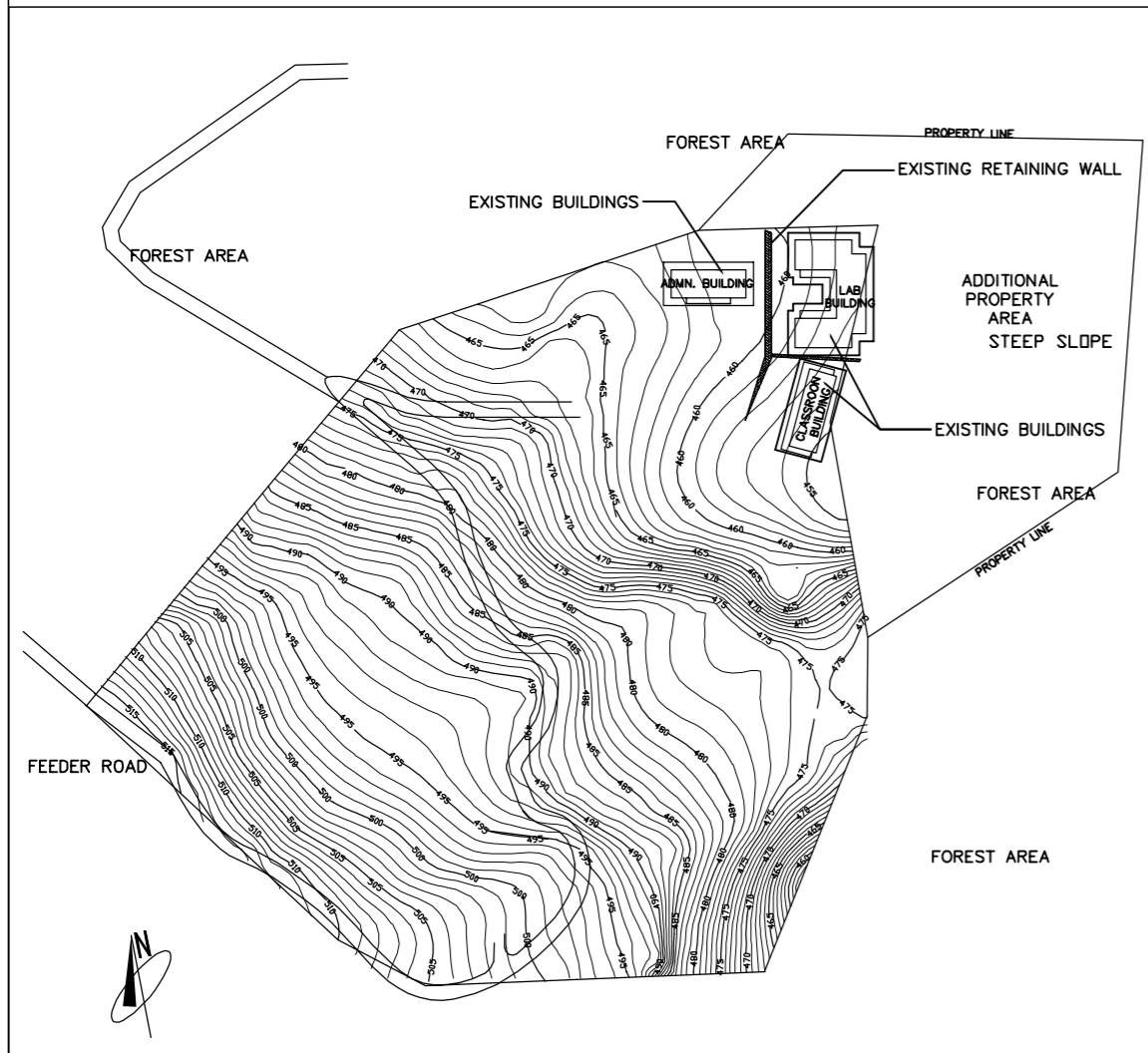
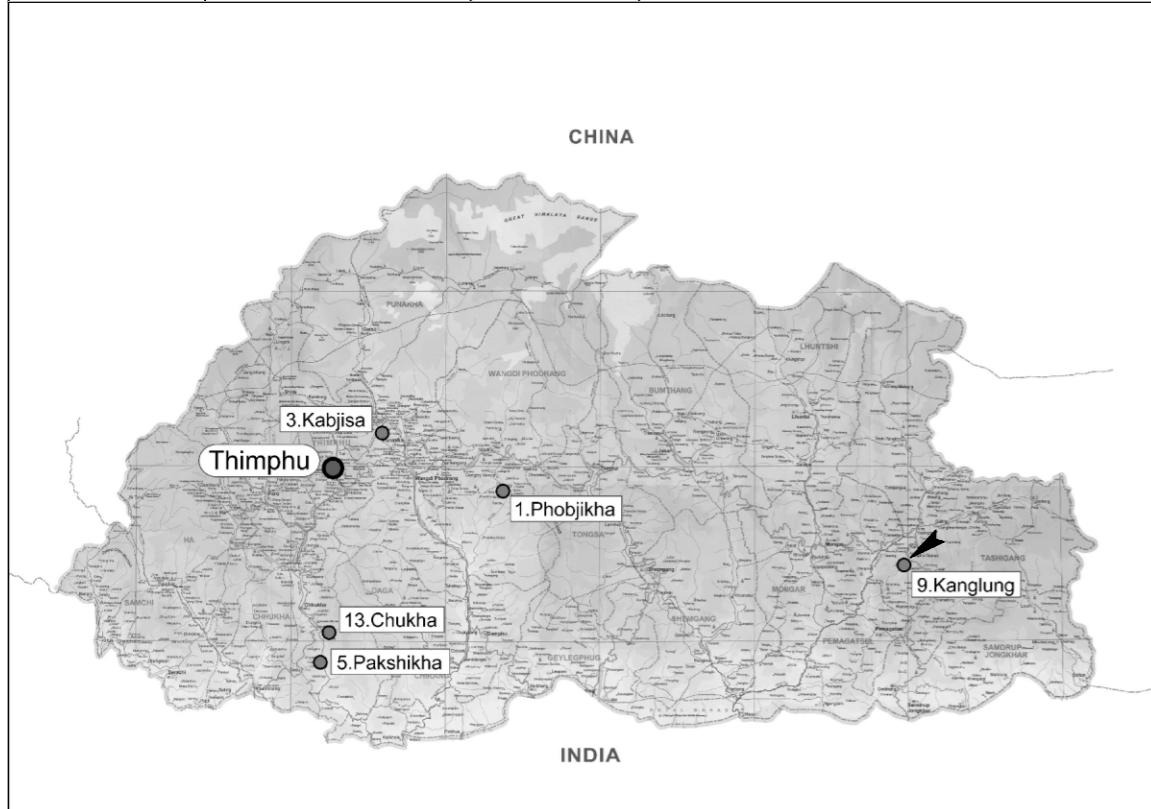
