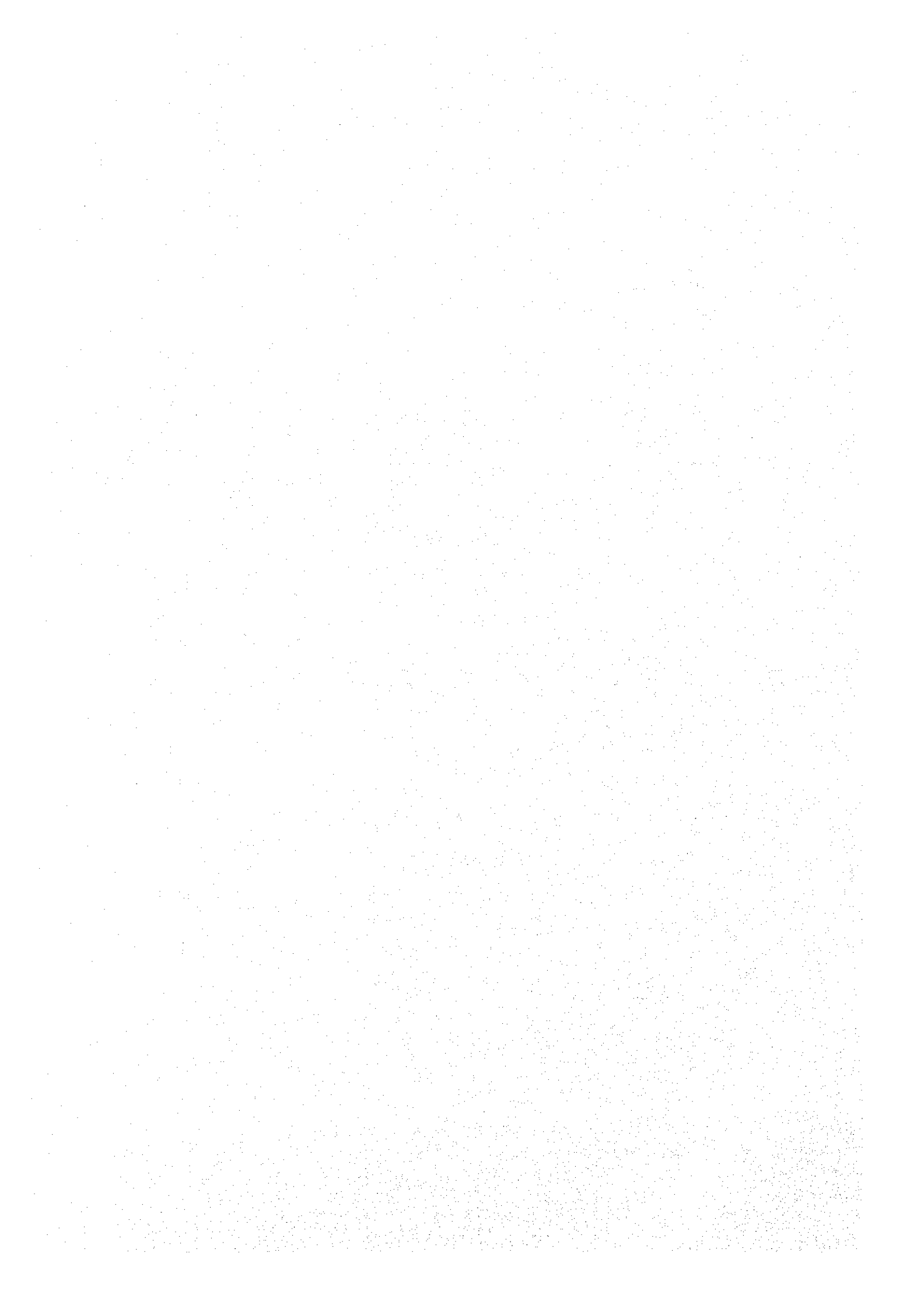






PERSPECTIVE DRAWING

## **SUMMARY**



## SUMMARY

Following 30 years of revolutionary and civil wars, north and south Vietnam united to form a socialist state led by the Communist Party. Since political reform, the Doi Moi Policy was adopted in 1986, and there has been a shift towards a constitutional state with such modernization as law adjustments, constitutional revisions and administrative reform. In order to promote a market economy in Vietnam, educational improvement to promote new labor and manpower has become a major problem. The Fifth Term 5-year Plan's major aims are to educate and strengthen manpower for economic and social development.

The educational policy of the Ministry of Education and Training is "Education for All". The major objective is to provide primary education to all children by the year 2000. Although the percentage of primary school attendance in Vietnam is 84.4% (1992), there are many dropouts and only half of the pupils get to graduate. Due to the lack of school facilities, two or three shift classes are unavoidable. This situation is not helped by the deterioration of school facilities. Although temporary school buildings are being used, 85% of the educational budget is allotted to personnel expense, which leaves hardly any funds for school facilities and teaching materials.

Under these circumstances, the Government of Vietnam establish the construction and Rehabilitation of Primary Schools for 610 schools in 30 provinces. For Phase I of the project, the Government of Vietnam selected three provinces -- Thain Binh, Nam Ha, and Ning Binh -- and requested grant aid cooperation from the Government of Japan. After reviewing the Request of the Government of Vietnam, the Government of Japan decided to provide the grant aid. Both Governments signed the Exchange of Notes for the project on August 1994 and the Phase I Project is currently in progress.

The Government of Vietnam further selected Thanh Hoa, Nghe An, and Ha Tinh provinces for the Phase II Project and requested grant aid cooperation from the Government of Japan to cover the costs for constructing primary schools. The Government of Japan decided to conduct the Basic Design Study for the Phase II Project and entrusted the Japan International Cooperation Agency (JICA). JICA sent a Basic Design Team to Vietnam from November 18 to

December 22, 1994. The Study Team held a series of discussions with personnel concerned of the Ministry of Education and Training (MOET), which is the implementing agency of the Project, and other local agencies in Thanh Hoa, Nghe An, and Ha Tinh provinces and conducted field studies. After returning to Japan, the Study Team further examined the appropriateness of the Project, the management organization, and the effects of the Project based on the results of the field surveys, and selected the sizes of the facilities, and the materials to be provided under the Project and, as a result, the Draft Report of the Basic Design Study for the Project was prepared and the Draft Report Explanation Team visited Vietnam from February 26 to March 9, 1995 to explain its contents.

The main purposes of the Project are to construct school buildings with reinforced concrete structures applying local construction methods and to provide these schools with the basic educational equipment units needed to alleviate the classroom shortage problems of the schools. In the Basic Design, three different sizes of classroom buildings are planned and, by selecting these buildings, eight different combinations meeting each school's size, classroom shortage condition, and site conditions will be adopted. Site surveys were conducted for 43 schools and as a result, 40 were evaluated as being acceptable for inclusion in the Project. The sizes of the selected schools in each province are listed in the Table below.

PROVINCE	No. of Schools	No. of Classrooms	No. of Students	Floor Area (m <sup>2</sup> )
THANH HOA	17	168	6,720	18,707.40
NGHE AN	14	158	6,320	17,235.76
HA TINH	9	104	4,160	11,256.96
TOTAL	40	430	17,200	47,200.12

The number of new classrooms to be built for each Project school was decided upon based on the evaluation index of the classes per classrooms ratio of 1.5 that includes the number of existing usable classrooms and the new classrooms to be built. Project facilities consist of classroom buildings, management buildings and toilet buildings. The each classroom buildings is planned to accommodate maximum 40 pupils. It is also planned to provide all 40 Project schools with basic education equipment, such as desks and chairs



for the teachers and pupils, blackboards, shelves, and basic teaching materials, such as maps, terrestrial globes, and materials for teaching science.

The most important feature of the Project is the construction of school facilities for the 40 schools in the provinces of Thanh Hoa, Nghe An, and Ha Tinh within a short period of time. Thus, the establishment of an adequate construction management system is of utmost importance. Most of the construction materials, and all of the education equipment and materials that are to be provided to allow easy operation and maintenance of Project facilities, after turning them over to the Vietnam side, are planned to be procured locally.

The Project implementation agency of the Vietnam side is the Ministry of Education and Training (MOET). MOET has established the Project Steering Committee whose head is the Undersecretary of MOET. The Committee will be responsible for the implementation of the entire Project from the detailed design stage through the completion of construction.

The average operation and maintenance costs per one Project school is estimated to be 8.441 million dong, total of the 40 Project schools to be 337.64 million dong. The maintenance and management budgetary funds for school facilities and teaching materials allotted for primary schools in the country in 1992 school year was 57.06 billion dong. Thus, it is believed that the operation and maintenance of the Project school will incur no monetary problems. As for teachers, MOET plans to reassign the excess number of lower secondary school teachers to primary schools. Thus, it is believed that there will be no problem with having to secure additional teachers for the increased number of classrooms.

Lighting facilities are planned for such Project schools that already are being supplied with electricity. But, Project facilities are basically planned to utilize, as much as possible, natural lighting and ventilation systems in order to minimize the management and maintenance costs.

After completing Project construction, the following effects are anticipated:

1. Improvement of School Enrollment Chances for Children:

430 classrooms will be built under the Project. These classrooms will be able to accommodate 17,200 pupils. The Project will contribute to the increase of educational chances for children in Vietnam.

2. Improvement of the Environment of Education:

The construction of teachers' offices and multi-purpose classrooms will contribute to the improvement of the school management systems and the environment of education.

3. Improvement of Sanitary Condition:

The construction of toilets that are equipped with water supplies and drainage systems will contribute to the improvement of the school management systems and the quality of education.

4. Stimulation of the Economy in the Project Area:

The construction of many school facilities in the Project area will provide increased employment opportunities for the local people. Further, the procurement of the construction material in the Project area will contribute in activating the rural economy.