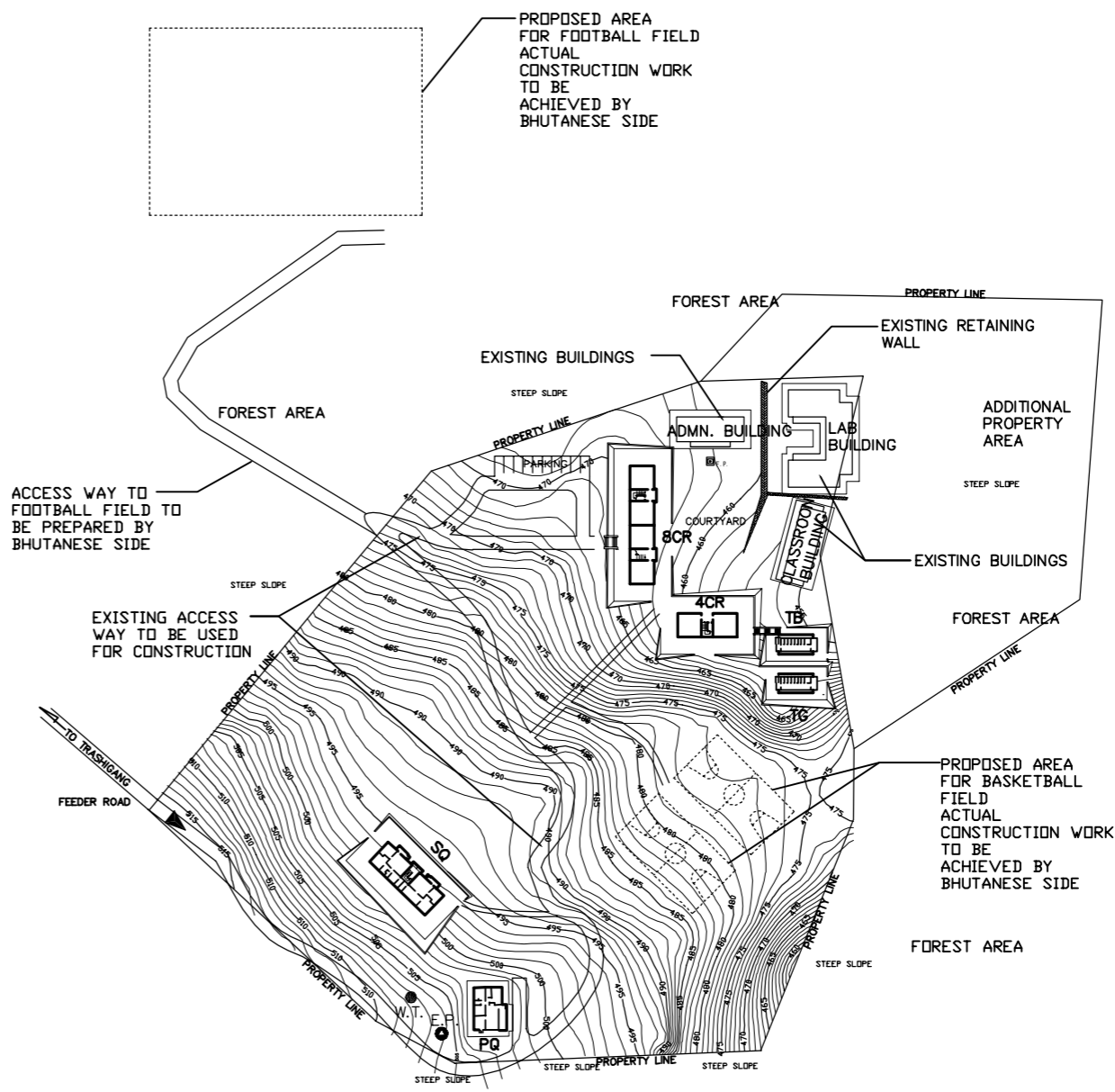