5. Transfer of Architectural Technologies:

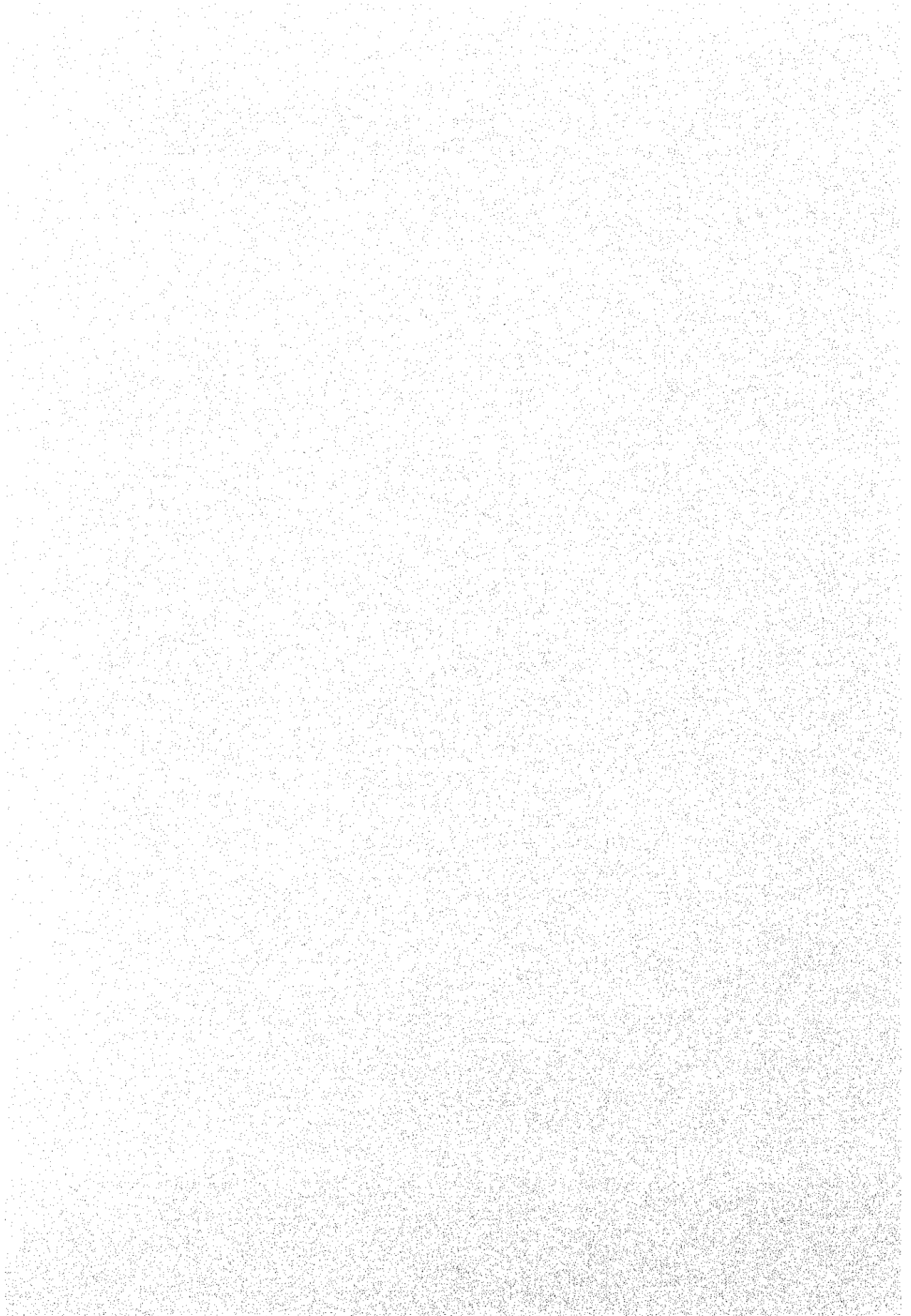
As a part of construction management work, on-the-job training in the construction scheduling and quality control fields will be provided to the architects and engineers of local consultants and subcontractors. As a result of this training, the Project will have contributed significantly in transferring technologies to the Vietnamese architects.

6. Contribution to Area Residents:

Project facilities will not only be used for ordinary classes but also for places of non-formal education and as a refuge for local residents during times of natural disasters. It is believed that Project facilities will contribute greatly to the activities of area residents.

As described above, the implementation of the Project will bring about a wide range of beneficial effects in various fields. Therefore, the Project is

evaluated as being extremely worthwhile and it is considered to be appropriate that it be implemented under the Grant Aid Program of the Government of Japan.



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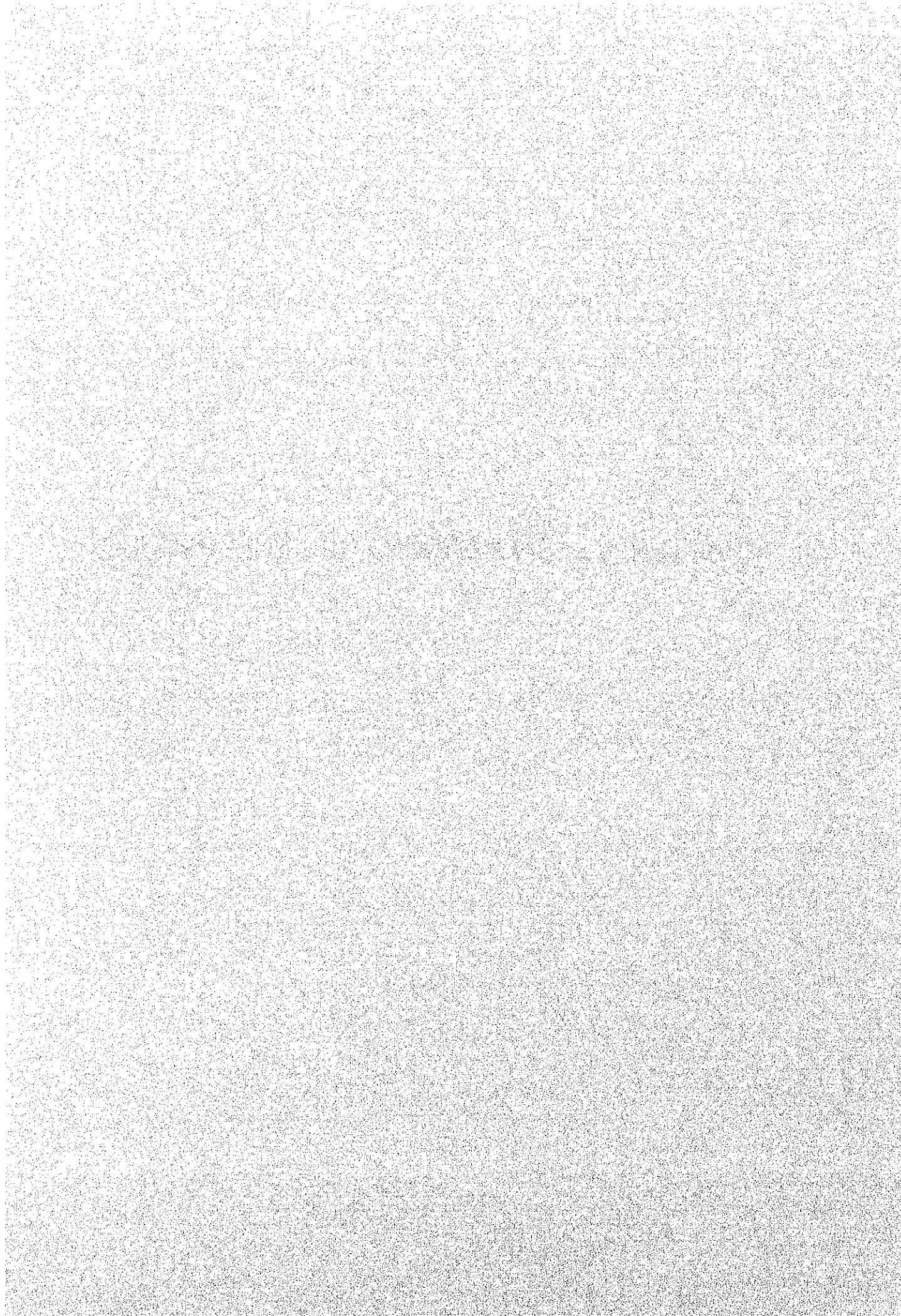
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# **CHAPTER 1. BACKGROUND OF THE PROJECT**





## **CHAPTER 1 BACKGROUND OF THE PROJECT**

### **1-1 Background of the Project**

Following 30 years of revolutionary and civil wars, North and South Vietnam united to form a socialist state led by the Communist Party. Since the political reform, the Doi Moi Policy was adopted in 1986, and there has been a shift towards a constitutional state with such modernization as law adjustments, constitutional revisions and administrative reform.

In order to promote a market economy in Vietnam, educational improvement to produce new labor and manpower has become a major problem. The Fifth Term 5-Year Plan's major aims are to educate and strengthen manpower for economic and social development. The educational policy of the Ministry of Education and Training is "Education for All." The major objective is to provide elementary education to all children by the year 2000.

Although the percentage of primary school attendance in Vietnam is 84.4% (1992), there are many dropouts and only half of the students get to graduate. Due to the lack of school facilities, two/three shift systems are unavoidable. This is not helped by the deterioration of the facilities. Although temporary school buildings are being used, 85% of the educational budget is allotted to personnel expense, which leaves hardly any funds for school facilities and teaching materials.

Under these circumstances, in November 1992 the Government of Vietnam requested grant aid from Japan regarding the construction of 69 primary and lower secondary schools in eight northern provinces using the prefabricated method. In March 1993, JICA sent a project formulation study team comprised of educational field personnel to the area. As a result, it was determined that the area was too extensive and the unit cost for construction was too high. It was decided to limit the areas to those of high priority and to use the local method of construction.

Accepting this suggestion, in October 1993 the Government of Vietnam requested aid for rehabilitating 610 primary schools in 31 provinces in

typhoon struck and mountainous areas using local construction methods.

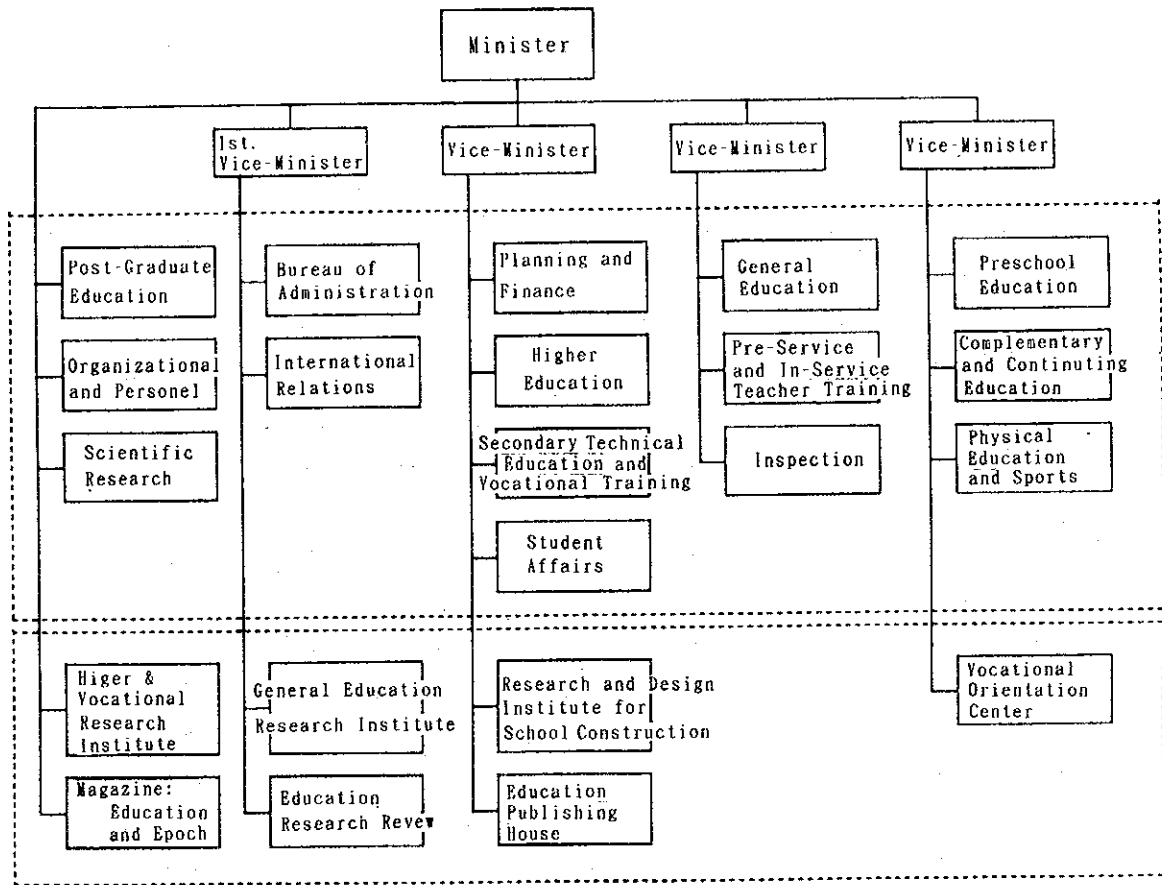
Since 1993, the World Bank has furnished funds for constructing, adding, and repairing school buildings and for printing education material. Thus, with the agreement to improve primary schools in November 1993, the request of Dec. 8, 1993 was altered to include 610 schools in 30 provinces and excluded areas aided by the World Bank.

Upon receipt of the request, a basic design study team was sent to Vietnam in December 1993. As it was difficult to include all of the 610 schools under the grant aid program, and, as this was the first grant aid cooperation in terms of primary education in Vietnam, it was decided upon that the three northern provinces, Thai Binh, Nam Ha, and Ninh Binh, that are nearest to the capital, would be selected. Of these three provinces, it was decided upon to examine 33 schools in the typhoon struck areas where construction could be conducted in a relatively short period of time, and 30 schools were selected as the Project recipient schools. These schools would become the model schools in those areas.

Following the Phase I Project, Vietnam selected the three central provinces, Thanh Hoa, Nghe An, and Ha Tinh, for the areas of the Phase II Project and requested further cooperation in the construction of primary schools in these areas from the Government of Japan.

The agency responsible for the implementation of the Project is the Ministry of Education and Training (MOET). The organization chart of the Ministry of Education and Training is shown in fig. 1-1.

Fig. 1-1 Organization Chart of the Ministry of Education and Training



**1-2 Outline of the Request and Main Components**

The objectives of the Request are to construct and rehabilitate approximately 40 primary schools for the replacement of the temporary classrooms and alleviating classroom shortages, such as the 3 shift classes in the typhoon damaged provinces of Thanh Hoa, Nghe An, and Ha Tinh. Facilities and equipment to be provided by the Project include the buildings of primary schools and basic education equipment, such as desks and chairs, blackboards, and shelving.

Items	Contents
School Facilities	Classrooms, Multi-purpose Classrooms, Multi-purpose Halls, Administration Rooms, Toilet Facilities
Educational Equipment	Basic Educational Equipment such as Blackboards, Tables, Chairs and Bookshelves

### 1-3 Project and Program of Other Donors

Most of the financial assistance for Vietnam's educational field came from the former Soviet Union and Eastern Block countries, but this source has ceased completely. According to the Doi Moi Policy, the Government of Vietnam has made steps in making closer relations with western industrial countries and with its neighboring countries. Vietnam formerly developed human resources through training and education in socialistic countries, particularly in the Soviet Union. Under the Government's new policy, the reeducation of manpower is necessary.

Presently, for the purpose of providing assistance, France dispatches higher educational specialists to Vietnam. Also, France has invited Vietnamese to their country for training. Grant aid scholarships are given to Vietnamese by France, Germany, Italy, Australia, and Korea. Assistance for human resources development and for the scholar exchange program is provided by northern European countries, and by the Netherlands, Canada, England, the United States of America, New Zealand, India, Thailand, the Philippines, and other Asian countries. Also, assistance for the educational field is provided by international organizations, such as the United Nations' Development Program (UNDP) and the United Nations' Children's Fund (UNICEF).

Under UNICEF assistance, approximately 3,500 classrooms for primary schools were constructed throughout Vietnam during the 4 year period of 1975 through 1978. UNDP and the United Nations Educational, Scientific, and Cultural Organization (UNESCO) conducted an extensive study of the education and human resources in Vietnam during a two year period following 1991. Table 1-1 lists the recent assisted development projects in the field of primary and lower secondary education. The amount of financial assistance provided by foreign governments and international organizations for each education field is listed in Table 1-2.

Table 1-1 Assisted Development Projects in the Primary and Lower Secondary Educational Field

	Duration	Project Titles	Beneficiary Institution	Amount (dollars)	Donor Agency	Donor Country	
Primary Schooling	1982-91	Orphanage	Ministry of Labor, Invalids and Social Welfare	125,000	KN	GFR	
	1989-91	Thuy An II Orphanage	Ministry of Labor, Invalids and Social Welfare	47,000			
	1990-91	Funds for Classrooms	Ministry of Labor, Invalids and Social Welfare	12,000			
	1987-92	SOS-Children's Village	Ministry of Education and Training	-	SKI		
	1991-91	Furniture for Commune Schools	Quynh Nhai Boarding School	Vinh Phu People's Committee	3,000	MCC	USA
			Minority Teacher Training	Quynh Nhai People's Committee	-	AFSC	
			Hua Tat School	-	3,000		
			Hang Trung School	Quynh Nhai People's Committee	2,000		
	1990-91	Private School for Deaf Children	-	23,000	ICCO		
	1991-92	Ha Quang Rural Development	Ha Quang People's Committee	49,000			
	1991-95	Education for Ethnic Minorities	Ministry of Education and Training	258,000	AIDAB UNICEF	AUL	
	1988-95	Basic General Education	Ministry of Education and Training	3,490,000	UNICEF		
1991-95	Integrated Education for Disabled Children	Ministry of Education and Training	306,000				
Lower Secondary Schooling	1983-93	Development of Teaching Aids in Secondary Schools	National Institute for Educational Science	125,000	KWT	NET	
	1990-92	Development of Teaching Aids in Secondary Schools	National Institute for Educational Science	66,000	ICCO		
	1991-92	Development of Teaching Aids in Secondary Schools (Supplementary Grant)	National Institute for Educational Science	55,000			
	1988-92	English Language Activities in Vietnam	Ministry of Education and Training	632,000	AIDAB	AUL	
	1991-93	English Language	Ministry of Education and Training	1,131,000			
	1990-93	English Language Training	Ministry of Education and Training	33,000	FF	USA	
	1991-91	Quang Ngai Medical School	Quang Ngai People's Committee	3,000	MCC		
		Educational Exchange Centre	Ministry of Education and Training	98,000			
1991-91	Linguistic Educational Cooperation	Hanoi, HCMC, Hue/ Ministry of Foreign Affairs	3,692,000	FAC	FRA		

Note)

KN : Kinderhilfe E.V.  
MCC : Mennonite Central Committee  
AFSC : American Friends Service Committee  
ICCO : Interchurc Coodination Committee for Development  
AIDAB: Australian International Development  
KWT : Komitee voor Wetenschap en Techniek  
FAC : Fonds d'Aide et de Cooperation

Table 1-2 Amount of Financial Assistance for Different Education Fields Provided by Foreign Governments and International Organizations (unit: 1,000 U.S. dollars)

	1988	1989	1990	1991	1992 (Planned)
Sector Policy and Planning	1	5	124	536	174
Primary Schooling	733	971	1,291	693	1,629
Secondary Schooling	175	411	535	2,209	1,927
Tertiary Education	1,403	1,129	1,504	1,789	1,163
Technical & Managerial Education and Training	2,156	1,502	6,595	3,976	3,619
Non-formal Education	137	581	1,242	741	928
Total	4,605	4,599	11,291	9,944	9,440

Source: UNDP, 1991 REPORT(1993)

1) Assistance from UNDP

Every five years, with the cooperation of its assistance recipient countries, UNDP prepares an assistance program. UNDP has been providing financial assistance to Vietnam since 1977, a year before its Vietnam Office was opened. The amount of financial assistance provided by UNDP under the Third Assistance Program was the fourth largest among those provided to Asian countries and the fifth largest in the world. The amount of financial assistance to Vietnam provided by each UNDP program is shown in Table 1-3.

Table 1-3 Amount of Financial Assistance Provided to Vietnam by UNDP. (Unit: US \$1,000)

Project	1st Aid Project	2nd Aid Project	3rd Aid Project
Period	1977-1981	1982-1986	1987-1991
Amount	44,000	64,900	113,000

UNDP is also providing assistance to Vietnam in the field of economics and policy management through its advice and proposals concerning policy making and human resources that are needed for improving the laws and regulations established to reform the market economy and administration systems. In the Fourth Assistance Program to Vietnam, UNDP is providing its assistance in the following four major fields: (1) promotion of economic reforms; (2) strengthening and maintenance of economic growth; (3) manpower

development; and (4) sustainable growth and the promotion of the resettlement policy while taking into consideration the natural environment. From 1991 through 1992, UNDP, with the cooperation of UNESCO, conducted a study on the education and human resources in Vietnam. The information and data obtained from the study were analyzed and, as a result, UNDP provided Vietnam with proposals for improvement.

## 2) Assistance from the World Bank

The World Bank established the Primary Education Project (1994-2001) that would cost an estimated total of 80.19 million US dollars of which 70 million US dollars would be financed by the World Bank and 10.19 million US dollars would be borne by the Government of Vietnam. In October 1993, the World Bank decided to provide a loan to Vietnam for financing the Project.

The major objects of the Project are (1) improvement of primary school facilities; (2) improvement of the quality of education; (3) strengthening educational administrative and management capabilities. The contents of the World Bank Project are shown in Table 1-4. MOET is currently reexamining the project objectives of the "Improvement of Primary Schools" in order to redesignate the facility improvement plan as the school building construction plan. The commencement of project implementation will be delayed until after 1996.

Table 1-4 Primary Education Project 1994-2001  
(Unit: Million U.S. Dollars)

Period	Project Outline	Budget
1994-1999	① Repair and/or improvement of primary school classrooms	29.76
1994-1995	Phase I: Repair and/or improvement of primary school classrooms (1,151) and construction of toilet and water supply facilities in 5 cities, i.e. Hanoi, Ho Chi Minh, Haiphong, Hue and Danang	3.97
1995-1996	Phase II: Repair and/or improvement of primary school classrooms (5,000) and construction of toilet and water supply facilities in 11 provinces in Mekong Delta	13.77
1996-1997	Phase III: Repair and/or improvement of primary school classrooms (4,250) and construction of toilet and water supply facilities in 8 mountainous provinces	12.02
1994-1999	② Improvement of quality and relevance in education	31.08
	Preparation, printing, and distribution of textbooks,	24.70
	Purchase of educational equipment	4.17
	Purchase of educational equipment for teacher training	0.37
	Educational assistance for ethnic minorities	1.84
1994-2001	③ Improvement of educational administration and school management	6.04
	Overseas training for staff members	2.11
	Purchase of information system equipment	2.28
	Monitoring, assessment and implementation capacity	2.44
	Reserve	12.51
	Total	80.19

### 3) Assistance from the Asian Development Bank

The Asian Development Bank has a plan to provide 550,000 US dollars as assistance for conducting the study on the secondary education development project. Secondary education in Vietnam has various problems, such as the decline of the school enrollment ratio, insufficient educational quality, unequal education opportunities, the labor market's disagreement with the educational contents, financial difficulties, inappropriate educational organization, and insufficient management capabilities. Through this study, it is intended to examine and analyze the secondary education system including the vocational and technical training in order to solve the mentioned problems. The study will also provide proposals for the educational improvement, including the improvement of teacher training, educational curricula, and school facilities.



#### 4) Assistance from Japan

The assistance provided to Vietnam by Japan can be divided into four periods.