SCHOOL NAME	KANGLUNG	GENERAL	HEIGHT	CLASS	REMARKS
		CLIMATE ZONE	TEMPERATE		

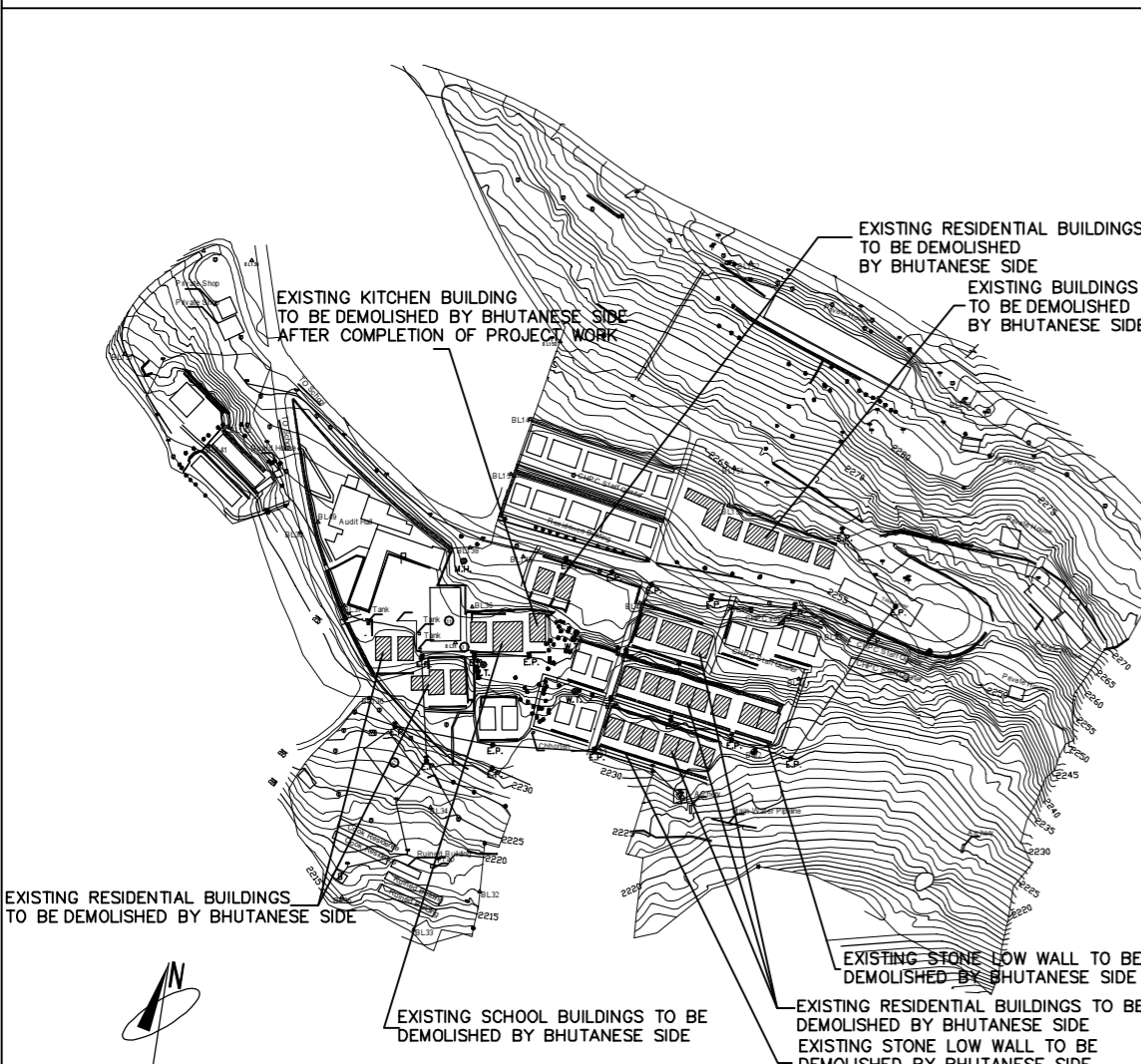
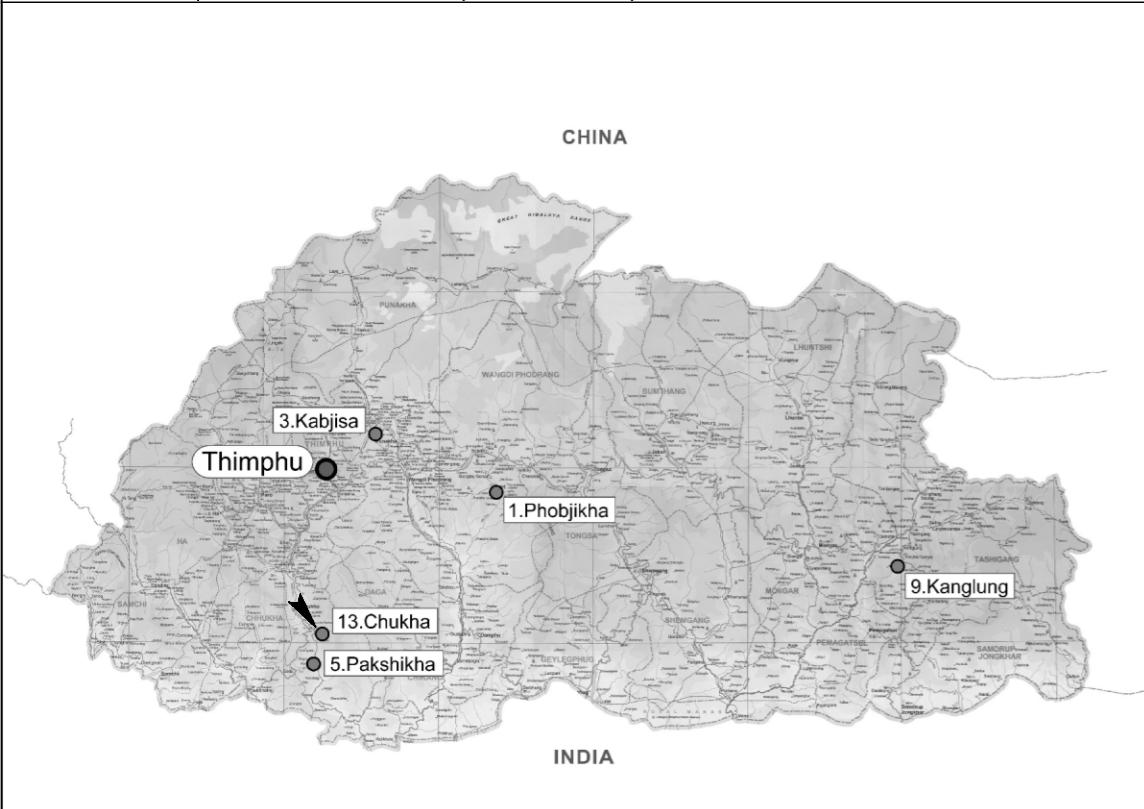