The first period was prior to the unification of the North and South. During that time, Japanese assistance was provided to the South for the Orphans' Vocational Training Center (1971), and the Technical Assistance to the Faculty of Agriculture of the Can Tho University (March 1970 through May 1975).

The second period was from September 1973, when Japan normalized relationship with the North, until December 1978. During that period, Japan provided a total of 9 billion yen in grant aid for the country's economic and social development. Commodities valued at 10 billion yen were also provided during 1978.

The third period was from January 1979 to March 1990. It was during this period that Japan practically ceased providing assistance to Vietnam. Only a small amount of medical, natural disaster relief, cultural, and scientific field assistance was provided. In the field of education, audio visual equipment was given to the Hanoi University during 1983.

The fourth period began in April 1990 and continues at the present time. During this period, the Doi Moi policy was in effect and the Fifth Term 5-Year Plan (1991-1995) was established. Due to the open-door policy of the Government of Vietnam, many countries began providing various types of assistance to Vietnam.

Japan has been providing assistance in the educational field, especially the Project for the Improvement of the Facilities and Equipment of the Faculty of Agriculture, the Can Tho University, and the Project for Improvement of Primary Schools in the Typhoon Areas (Phase I).

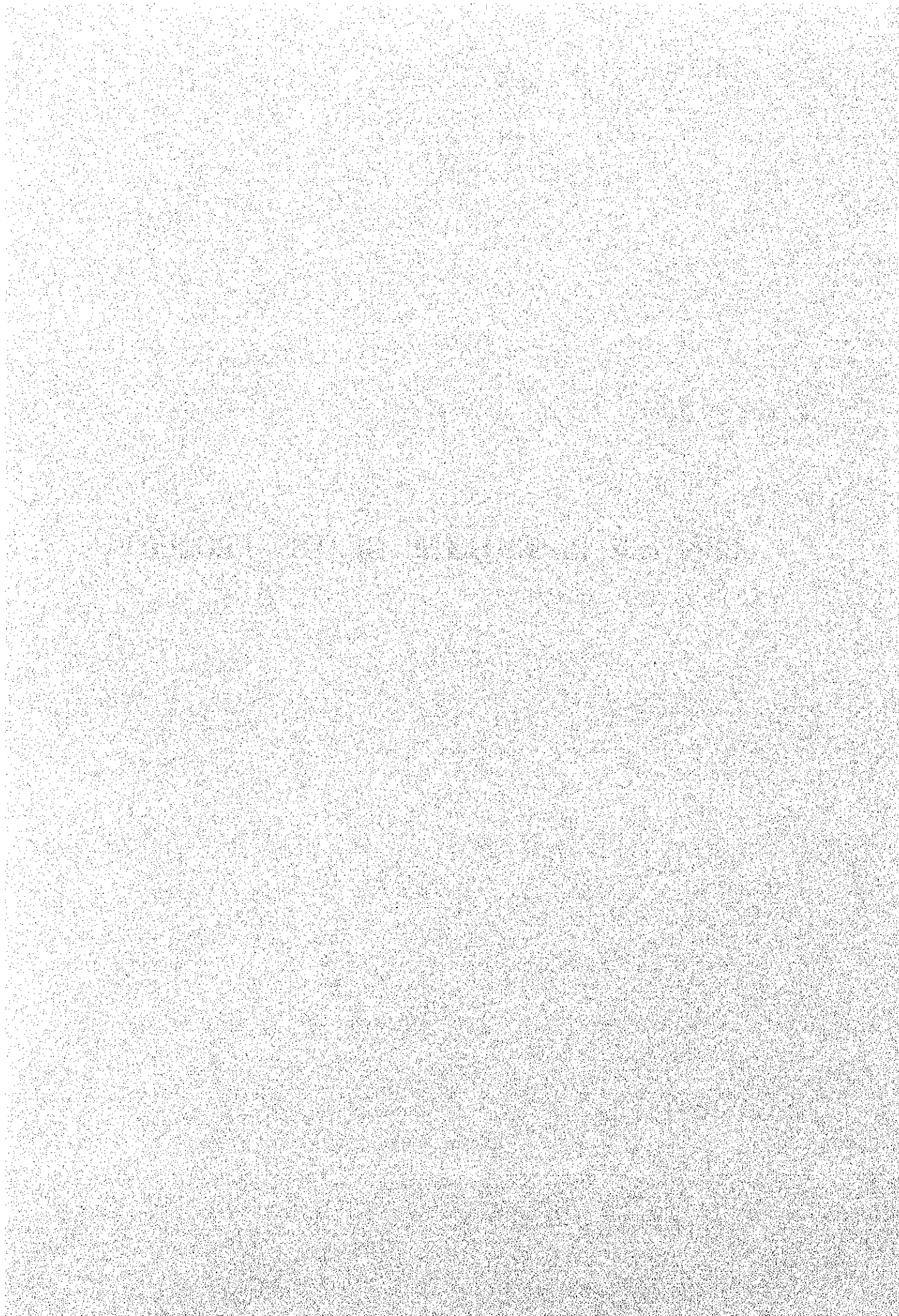
- (1) The Project for the Improvement of the Facilities and Equipment of the Faculty of Agriculture, Can Tho University

The Faculty of Agriculture of the Can Tho University as facing a facility deterioration problem, and the lack of educational equipment and materials made it impossible to conduct sufficient educational and research activities. Thus, the improvement project includes facility construction for the agriculture, animal husbandry, veterinary, and food processing departments, and the provision of items of equipment. In the first phase of the project, a management building and a lecture hall building are being constructed (the Exchange of Notes was signed in January 1994 and 788 million yen was provided. In the second phase, three laboratory buildings are being constructed (the Exchange of Notes was signed in August 1994 and 1.518 billion yen was provided.

(2) The Project for Improvement of Primary Schools in the Typhoon Areas  
(Phase I)

The project for constructing classrooms, staff rooms, special rooms, toilets, and other associated facilities, and the provision of educational equipment for 30 primary schools that are seriously lacking facilities in the typhoon prone provinces of Thai Binh, Nam Ha, and Nin Binh. The Exchange of Notes for the project was signed in August 1994 and 1.446 billion yen was provided.

## **CHAPTER 2. OUTLINE OF THE PROJECT**



## **CHAPTER 2 OUTLINE OF THE PROJECT**

### **2-1 Objectives of the Project**

Vietnam is aiming at upgrading the quality of education for the purpose of manpower and human resources development by establishing the Doi Moi Policy. In particular, the improvement of primary education is being conducted through the "Education for All" Program. But, many educational facilities are lacking due to the Government's financial difficulties, the deterioration of existing school facilities, the natural disasters inflicted by many typhoons and floods. The objectives of the Project are to construct school buildings for the selected 40 primary schools in Thanh Hoa, Nghe An, and Ha Tinh provinces that, due to typhoon damage, are seriously lacking classrooms and provide the necessary basic educational equipment in order to improve the educational environment.

### **2-2 Study and Examination on the Request**

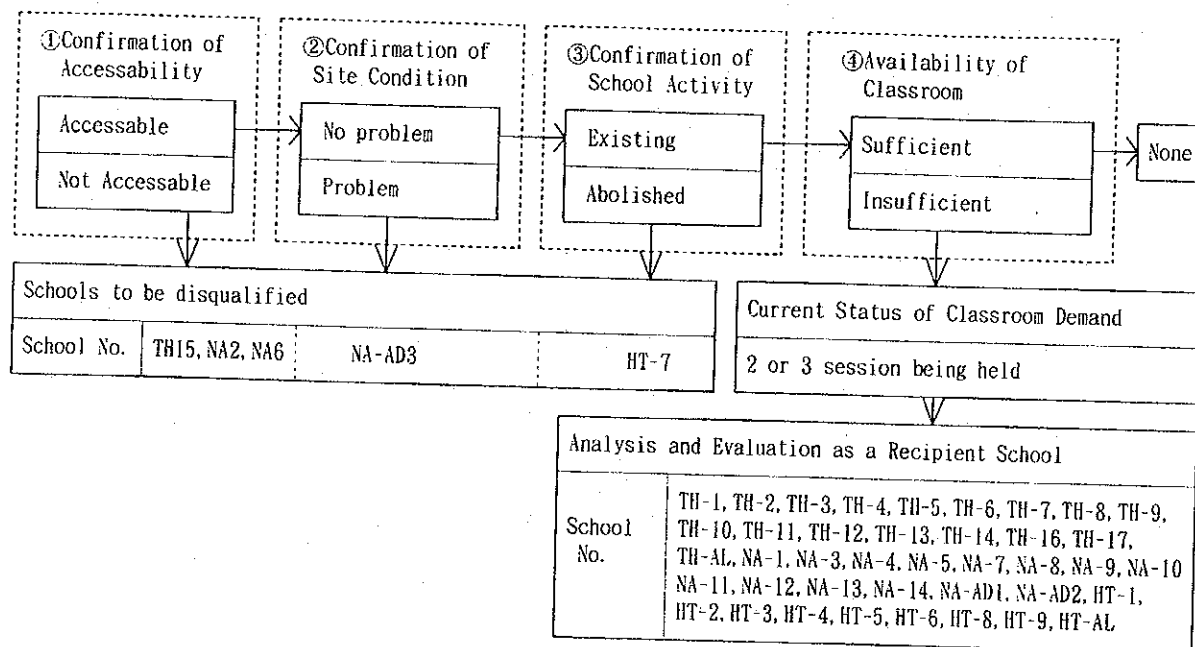
The contents of the request made by the Government of Vietnam for the Project were to build school facilities having basic educational equipment for approximately 40 primary schools that have incurred typhoon damage or have deteriorated facilities and are in the typhoon prone provinces of Thanh Hoa, Nghe An, and Ha Tinh in order to improve primary education in those areas.

#### **(1) Examination of Project Schools**

Site surveys were conducted for the requested 43 primary schools. Two schools having access problems and one school having site condition problem were eliminated from the Project. There are 312 classrooms for the 40 Project schools. The class/classroom ratio in these schools is 3.6. In addition to this very high ratio, the deterioration of existing facilities is progressing rapidly as typhoons inflict further damage to the schools every year. To deal with these problems, all of the 40 schools are conducting 2-shift classes. Seven of them are even conducting 3-shift classes. Due to the policy for separating primary education and lower secondary education at each school, 22 of the 40 schools should make primary education independent. But, in reality, due to financial difficulties these schools are either renting or sharing the facilities of lower secondary schools.

It is planned to construct primary schools under the primary education project which will be financed by the World Bank. It was confirmed during the survey that the area to be covered by the World Bank and the Project Area are different, and each of the Project schools has the right to use the site. Access conditions to each Project school were verified during the site survey. Thus, it is evaluated to be appropriate to include these 40 schools in the Project and it is believed that the construction of classrooms for these schools is an urgent matter. The Flow chart of the process of evaluation of Project schools is shown in fig. 2-1

Fig. 2-1 Flow Chart of the Process of Evaluation of Project Schools



## (2) Examination of Project Facilities and Equipment

There are from 553 to 1,652 pupils at each Project school. By taking into account the number of pupils, site conditions, and the arrangement of existing facilities at Project school, the appropriate facility size for each school was made by examining the following items:

- (a) Even though the construction work will be conducted on the premises of main schools, the required number of classrooms should be determined based on the current combined number of classes at each main and branch schools.
- (b) One classroom should be able to accommodate maximum 40 pupils and the

number of classrooms should be determined based on the number of pupils in 1995.