EXISTING SITE PLAN
SCALE: 1:2000

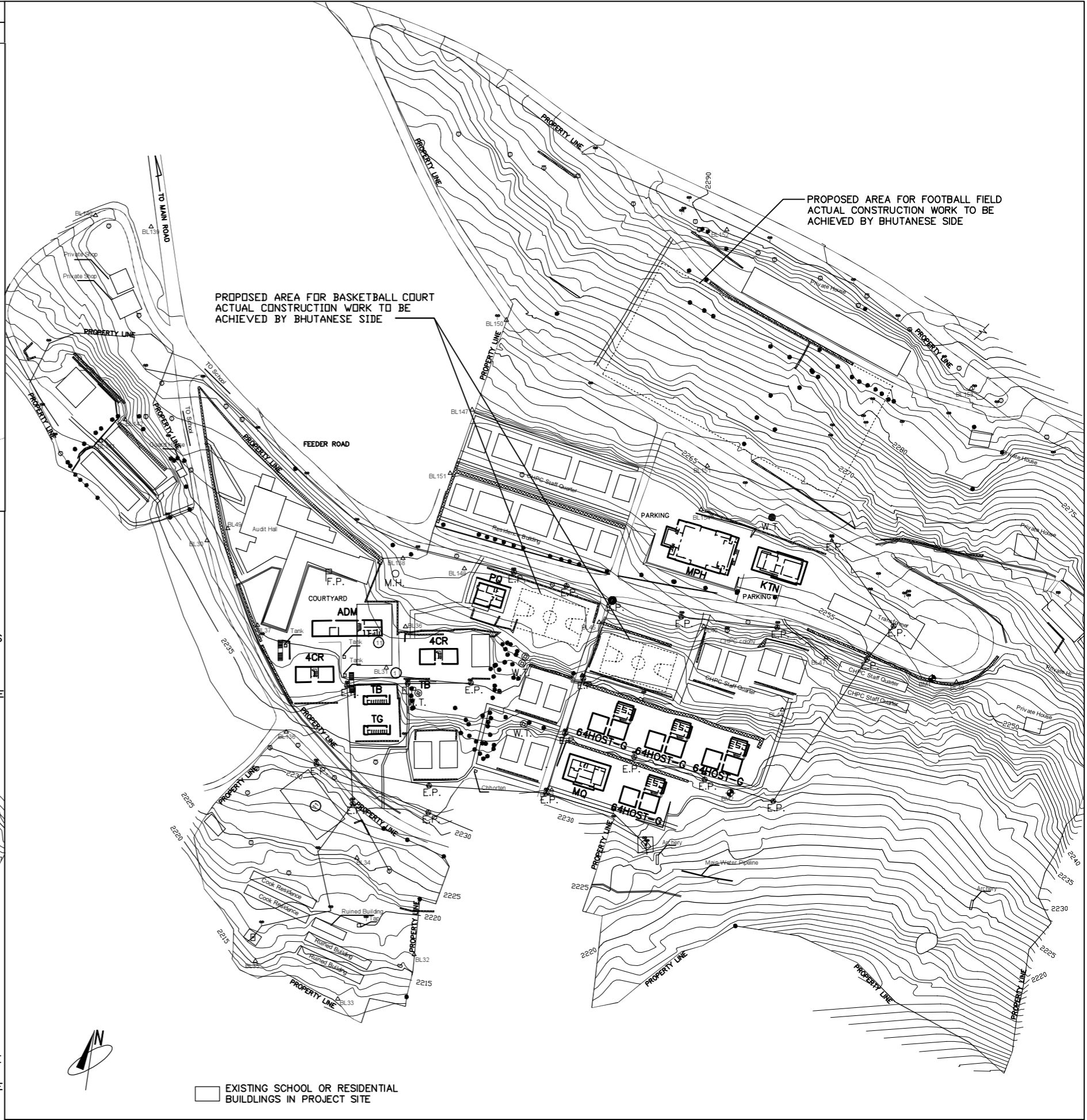


<p>LEGEND</p> <ul style="list-style-type: none"> ● E. P. PROPOSED LOCATION OF PROJECT FIRST ELECTRICAL POLE FOR BHUTANESE SIDE TO INSTALL W/H METER AND CONNECT POWER LINE ● W. T. PROPOSED LOCATION OF PROJECT WATER TANK FOR BHUTANESE SIDE TO CONNECT LOCAL WATER SUPPLY LINE ⊙ F. P. PROPOSED LOCATION OF FLAG POLE ▼ PROPOSED LOCATION OF SCHOOL ENTRANCE 	<p>PROPOSED MASTER PLAN SCALE: 1:2000</p>
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SCHOOL NAME	CHUKHA	GENERAL	CLIMATE ZONE	TROPICAL
		CLIMATE ZONE	TROPICAL	



[] EXISTING SCHOOL OR RESIDENTIAL BUILDINGS IN PROJECT SITE
 [Hatched] ALL HATCHED EXISTING STRUCTURES TO BE REMOVED BY BHUTANESE SIDE
 [Circle with dot] EXISTING SITE PLAN
 SCALE: 1:4000