- (c) The number of classrooms at each school should at least eradicate the 3-shift system and should preferably achieve a class-classroom ratio of 1.5 which is the facility improvement target adopted by the MOET.
- (d) Existing facilities should be retained as much as possible. New facilities should be planned to function together with existing facilities as one complex.

It is requested that the rooms for teachers also be designated as management facilities. At some Project schools, ordinary classrooms are used as offices for teachers. The improvement of school management functions is essential for upgrading the quality of education. Thus, it is important to have offices with conference space for teachers. Also, for the improvement of science, music education, etc., multi-purpose classrooms are deemed to be necessary. During the site investigation, no sufficiently usable toilet facility for pupils was found in the Project schools. To improve the sanitary conditions at each Project school, adequate toilet facilities must be provided.

A multi-purpose hall is requested for physical education use and as meeting place for pupils and area residents. At the present time, none of the primary schools in the Project Area have such a hall, and it would be difficult to secure teachers who would be able to handle physical education. Also, first priority of the project is to construct as many classroom as possible to alleviate severe shortage of classrooms. Thus, it is judged to be appropriate to include only classrooms, administration rooms, multi-purpose classrooms, and toilet facilities for the project.

Requested educational equipment and material consists of items of a basic nature, such as desks and chairs for teachers and pupils, blackboards, shelving, and teaching material for languages, mathematics, and science classes. These items are considered to be appropriate for conducting effective education. The facilities decided upon for each Project school were based on the above examination and are listed in the following Table:

Table 2-1 Facilities Evaluation and Planning for Proposed Recipient Schools - 1

Province	School Name	Enrolment Expec- ted in 1985	Number of Appropriate Classes	Number of Classrooms			Site Condition A: Existing B: New C: Divided	Target No. of Class Rooms of MOET	Classrooms to be Built		Existing Classrooms to be Used	Planned Facilities		Remarks		
				Exist- ing	Under Constr- uction	Total			Classrooms to be Built	Average		Total No. of Class Rooms	Cls. Rm. Ratio		Admi. Block	Sanit- ary Block
Tanh Hoa Province	TH-1 Hai Ninh Primary School	1,007	25	9	0	9	C	16	8	9	10	1.47	1.33	S	A	Site was divided due to combined school separation. Electric line and Existing Bldg. to be transferred.
		485	11	10	0	10	-	7	0	10	10	1.10				
	TH-2 Quang Giao Primary School	558	14	3	0	3	A	9	6	2	3	1.75	1.81	S	A	Other facilities are used as a class room. Insufficient space for proper type of the class room bldg.
		223	6	3	0	3	-	4	0	3	3	2.00				
	TH-3 Quong Trang	1,094	27	0	0	0	C	18	16	0	16	1.68	1.68	L	B	Site was divided due to combined school separation. Backfill is required for new site.
	TH-4 Hoang Trang Primary School	735	18	0	0	0	B	12	12	0	12	1.50	1.50	M	B	Primary school was transferred to new site due to combined school separation. Current primary facility is owned by the secondary school.
	TH-5 Minh Loc Primary School	1,423	36	4	0	4	A	24	18	4	4	1.63	1.63	L	B	Current primary facility is owned by the secondary school.
	TH-6 Nguyen Dien Primary School	671	17	0	0	0	B	11	10	0	10	1.70	1.60	S	A	P.S. was transferred to new site due to combined school separation. Existing pond on a new site. H=600 Flood record.
		799	20	13	0	13	-	13	0	13	13	1.53				
	TH-7 Nguyen Van Troi Primary School	1,559	39	18	0	18	A	26	10	14	14	1.62	1.62	S	A	Insufficient space is available. Damaged old bldg. to be demolished.
	TH-8 Ha Ngoc Primary School	553	14	5	0	5	C	9	8	1	9	1.55	1.55	S	A	Site was divided due to combined school separation. Current primary facility is owned by the secondary school. H=200 Flood record exist.
	TH-9 Tuong Linh Primary School	781	20	5	0	5	C	13	8	5	5	1.53	1.53	S	A	Site was divided due to combined school separation. H=200 Flood record exist.
	TH-10 Truc Lam Primary School	415	11	5	0	5	A	7	6	5	5	1.00	1.28	S	A	Paddy field reclamation is required.
		625	16	10	0	10	-	10	0	10	10	1.60				
	TH-11 Quang Wham Primary School	1,361	34	0	0	0	B	22	20	0	20	1.70	1.70	L	Ax2	Primary school was transferred to new site due to combined school separation. H=200~1,000 Flood record exist.
	TH-12 Dong Primary School	735	18	5	2	7	A	12	6	7	7	1.38	1.38	S	A	
TH-13 Da Loc Primary School	987	25	8	0	8	C	16	8	8	8	1.55	1.69	S	A	Site was divided due to combined school separation. Current primary facility is owned by the secondary school.	
	576	14	7	0	7	-	9	0	7	7	2.00					
TH-14 Nguyen Primary School	808	20	0	0	0	B	13	12	0	12	1.66	1.66	M	B	Site was divided due to combined school separation. Current primary facility is owned by the secondary school. Existing old bldg. to be demolished.	
	270	7	4	0	4	-	4	0	4	4	1.75					
TH-16 Nam Ngan Primary School	479	12	4	0	4	C	8	6	4	4	1.20	1.40	S	A	Fence to be demolished.	
	621	16	10	0	10	-	10	0	10	10	1.60					

Note: No. of Appropriate Class = Enrollment ÷ 40 (1 class capacity) Target No. of Classes of MOET = No. of appropriate Classroom ÷ 1.5  
Administration block S: For 10 classroom M: For 14 classroom L: For 20 classroom , Sanitary Block A: For 10 classroom B: For 16 classroom



Table 2-1 Facilities Evaluation and Planning for Proposed Recipient Schools - 2

Province	School Name	Enrollment Expected in 1995	Number of Appropriate Classes	Number of Classrooms		Site Condition A: Existing B: New C: Divided	Target No. of Class Rooms of MOET	Planned Facilities			Remarks					
				Existing	Under Construction			Total	Classrooms to be Built	Existing Classrooms to be Used		Total No. of Class Rooms	Cls. Ratio	Average Km.	Admin. Region Block	Semita Block
Tanh Hoa Province																
	TH-17 Trieu Duong Primary School	576	14	10	0	10	A	9	6	3	9	1.55	1.55	S	A	
	Satellite 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TH-18 Quang Thach Primary School	777	19	7	3	10	A	12	8	5	13	1.46	1.46	S	A	
	Satellite 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sub Total	14,519	363	83	5	88	-	237	168	69	237	1.53	1.54	-	-	-
	Satellite 25	3,549	90	57	0	57	-	57	0	57	57	1.57	1.57	-	-	-
Ha Tinh Province																
	HT-1 Xuan Lien Primary School	1,000	25	-	-	-	B	16	14	0	14	1.71	1.71	M	B	Poor access to the site. Puddy field reclamation is required.
	Satellite 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HT-2 Xuan Song 1 Primary School	1,190	30	9	0	9	A	20	12	9	21	1.25	1.52	M	B	Poor access to the site. Puddy field reclamation is required.
	Satellite 1	304	8	4	0	4	-	5	0	4	4	2.00	1.85	L	Ax2	Current primary facility is owned by the secondary school. Poor access to the site. Puddy field reclamation is required.
	HT-3 Hong Loc Primary School	1,470	37	-	-	-	B	24	20	0	20	1.85	1.80	L	Ax2	Current primary facility is owned by the secondary school. Poor access to the site. Puddy field reclamation is required.
	Satellite 1	50	1	0	1	1	-	1	0	1	1	1.00	1.68	L	Ax2	Current primary facility is owned by the secondary school. Poor access to the site. Puddy field reclamation is required.
	HT-4 Tung Loc Primary School	1,413	35	-	-	-	B	23	20	0	20	1.75	1.75	S	A	Poor access to the site. Partial puddy field reclamation is required.
	Satellite 1	87	2	2	0	2	-	1	0	2	2	1.00	1.37	S	A	Poor access to the site. Puddy field reclamation is required.
	HT-5 Thach Chau Primary School	860	22	10	0	10	A	14	6	10	16	1.37	1.37	S	A	Poor access to the site. Puddy field reclamation is required.
	Satellite 2	87	2	2	0	2	-	1	0	2	2	1.00	1.54	S	A	Poor access to the site. Puddy field reclamation is required.
	HT-6 Dai Mai Primary School	642	16	-	-	-	B	10	10	0	10	1.60	1.54	S	A	Poor access to the site. Puddy field reclamation is required.
	Satellite 1	28	1	1	0	1	-	1	0	1	1	1.00	1.53	S	A	Poor access to the site.
	HT-8 Can Hoa Primary School	582	15	-	-	-	B	10	10	0	10	1.50	1.53	S	A	Poor access to the site.
	Satellite 2	218	5	3	0	3	-	3	0	3	3	1.66	1.18	S	A	Poor access to the site.
	HT-9 Cam Trung Primary School	653	16	8	0	8	A	10	6	8	14	1.14	1.18	S	A	Poor access to the site.
	Satellite 1	121	3	2	0	2	-	2	0	2	2	1.50	1.20	S	A	Poor access to the site.
	HT-10 Yen Ho Primary School	471	12	7	0	7	C	8	6	5	11	1.09	1.48	S	A	Poor access to the site. Puddy field reclamation is required.
	Satellite 1	219	6	4	0	4	-	3	0	4	4	1.50	1.48	-	-	-
	Sub Total	8,281	202	34	0	34	-	135	104	32	136	1.48	1.47	-	-	-
	Satellite 10	1,114	28	19	0	19	-	18	0	19	19	1.47	1.47	-	-	-

Note: No. of Appropriate Class = Enrollment ÷ 40 (1 class capacity). Target No. of Classes of MOET = No. of appropriate Classroom ÷ 1.5 Administration block S: For 10 classroom. N: For 14 classroom. L: For 20 classroom. C: Sanitary Block. A: For 10 classroom. B: For 16 classroom.