[] EXISTING SCHOOL OR RESIDENTIAL BUILDINGS IN PROJECT SITE
 [Circle with dot] E. P. PROPOSED LOCATION OF PROJECT FIRST ELECTRICAL POLE FOR BHUTANESE SIDE TO INSTALL W/H METER AND CONNECT POWER LINE
 [Circle with cross] W. T. PROPOSED LOCATION OF PROJECT WATER TANK FOR BHUTANESE SIDE TO CONNECT LOCAL WATER SUPPLY LINE
 [Square with cross] F. P. PROPOSED LOCATION OF FLAG POLE
 [Triangle] PROPOSED LOCATION OF SCHOOL ENTRANCE
 [Circle with dot] PROPOSED MASTER PLAN
 SCALE: 1:2000

2-3 Obligations of Recipient Country

As a basic principle, the Government of Japan requests recipient country (Bhutan) to share the following obligations of the Project:

- (1) To provide the Japanese side, as soon as possible, the necessary information and materials required for the Project;
- (2) To secure the land for the Project and its building rights.
- (3) To secure access roads leading to all construction sites planned in the Project, and improve them if necessary for easy access to each site. They must be in good enough condition so that construction vehicles for land development and trucks carrying construction materials will be able to reach the sites safely;
 - a. To construct roads of approximately 150 m for No.5 Pakshikha MSS, because proposed area for building construction in the site has no access for the vehicles from the adjacent road;
 - b. To lay the gravels on the access roads properly to No.3 Kabjisa MSS and No.5 Pakshikha MSS in order to prevent the construction vehicles from getting stuck in the mud in the rainy season.
- (4) To remove all existing obstacles on and under the ground on the site of Project schools as necessary prior to the start of construction (See Table 2-13);
 - a. To demolish and remove, prior to construction, existing buildings and their foundations at the sites No.3 Kabjisa MSS and No.13 Chukha HSS;
 - b. To remove abandoned water pipes at No.1 Phobjikha MSS, No.3 Kabjisa MSS and No.13 Chukha HSS. And to remove an abandoned water tank at No.13 Chukha HSS;
 - c. To relocate existing electric power line and an electric pole at No.3 Kabjisa MSS.
- (5) To provide temporary classrooms for No.3 Kabjisa MSS during the period of the construction work.
- (6) To extend all infrastructure to the construction sites according to the Japanese side's request, which is based on the work schedules;
 - a. Water Supply
The Bhutanese side shall make examinations of spring water, stream water, and the surface water, and shall be responsible for piping work outside the sites, extension work, and connecting work to the water tank installed by the Japanese side.

b. Electricity

The Bhutanese side shall install electricity in a lead-in pole, which the Japanese side will build within the school site. Also, the Bhutanese side shall install an integrating wattmeter and provide a cable to the wattmeter, and apply for electricity service to the Power Bureau at its own expense.

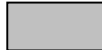
c. Telephone

The Japanese side will not carry out any installation work.

- (7) To bear commissions, handing charges and other necessary fees related to the Bank Arrangement (B/A) and the Authorization to Pay (A/P) to a bank in Japan;
- (8) To acquire environment impact assessment, permits, approvals, and any other authorizations required for the work that is undertaken during the implementation process of this Project;
- (9) To ensure prompt unloading of and customs clearance at ports of disembarkation in the country and internal transportation therein of products, machinery, equipment, and materials purchased under Japan's Grant Aid;
- (10) To exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
- (11) 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;
- (12) To conduct additional work such as constructing roads and pedestrian ways within the site, making courtyards, basketball courts, and football grounds, landscaping and installing gates and fences if necessary after the completion of the construction;
- (13) To use, manage, and maintain properly and effectively the facilities and equipment provided under this Project using Japan's Grant Aid;
- (14) To ensure all expenses required for the implementation of this Project outside the coverage of the Grant Aid;
- (15) To coordinate and settle various potential problems that may be posed by neighboring residents in relation to the implementation of the Project.

Table 2-13: List of Works to be Done by the Bhutanese Side

Bhutanese Side Work		Access road Construction	Existing Buildings Removal	Temporary Classrooms Provision	Other Obstacles Removal	Electric Line Shift	Telephone Line Shift	Electric Power Supply	Water Supply
		Distance	No. of Buildings	No. of Classrooms		Length, No. of Poles	Length, No. of Poles	Distance to Connection	Distance from Source
School Name									
1	Phobjikha MSS	Construction of Access Bridge	-	-	Water Pipe 540m	-	-	-	1.5 km
3	Kabjisa MSS	Gravel the Access Road	3	3	Water Pipe 100m	11.5m 1 No.	-	Within the Site	3 km
5	Pakshikha MSS	Construction of the Road Apx. 150 m	-	-	-	-	-	100m	3.5 km
9	Kanglung MSS	-	-	-	-	-	-	300m	5 km
13	Chukha HSS	-	27	-	Water Tank & Pipe 100m	-	-	Within the Site	0.3km