Table 2-1 Facilities Evaluation and Planning for Proposed Recipient Schools - 8

Province	School Name	Enrollment Expected in 1995	Number of Appropriate Classes	Number of Classrooms		Site Condition A: Existing B: New C: Divided	Target No. of Rooms of MOET	Planned Facilities				Remarks						
				Existing	Total			Classrooms to be Built	Existing Classrooms to be used	Total No. of Classrooms	Cls. Ratio		Cls. Km. Average	Administration Block	Sanitary Block			
Nghé An Province	MA-1 Quynh Thuan Primary School	822	21	16	0	16	A	14	6	10	16	1.31	1.00	S	A			
	MA-3 Dien Trung Primary School	1,450	36	-	-	-	B	24	20	0	20	1.80	1.80	L	Ax2	Poor access to the site Puddy field reclamation is required.		
	MA-4 Dien Hoang Primary School	723	18	10	0	10	C	12	12	0	12	1.50	1.82	M	B	Site was divided due to combined school se- paration. Current primary facility is owned by the secondary school. H=1,200 Flood record, Poor access to the site, Puddy field reclamation is required		
	MA-5 Nghi Yen Primary School	555	14	-	-	-	B	9	8	0	8	1.75	1.66	S	A	H=1,500 Flood record Poor access to the site Puddy field reclamation is required.		
	MA-7 Hung Xhau Primary School	1,010	25	-	-	-	B	16	16	0	16	1.56	1.56	L	B	H=1,500 Flood record Poor access to the site Puddy field reclamation is required.		
	MA-8 Nguyen Trung To Primary School	564	14	-	-	-	B	9	10	0	10	1.40	1.71	S	A	Puddy field reclamation is required.		
	MA-9 Long Thanh Primary School	800	20	-	-	-	B	13	12	0	12	1.86	1.66	M	B	Primary school was transferred to new site due to combined school separation. Puddy field reclamation is required. Poor access to the site		
MA-10 Ma Thanh Primary School	955	24	6	3	9	C	16	6	8	14	1.71	1.50	S	A	Site leveling is required			
MA-11 Hung Hoa Primary School	887	22	8	5	13	A	14	6	13	19	1.15	1.09	S	A	Site was divided due to combined school se- paration. Current primary facility is owned by the secondary school.			
MA-12 Hung Loc Primary School	1,117	28	19	0	19	A	18	6	16	22	1.12	1.27	S	A				
MA-13 Quynh Long Primary School	1,204	30	-	-	-	B	20	20	0	20	1.50	1.33	L	Ax2	Current primary facility is owned by the secondary school. H=700 Flood record			
MA-14 Dien Bich Primary School	516	13	8	0	8	B	8	0	8	8	1.62	1.65	L	Ax2				
MA-AD.1 Num Hung Primary School	711	18	8	0	8	A	12	8	4	12	1.00	1.57	S	A				
MA-AD.2 Num Hung Primary School	617	16	6	0	6	A	11	8	6	14	1.14	1.22	S	A				
Sub Total		11,367	285	59	8	67	-	187	142	55	197	1.44	1.48	-	-	-	-	
Total		34,167	850	176	13	189	-	559	414	156	570	1.49	1.50	-	-	-	-	

Note: No. of Appropriate Class = Enrollment ÷ 40 ( ) class capacity) Target No. of Classes of MOET = No. of appropriate Classroom ÷ 1.5  
Administration block S: For 10 classroom M: For 14 classroom L: For 20 classroom A: For 20 classroom & Sanitary Block A: For 10 classroom B: For 16 classroom

### (3) Examination of the Management Capabilities for the Project Facilities

After the completion of Project construction, the teachers and staff necessary for running the schools will be taken care of under the regular budgets of the concerned agencies. In the provinces of Thanh Hoa, Nghe An, and Ha Tinh, there is a slight shortage of primary school teachers and an excess number of lower secondary school teachers. Altogether, there are 47,422 teachers and a total of 43,017 classes in primary and lower secondary schools. Thus, there is an excess of 4,405 teachers. MOET has a plan for reassigning the excess number of lower secondary school teachers to the primary schools, and same salary is guaranteed to those reassigned teachers even though salary for primary school teachers is lower than one for lower secondary school teachers. As there are far more teachers than there are classrooms to be constructed under the Project (430), it is believed that no teacher shortage problem will arise once the Project facilities are completed.

One of the objectives of the Project is the rebuilding of the deteriorated and typhoon damaged school buildings with typhoon-proof structures that require a minimum cost to maintain. Thus, it will be possible to manage Project facilities with funds allotted by the present maintenance budget. In view of the above, facility plans should be prepared by taking into account each school's financial problems so that maintenance costs will be minimized.

### (4) Basic Policy of Project Implementation

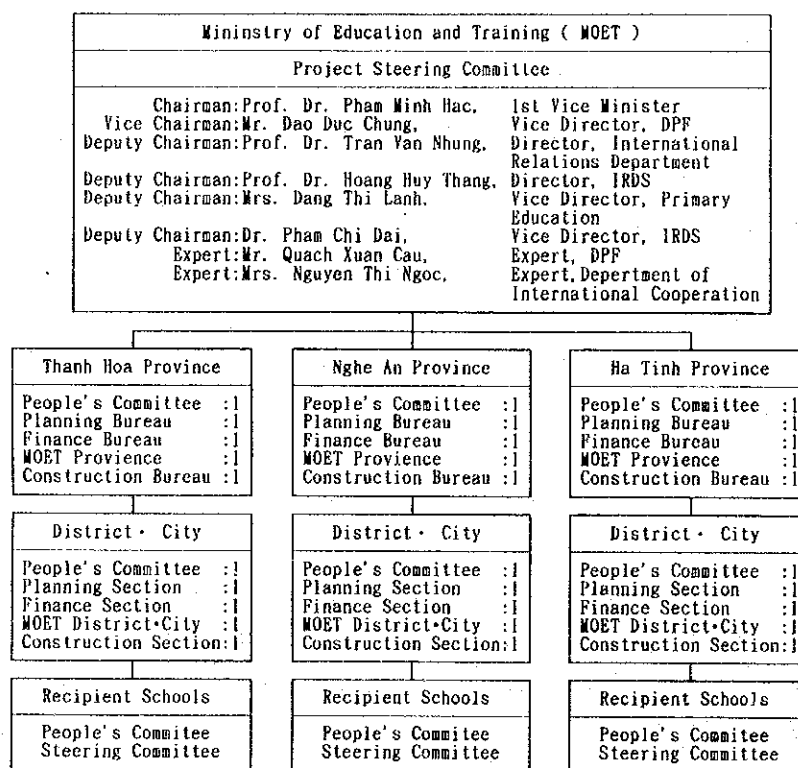
Based on the above examinations, the effects and practicality of Project implementation and the Vietnam side's sufficient management capability for handling the Project facilities were confirmed. As the effects of the Project meet the requirements of the Japanese Grant Aid Program, it was evaluated that it would be appropriate and worthwhile to implement it under the Program. Thus, the contents of the Project were examined in view of the Grant Aid Program and the basic design was prepared as described in the following sections. As mentioned previously, the Examination of Project Contents, the Requested Facilities, and the Equipment, part of the Request Contents were revised.

## 2-3 Project Description

## 2-3-1 Executing Agency and Operational Structure

The Ministry of Education and Training (MOET) is the Vietnamese agency responsible for Project implementation. Based on the September 1994 decision made by the Cabinet of the government of Vietnam, MOET established the Project Steering Committee as the implementation management organization for the Phase I Project and assigned the first undersecretary of MOET as the Committee's responsible person. Fig. 2-2 shows the assigned Committee members. The Project Steering Committee, same as the Phase I Project with the cooperation of the People's Committee in each province, will execute Project implementation from the detailed design stage until the completion of Project construction.

Fig. 2-2 Project Implementation Organization



The Project Steering Committee is a comprehensive organization which includes a series of agencies from MOET of the central government through the management committee of each Project school. Thus, it is considered that the Committee will be able to implement the Project smoothly.

## 2-3-2 Budgetary Fund

In 1992 MOET allotted 1,233.77 billion dong for the management cost of educational facilities. During the past 3 years, the average annual increase rate of the allotted budgetary fund was 28.8%. Vietnam's serious inflation stabilized in 1990; the annual inflation rate in 1992 is assumed to be 15%. Even after subtracting the inflation rate, the budgetary fund for the management of educational facilities has been steadily increasing. It is estimated that there are approximately 161,000 primary school classrooms throughout the country. 430 classrooms are to be built by the Project; this represents only 0.26% of the total number of classrooms in the country. Thus, it will be possible for the present budgetary fund to cover the new classrooms.

As for classroom teachers, it will be possible to assign the present teachers (described in the previous section) without any extra funding. The past trend of the budgetary fund allotted for the management of educational facilities is shown in Table 2-2

Table 2-2 Trend of the Management Costs for Educational Facilities (1989 to 1992; Unit in million dong)

School Year	MOET Expenditure	Community Contribution, etc	Total	Annual Increase
1989	545,710	116,090	661,800	-
1990	750,148	162,526	912,674	37.9%
1991	681,938	100,000	781,938	-14.3%
1992	1,053,770	180,000	1,233,700	57.0%
Average Annual Increase for Past 3 years				28.8%

### 2-3-3 Location and Condition of Project Sites

#### 1. Natural Conditions

Vietnam is situated in a semitropical monsoon region having high temperatures and high humidity year round. However, the northern and southern parts of the country have slightly different natural conditions. The Project Area -- the provinces of Thanh Hoa, Nghe An, and Ha Tinh -- is in the northern climate zone.

The Area is influenced by the hot and humid winds from the Gulf of Tonkin and the cold air mass from the Asian continent. Summer is from May through October and the weather is hot and humid. The average monthly rainfall is from 200 to 300 mm. The temperature ranges from 30° C to 40° C; the humidity is 90%. Heavy rainfall is concentrated within the period of July through September and contributes from 50% to 70% of the annual precipitation. About 30 typhoons with wind speeds of from 20 to 30 m/sec hit Vietnam early during this period. Some typhoons, with winds exceeding 40m/sec, inflict heavy damage to the country. Winter, which is quite humid, lasts from December through March. Influenced by the cold winds from the continent, the temperature sometimes drops to 10° C.

The comparison of climatic conditions in the Project Area to those in Ha Noi and Ho Chi Minh cities are given in Table 2-3. The activities of typhoons and tropical low pressures are shown in Table 2-4.

Table 2-3 Climatic Conditions in the Project Area

District	City	Annual Maximum Temperature °C			Annual Minimum Temperature °C			Annual Rainfall(mm) (Min./Month-Max./Month)		
		1992	1993	1994	1992	1993	1994	1992	1993	1994
Ha Noi	Ha Noi	37.8	38.9	36.9	10.7	8.8	10.4	29-396	3-322	12-468
Thanh Hoa	Thanh Ho	39.5	37.9	36.9	9.7	8.8	9.7	22-557	9-330	4-492
Nghe An	Vinh	38.6	39.7	36.2	9.1	7.4	9.8	19-856	10-508	34-218
T.P. Ho Chi Minh	T.P. Ho Chi Minh	38.4	36.6	36.3	17.7	15.1	17.6	0-353	0-496	0-477

Source: Vietnam Meteorological Agency

Table 2-4 Activities of Typhoons and Tropical Low Pressures in Vietnam (1991-1993)

Year	Tropical Atmospheric Depression		Typhoons		Total
	Direct Hit	Influential	Direct Hit	Influential	
1991	1	3	4	25	33
1992	1	1	5	26	33
1993	0	8	8	20	36

Source: Vietnam Meteorological Agency; Typhoons and Tropical Atmospheric Depression in Vietnam 1991-1993 annual report

## 2. Outline of Primary and Lower Secondary Education in the Project Area

The Project Area (Thanh Hoa, Nghe An, and Ha Tinh provinces) is situated in the northern part of the Central Region of the country. The Area's

major industry is agriculture. The annual income per capita in the Area is approximately US \$90. The Area is one of the poorest in the country. In addition to the prolonged deterioration of educational facilities, the damages inflicted on them by yearly typhoons worsens the educational environment in the area. And, due to financial difficulties, MOET cannot improve the situation.

In the Project Area there are 2,293 primary and lower secondary education schools (1,113 primary schools, 471 basic schools, and 709 lower secondary schools). There are 1,132,802 pupils, 32,725 teachers and 33,854 classrooms in the Area. Tables 2-5 and 2-6 provides a breakdown of these figures.

Table 2-5 Number of School Facilities in the Project Area  
(1992-1993)

Province	No. of Schools	Categories			No. of Classrooms
		Primary Schools	Basic Schools	Lower Secondary Schools	
Thanh Hoa	935	325	365	245	10,563
Nghe An	885	526	65	294	10,453
Ha Tinh	473	262	41	170	3,681
Total	2,293	1,113	471	709	24,697

Source: MOET - Statistical Data of Education and Training (1992-93)

Table 2-6 Number of Pupils, Teachers, and Classrooms in  
the Project Area (1992-1993)

Province	Education Level	No. of Students	No. of Teachers	No. of Classes	Teacher/Classes Ratio
Thanh Hoa	Primary School	520,993	14,820	15,893	0.93
	Lower Secondary School	146,685	6,391	4,157	1.54
Nghe An	Primary School	428,412	12,770	12,718	1.00
	Lower Secondary School	128,882	5,584	3,390	1.65
Ha Tinh	Primary School	183,397	5,135	5,243	0.98
	Lower Secondary School	58,707	2,722	1,616	1.68
Total	-	467,076	47,422	43,017	1.10

Source: MOET - Statistical Data of Education and Training (1992-93)

There is somewhat of a shortage of primary school teachers, but there is an excess in lower secondary schools. If the excess number of teachers were reassigned to the primary schools, this situation would be resolved. The school dropout ratio in the Project Area is high. The dropout ratio of fifth graders in Thanh Hoa is 9.22%. Ninth graders in the province have the highest

dropout ratio in the province (33.7%). It is believed that these high dropout ratios are caused by the poor financial situations of parents and by the pupils' unwillingness to study because of the poor educational environment.

Primary and lower secondary schools in the Project Area lack 18,320 classrooms. The improvement of school facilities in the Area is an urgent problem. Table 2-7 lists the school dropout ratios in the Project Area. Table 2-8 lists the number of lacking classrooms.

Table 2-7 School Dropout Ratio Per Grade in the Project Area (1993-1994)

Province	Primary School					Lower Secondary School			
	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9
Thanh Hoa	7.00	7.18	3.77	5.55	9.22	10.56	11.62	11.81	33.77
Nghe An	8.86	6.66	4.12	4.46	5.51	7.23	7.99	7.20	2.68
Ha Tinh	3.74	3.77	4.57	5.08	-	6.95	10.44	9.66	-

Table 2-8 The Number of Lacking Classrooms

Province	Education Level	No. of Classes	No. of Classrooms		No. of Classroom Shortage (Class-Classroom)
Thanh Hoa	Primary School	15,893	10,563	8,242*	7,651
	Lower Secondary School	4,157		2,321*	1,836
Nghe An	Primary School	12,718	10,453	8,035*	4,683
	Lower Secondary School	3,390		2,418*	972
Ha Tinh	Primary School	5,243	3,681	2,788*	2,455
	Lower Secondary School	1,616		893*	723

Remark) \* mark indicates estimated number of classrooms of primary and lower secondary schools calculated on the condition that distribution rate of number of classrooms and students are the same.

### 3. Determination of Project Schools

The forty schools (17 in Thanh Hoa, 14 in Nghe An, and 9 in Ha Tinh) that were requested by MOET are divergently located in an area that runs approximately 300 km in a north-south direction and 220 km in an east-west direction. National Highway Route 1A that runs through these three provinces are in relatively good condition. However, access roads from the highway to the requested schools are mostly unpaved and in poor condition.



The access road to one school site in Thanh Hoa Province is in such poor condition that vehicles cannot use it. Thus, a site survey of that school was not conducted. Also, it was learned that a school requested for the Ha Tinh Province has been abolished. MOET asked the Study Team to conduct site surveys for two alternative schools for the two schools mentioned above. Also, MOET strongly requested that 3 additional schools to be surveyed in Nam Dan district, Nghe An province during the period of Explanation of Draft Report of the Basic Design Study. Even though the site survey would not be conducted at this stage of the study, site survey was carried out on the condition that this is exceptional case and similar request in the future would not be entertained again. Thus, a site surveys for 43 schools were conducted. As a result of the site surveys, two schools were found to have access roads that are not satisfactory for vehicle use, and one school was found to have a site condition which required extensive site preparations. These three schools were eliminated from the Project. Hence, 40 schools were examined as Project schools.

Table 2-9 Requested Schools Eliminated from the Project

School No.	School Name	Issue
TH-15	Primary School Mau Lam	Site survey was cancelled because of a poor road condition.
NA- 2	Primary School Quynh Loc	Without crossing 5 creeks, it is impossible to reach to the school site. Possibility of no traffic passing through during a rainy season.
NA-AD3	Primary School Van Dien 1	Extensive amount of additional site leveling and site creation work is necessary because of slanted land condition.
NA- 6	Primary School Nghi Tien	Bad access condition. Possibility of no traffic passing through during a rainy season.
HT- 7	Primary School Duc Chau	No existing school as a closed school.

During the site survey period, it was learned that twenty-eight of the selected 40 Project schools had a total of 58 branch schools. Site surveys were conducted only at the 40 main schools. The conditions of the 58 branch schools were learned through hearing surveys. According to MOET personnel, the branch schools are only first and second graders who live in areas 2.5 to 3.0 km from the main schools. Only eighteen of the 58 branch schools is further than 2.5 km from its main school. It is believed that 40 of the 58 branch schools accommodate pupils who cannot be accommodated by the main schools.

Eighteen of the selected 40 schools only conduct primary education as primary schools. The other 22 schools are being used both as primary and

lower secondary schools. Seven of the 22 schools are already planned to be separated into primary schools and lower secondary schools. Fifteen already have new sites for their primary school. The 38 schools have a total of 292 classrooms. Their class/classroom ratio is 3.7. To deal with the classroom shortage, facilities are either rented from lower secondary schools or 2 or 3-shift classes are held. Seven schools are conducting 3-shift classes.

Some of the schools are using classrooms for teachers' offices while most of them have independent management buildings. Unfortunately, all of the management buildings are heavily deteriorated. During the site survey period none of the management buildings were found to be adequate. As mentioned above, all of the school facilities in Project schools are severely damaged. And every year typhoons inflict even more damage to these facilities. In particular, roof tiles are heavily damaged because they are placed directly on wooden crosspieces. There is no appropriate toilet existing except 6 toilets built with UNICEF assistance. There is an urgent need to construct appropriate toilets for the pupils. As for infrastructure, electricity is available for 27 of the selected 40 schools. Some of the 27 schools either have electricity installed or it is obtainable from nearby power lines. 14 schools anticipate having a supply of electricity in 1995. For two of the 38 schools there is no possibility of having electricity.

Most of the 40 schools either use rainwater or well water. The deepest ground water table observed during the site survey period was about 4 m below the ground surface. It is evaluated that no problems would be encountered in constructing a new well for the Project. The only sewer systems observed during the site survey period were the primary septic tanks used in conjunction with the toilets constructed with UNICEF assistance. The results of the site investigation are shown in the following Table:

#### **2-3-4 Outline of Facilities and Equipment**

Project facilities consist of classroom buildings, management buildings, and toilet buildings. Each classroom building is planned to accommodate maximum 40 pupils. It is also planned to provide all 40 project schools with basic education equipment, such as desks and chairs for the teachers and pupils, blackboards, shelves, and basic teaching material, such as maps, terrestrial globes, and material for teaching science.

Table 2-10 The Conditions of Project Schools Surveyed

School Name	Site Situation	Situation of Educational Activity			Situation of Educational Facility			Situation of Educational Facility					Multi-Purpose Hall			School Principal			Collet		
		No. of School	No. of Enrollment	Enrollment 1995	No. of Class	No. of Total Class	No. of Student	No. of Teacher	Class Rm	Class Ratio	Permanent Usable	Temporary Usable	Borrowing	Construction	Multi-Purpose Hall	Staff Room	Multi-Purpose Room	School Principal	Exterior	Interior	Collet
Ma 1. Primary School	Division	7	1291	1442	2	40	38.1	37	4.4	9	0	0	0	0	2	0	6	0	0	0	
Ma 2. Primary School	Existing	3	755	781	2	20	39.1	20	6.6	3	0	4	0	0	0	0	0	0	0	0	
Ma 3. Primary School	Division	0	955	1094	3	29	37.7	23	*	0	0	10	0	0	2	1	0	0	2	0	
Ma 4. Primary School	New	0	722	735	2	21	35.0	21	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 5. Primary School	Existing	0	1362	1423	3	41	34.7	30	10.3	4	0	10	0	0	2	0	2	0	1	0	
Ma 6. Primary School	New	6	1385	1470	2	43	34.2	48	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 7. Primary School	Existing	0	1655	1559	3	40	39.0	42	2.2	18	3	0	0	0	1	0	6	0	4	0	
Ma 8. Primary School	Division	0	548	553	3	18	30.7	18	3.9	5	0	1	0	0	0	1	0	0	0	0	
Ma 9. Primary School	Division	0	747	781	2	22	35.5	22	4.4	5	0	6	0	0	0	0	0	0	0	0	
Ma 10. Primary School	Existing	5	999	1040	3	29	35.9	18	5.8	5	0	0	0	0	0	0	2	0	0	0	
Ma 11. Primary School	New	0	1153	1361	3	38	35.8	27	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 12. Primary School	Existing	0	795	735	2	17	43.2	16	3.4	5	0	4	2	0	0	0	0	0	0	0	
Ma 13. Primary School	Division	1	1499	1563	3	45	34.7	25	5.5	8	0	0	0	0	0	0	1	2	0	0	
Ma 14. Primary School	New	2	1097	1078	2	30	35.9	30	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 15. Primary School	Division	1	1011	1100	2	28	39.2	45	7.0	4	0	0	0	0	1	0	2	0	0	0	
Ma 16. Primary School	Existing	0	355	376	2	16	36.0	16	-	3	11	0	0	0	2	0	0	0	4	0	
Ma 17. Primary School	Existing	0	677	777	3	22	35.3	15	2.2	5	4	1	0	0	1	0	1	0	1	0	
Ma 18. Primary School	Existing	25	17,004	18,988	-	499	36.2	493	-	74	18	47	2	1	5	11	2	20	10	4	
Ma 19. Primary School	Existing	0	805	822	2	23	35.7	24	2.0	15	1	0	0	0	1	0	3	16	0	0	
Ma 20. Primary School	New	0	1345	1450	2	34	42.6	40	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 21. Primary School	Division	3	1183	1281	2	30	41.0	30	3.0	0	0	15	0	0	1	1	3	1	0	0	
Ma 22. Primary School	New	2	955	1000	2	26	38.5	28	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 23. Primary School	New	0	980	1010	2	20	50.5	26	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 24. Primary School	New	5	1368	1435	2	36	39.8	38	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 25. Primary School	New	0	720	800	2	25	32.0	24	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 26. Primary School	Division	3	1167	1189	2	33	35.4	37	5.5	8	3	3	0	0	0	0	0	1	0	0	
Ma 27. Primary School	Existing	2	941	945	2	26	36.3	30	2.6	5	2	5	0	0	1	0	3	3	0	0	
Ma 28. Primary School	Existing	0	997	1117	2	25	44.7	32	1.3	16	3	0	0	0	1	1	4	0	0	0	
Ma 29. Primary School	New	3	1552	1720	2	43	40.0	38	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 30. Primary School	New	0	1250	1300	2	35	37.1	37	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 31. Primary School	Existing	1	101	711	2	19	35.8	19	2.2	4	0	4	0	0	1	0	4	0	0	0	
Ma 32. Primary School	Existing	1	591	617	2	19	31.1	19	3.1	5	2	0	0	0	1	0	2	0	0	0	
Ma 33. Primary School	Existing	18	13,330	14,017	-	356	33.4	384	-	42	14	23	3	0	4	2	21	21	0	0	
Ma 34. Primary School	New	0	928	1000	2	24	41.7	26	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 35. Primary School	Existing	1	1384	1494	2	36	41.5	41	4.0	9	0	3	0	0	1	0	8	2	1	0	
Ma 36. Primary School	New	1	1238	1520	2	29	52.4	35	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 37. Primary School	New	1	1385	1500	2	35	51.7	41	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 38. Primary School	Existing	2	910	947	2	24	39.5	26	2.4	10	0	0	0	0	1	0	0	2	12	0	
Ma 39. Primary School	New	1	644	670	2	17	39.4	18	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 40. Primary School	New	2	746	800	2	20	40.0	24	*	*	*	*	*	*	*	*	*	*	*	*	
Ma 41. Primary School	Existing	1	714	774	2	20	38.7	24	2.5	8	0	0	0	0	1	0	8	2	0	0	
Ma 42. Primary School	Division	1	709	690	2	21	32.9	21	3.0	5	2	0	0	0	1	0	3	0	0	2	
Ma 43. Primary School	Division	12	9,571	10,723	-	264	37.7	294	-	32	15	7	0	0	3	4	0	23	6	15	
Ma 44. Primary School	Subtotal	35	40,304	42,368	-	113	35.0	131	-	113	35	0	0	0	7	0	23	6	15	0	