Work to be done before the commencement of Japanese side works

2-4 Project Operation Plan

2-4-1 Operation Plan

The number of teachers to be allocated after the completion of the Project is given as the required number of teachers in Table 2-14. This number is calculated based on the premise that all teachers at primary level are class teachers and those at secondary level are subject teachers. As for primary education, since an increase in the number of students is not expected in the following 2 existing schools (No.1 Phobjikha MSS, No.3 Kabjisa MSS) excluding a newly constructed school (No.5 Pakshikha MSS), the number of classrooms after the Project completion is set as the same number as that of the existing classrooms so that there is no shortage of teachers. In No.5 Pakshikha MSS, a teacher is allocated to each classroom in 7 grades.

On the other hand, at the secondary education level, based on the country's standard that "the number of classes taught by a teacher per week does not exceed more than 32 for each subject", teachers are allocated as follows: 1 for each 32 classes, 2 for each 64 classes, 3 for 96 classes, and 4 for 128 classes. After the total number of classes to be taught per week for each subject in each school is calculated from the number of classrooms after the completion of the Project and the required number of classes per week by subject set in the curriculum, the necessary number of teachers is calculated according to the above-mentioned standard. However, in order to get the required number of teachers to be newly allocated, the number of existing teachers should be reduced from the necessary number of teachers at existing schools.

Table 2-14: Required Number of Teachers after the Completion of the Project

School Name	No. of Classes			No. of Existing Teachers			Required Teachers		
	P	S	Total	P	S	Total	P	S	Total
No. 1 Phobjikha MSS	14	6	20	10	0	10	4	17	21
No. 3 Kabjisa MSS	11	9	20	11	3	14	0	19	19
No. 5 Pakshikha MSS	7	9	16	0	0	0	7	22	29
No. 9 Kanglung MSS	0	20	20	0	14	14	0	22	22
No. 13 Chukha HSS	0	23	23	0	24	24	0	14	14
Total	32	67	99	21	41	62	11	94	105

* In No.1. Phobjikha MSS (existing school), 4 primary teachers that are currently in shortage will be allocated after the completion of the Project

In Bhutan, several measures to increase the number of teachers have been taken such as securing of salary for the necessary number of teachers as government budget based on the estimation of the required number of teachers by 2012 in the “Human Resource Development Master Plan: 2002-2012” which is a part of education sector strategy. In addition, the following measures are taken: an increase in the entrance capacity of teacher training schools, employment of foreign teachers, detachment of probationary teachers for a year, and a 30%+15% rise in the salary of civil servants including teachers. Due to these measures, there would be no actual difficulty in securing the necessary number of teachers in the country. However, it is necessary to pay close attention to the timely teacher recruitment and deployment so that each Project school can smoothly start school activities such as teaching after the Project is completed.

2-4-2 Maintenance Plan

As for maintenance of existing school facilities in Bhutan, schools are expected to implement cleaning activities and minor repairs by themselves as well as to request necessary budgets for major repairs of the facilities. However, although a certain amount of budgets for “daily maintenance²” and major repairs is to be disbursed respectively as a part of the national budget for education, the amount and the proportion out of the whole budget are very limited. Thus, it is difficult to say that sufficient funding is secured for maintaining school facilities properly. Table 2-15 clearly shows that the proportion of budgets for both daily maintenance and major repairs is limited, while 18.4 % and 21.8% of the budgets are allocated to the construction of primary and secondary educational facilities in order to alleviate the severe shortage of educational facilities in the country. It is also possible for schools to collect a School Development Fund (SDF) and use parts of it for minor repairs; however, the amounts collected would clearly still be insufficient.

Table 2-15: Proportion of Budgets for Daily Maintenance and Major Repair

	Daily Maintenance		Major Repair	Construction
	Facility	Equipment		
Primary	1.3%	0.2%	4.2%	18.4%
Secondary	1.5%	0.5%	1.5%	21.8%

Source: Internal documents of MOE

² It is called as “maintenance of property for buildings and equipment”.

Judging from the above-mentioned situation, in order to maintain both facilities newly constructed in the Project and facilities existing for a long time, a certain amount of budget not only for construction but also daily maintenance and major repairs ought to be secured. Furthermore, in Bhutan it is often found that minor repairs are not done properly even though the existing facilities are seriously damaged or dilapidated at most schools. It also depends on the school how cleaning activities are implemented or how the school facilities are kept in a clean condition. In order to ensure that such daily maintenance activities are done regularly at the school level, necessary actions should be taken to promote ownership of the school facilities by the persons concerned and to help them realize that school facility maintenance is extremely important. In addition, an appropriate guidance on how toilet facilities should be used and maintained should be given.