School Name	Access				Site				Site Condition				Water Supply				Electrical Supply	
	Width (m)	Road Condition	Ownership	Site Division	Existing Division	Site Area (ha)	Soil Condition	Surface Condition	Site Leveling	Distance to Seashore (km)	City/Municipal Water Line	Existing Well/Type	Well Depth (m)	Auxiliary Facility	On Site Connection	Distance to Site (km)	Supply on Site (Planned Year)	
																		Site Division
Th-1. Hai Ninh School	6.0	Bad	Yes	Division	2.25	Sand	Flat	Fill	1.0	None	Well	3.0	None	Yes	-	-		
Th-2. Primary School	4.0	Bad	Yes	Existing	0.72	Clay sand	Undulation	Exten. Fill	2.0	None	Well	2.0	None	None	0.1	1995		
Th-3. Quang Giao	6.0	Bad	Yes	Division	1.65	Sand	Undulation	Fill	1.0	None	Well	2.5	None	Yes	-	-		
Th-4. Quang Trang	4.0	Normal	Yes	New	0.50	Sand	Undulation	Exten. Fill	8.0	None	Well	3.0	Purification	None	0.2	1995		
Th-5. Hoang Trang	8.0	Bad	Yes	Existing	0.32	Sand	Flat	Slight Fill	0.3	None	Well	4.0	None	Yes	-	-		
Th-6. Binh Loc	5.0	Normal	Yes	New	0.36	Sand	Flat	Fill	0.5	None	Well	1.1	None	None	1.5	1995		
Th-7. Ba Dien School	6.0	Normal	Yes	Existing	0.27	Sand	Undulation	Fill	16.0	Yes	None	3.0	Hand pump	Yes	-	-		
Th-8. Thuan Thoi	4.0	Normal	Yes	Division	0.65	Sand	Undulation	Fill	4.0	None	Well	1.2	None	Yes	-	-		
Th-9. Ba Xoc	3.0	Bad	Yes	Division	1.74	Clay	Undulation	Fill	8.0	None	Well	0.5	None	Yes	-	-		
Th-10. Tuong Linh	6.0	Good	Yes	Existing	1.70	Clay sand	Undulation	Fill	5.0	None	None	-	None	Yes	-	-		
Th-11. Truc Lam	3.0	Bad	Yes	New	0.35	Clay sand	Flat	Fill	0.2	None	Well	0.6	None	None	0.05	1995		
Th-12. Quang Nhai	4.0	Bad	Yes	Existing	0.51	Sand	Flat	Fill	3.0	None	Well	0.9	None	None	3.00	1995		
Th-13. Hoang Dai	5.0	Normal	Yes	Division	2.32	Sand	Undulation	Fill	1.0	None	Well	1.2	None	None	0.01	1995		
Th-14. Primary School	4.0	Bad	Yes	New	0.82	Clay	Undulation	Fill	-	None	Well	1.4	Hand pump	Yes	-	-		
Th-15. Nga An	4.0	Good	Yes	Division	0.32	Clay	Undulation	Fill	16.0	Yes	Cistern	-	None	Yes	-	-		
Th-16. Nam Han	4.0	Bad	Yes	Existing	1.30	Sand	Undulation	Fill	2.0	None	Well	1.0	None	None	0.01	1995		
Th-17. Triou Bung	4.0	Bad	Yes	Existing	0.73	Clay	Flat	Fill	1.2	None	Well	1.4	None	None	0.30	1995		
Th-18. Quang Thach (Alternate)	4.0	Bad	Yes	Existing	0.73	Clay	Flat	Fill	-	None	Well	0.2	None	Yes	-	-		
Th-19. Phuoc Thuan	4.5	Normal	Yes	Existing	1.05	Clay sand	Flat	Not	2.0	None	Well	0.4	None	Yes	-	-		
Th-20. Primary School	2.5	Bad	Yes	New	0.96	Clay	Flat	Not	0.5	None	Well	0.4	None	Yes	-	-		
Th-21. Dien Trung	4.2	Bad	Yes	Division	1.32	Clay	Flat	Fill	1.0	None	Well	0.3	None	Yes	-	-		
Th-22. Dien Hoang	4.0	Bad	Yes	New	1.00	Clay	Undulation	Fill	-	None	None	-	None	None	0.02	1995		
Th-23. Nam Yen	4.4	Normal	Yes	New	1.56	Clay	Flat	Not	-	None	Well	1.4	None	None	0.01	-		
Th-24. Hung Nhai	4.0	Normal	Yes	New	0.80	Clay	Flat	Fill	15.0	None	Well	0.5	None	None	0.30	1995		
Th-25. Nguyen Long Thanh	3.0	Bad	Yes	New	0.80	Clay	Flat	Fill	-	None	Well	1.0	None	Yes	-	-		
Th-26. Primary School	3.5	Bad	Yes	Division	0.86	Clay	Slant	Cut/Fill	-	None	Well	1.2	None	Yes	-	-		
Th-27. Hung Hoa	3.0	Normal	Yes	Existing	1.16	Clay	Flat	Cut	15.0	None	Well	1.0	None	Yes	-	-		
Th-28. Hung Loc	7.0	Good	Yes	Existing	1.73	Clay	Flat	Slight	-	None	None	-	Cistern	Yes	-	-		
Th-29. Quynh Long	4.0	Normal	Yes	New	0.85	Clay	Flat	Fill	1.0	None	Well	0.5	Hand pump	Yes	-	-		
Th-30. Dien Bich	5.5	Bad	Yes	New	0.88	Clay	Slant	Fill	0.5	None	Well	1.2	Cistern	Yes	-	-		
Th-31. Primary School	4.0	Normal	Yes	Existing	1.03	Clay	Slant	Cut	30.0	None	Well	2.7	None	Yes	-	-		
Th-32. Nam Hung	6.0	Normal	Yes	Existing	1.26	Clay	Flat	Not	30.0	None	Well	2.7	None	Yes	-	-		
Th-33. Primary School	8.0	Bad	Yes	New	1.10	Sand	Flat	Fill	0.8	None	Well	2.1	None	None	-	-		
Th-34. Xuan Lien	6.0	Bad	Yes	Existing	1.10	Sand	Flat	Not	0.8	None	Well	2.1	None	None	-	-		
Th-35. Xuan Song	4.0	Bad	Yes	New	1.00	Clay	Flat	Fill	2.0	None	Well	1.2	Cistern	None	Adjacent	1995		
Th-36. Hung Loc	3.5	Bad	Yes	New	1.20	Clay sand	Flat	Not	3.0	None	Well	0.7	None	Yes	-	-		
Th-37. Hung Loc School	5.0	Bad	Yes	Existing	1.20	Clay sand	Flat	Necessary	5.0	None	Well	1.3	None	Yes	-	-		
Th-38. Dai Nai	4.0	Bad	Yes	New	0.75	Clay	Slant	Not	20.0	None	Well	0.7	None	Yes	-	-		
Th-39. Cam Hoa	6.0	Bad	Yes	New	1.06	Sand	Flat	Necessary	-	None	Well	0.6	None	None	Adjacent	1995		
Th-40. Cam Trung	6.0	Bad	Yes	Existing	1.56	Sand	Slant	Not	3.0	None	Well	0.3	None	None	None	1994		
Th-41. Yen Ho (Altakate)	3.5	Bad	Yes	Division	0.73	Clay sand	Flat	Not	24.0	None	Well	2.1	None	None	Adjacent	1995		

△ : Broken or Not used  
 \* : Condition of new site

## 2-3-5 Operation and Maintenance Plan

Each school's budgetary fund is allotted by the Ministry of Finance as a part of MOET's budget and is actually provided to the school through the local government. Allocation of the country's budgetary fund for the education field has been increased, but most of it is spent on personnel expenditures. The maintenance costs for school facilities is financed by donations from local governments, people's committees, and local societies. The operation and maintenance of Project facilities will be taken care of within the range of the conventional budgetary fund. However, by taking into consideration the financial difficulties of each school, the selection of Project equipment was made based on its minimum operation and maintenance costs. But, in view of the durability of wooden doors, window frames, ceilings, and lighting fixtures, periodical inspections and maintenance work will be inevitable. Further, from aesthetic viewpoint, it is desirable to paint the exterior and interior walls and ceilings, but it is not mandatory for the operation and maintenance of the school buildings. The operation and maintenance costs necessary for an average 11-classroom school building supplied with electricity are listed in Table 2-11.

Table 2-11 Annual Operation and Maintenance Costs

Item	Material Costs	Labor Costs	Maintenance Frequency	Annual Costs (converted)	Remarks
Doors & Window glasses	485,000	26,000	Once every other year	255,000	Broken glass replacement is required
Doors window frames	2,646,000	2,079,000	Once every other year	2,362,500	Repainting is required
Fluorescent lamps	1,507,000	-	Once every year	1,507,000	Replacement is required periodically
Septictank	0	8,000	Three times in a year	24,000	Cleaning is required periodically
Pump & Water tank	14,000	8,000	Twice in a year	44,000	Gasket replacement and water tank cleaning is required
Electric fee		354,000	/month	4,248,000	
Total				8,441,000	

The average operation and maintenance costs per one Project school is estimated to be 8.441 million dong, total of the 40 Project schools to be 337.64 million dong. The maintenance and management budgetary funds for school facilities and teaching materials allotted for primary schools in the country in 1992 school year was 57.06 billion dong. Thus, it is believed that the operation and maintenance of the Project school will incur no monetary problems. As for teachers to be secured for the Project schools, there are 5,534 excess teachers in lower secondary schools in the Project area, and MOET is planning to shift those teachers to the Project schools. Thus, it is judged that securing necessary teachers for the Project schools incur no additional budgets.