2-5 Project Cost Estimation

2-5-1 Project Cost

The total amount of the project cost needed for implementing the Grant Aid project is approximately 1,808 million Japanese Yen. According to the conditions of the cost estimate shown below in section (3), the previously mentioned details of expenses based on the respective shares borne by Japan and Bhutan are calculated as shown below. This cost estimate is provisional and would be further examined by the Government of Japan for the approval of the Grant.

(1) Cost estimation borne by the Japanese side

		<u>Estimated Project Cost (Total)</u>		1,782.6 Million Japanese Yen
No.1 Phobjikha MSS : 20 Classrooms				(Total Floor Area 5,771.02 m ²)
Items		Estimated Cost (Million Japanese Yen)		
Facility	1. Academic Zone	150.9	419.8	
	2. Multipurpose Zone	71.5		
	3. Residential Zone	187.1		
	4. Furniture	10.3		
Detailed Design & Supervision		80.4		
		<u>Estimated Project Cost (Sub-Total)</u>		<u>500.2 Million Japanese Yen</u>
No.3 Kabjisa MSS : 20 Classrooms				(Total Floor Area 2,763.45 m ²)
Items		Estimated Cost (Million Japanese Yen)		
Facility	1. Academic Zone	174.7	221.8	
	2. Multipurpose Zone	-		
	3. Residential Zone	42.6		
	4. Furniture	4.5		
Detailed Design & Supervision		68.3		
		<u>Estimated Project Cost (Sub-Total)</u>		<u>290.1 Million Japanese Yen</u>
No.5 Pakshikha MSS : 16 Classrooms				(Total Floor Area 6,133.29 m ²)
Items		Estimated Cost (Million Japanese Yen)		
Facility	1. Academic Zone	129.7	399.3	
	2. Multipurpose Zone	64.9		
	3. Residential Zone	192.7		
	4. Furniture	12.0		
Detailed Design & Supervision		75.1		
		<u>Estimated Project Cost (Sub-Total)</u>		<u>474.4 Million Japanese Yen</u>

No.9 Kanglung MSS : 12 Classrooms (Total Floor Area 1,336.40 m²)

Items		Estimated Cost (Million Japanese Yen)	
Facility	1. Academic Zone	91.7	148.4
	2. Multipurpose Zone	-	
	3. Residential Zone	55.3	
	4. Furniture	1.4	
Detailed Design & Supervision		34.7	

Estimated Project Cost (Sub-Total) 183.1 Million Japanese Yen

No.13 Chukha HSS : 8 Classrooms (Total Floor Area 3,867.62 m²)

Items		Estimated Cost (Million Japanese Yen)	
Facility	1. Academic Zone	66.4	254.7
	2. Multipurpose Zone	63.1	
	3. Residential Zone	117.0	
	4. Furniture	8.2	
Detailed Design & Supervision		80.1	

Estimated Project Cost (Sub-Total) 334.8 Million Japanese Yen

(2) Cost estimation borne by the Bhutanese side

(1,000 Nu)

Items	Cost (1,000Nu)	JPY Equivalent (million)
Construction of Roads	6,692	16.0
Removal of Existing Obstacles	1,254	3.0
Extension of Infrastructure to the Construction Site	2,857	6.8
(Preparation of school grounds)	(497,449)	(1,191.7)
Total (1,000Nu)	10,803	25.8

Currency Exchange Rate: ¥1 = 0.417 Nu

(3) Conditions of Cost Estimate

- a) Period of cost estimate: November, 2004
- b) Currency Exchange Rate: 1.00 US\$ = 111.04 Japanese Yen = 46.35 Nu
- c) Period of Execution: from November, 2005 to March, 2010
- d) Others: This Project shall be carried out under the system of the Grant Aid of the Japanese Government

2-5-2 Operation and Maintenance Cost

2-5-2-1 Operation Cost

The estimated increase of operation expenses (electricity, water, sewage, heating, and personnel) brought on by the implementation of the Project should be borne by the Government of Bhutan.

(1) Electricity

The meter-rate system (0.6Nu/kwh) is adopted in Bhutan and electric fees at each school are calculated based on the estimated amount of electricity use by each facility. The number of hours of electricity use in one year is calculated under two time frames based on the autumn and spring equinox.

Table 2-16: Estimated Electricity Consumption by Each Facility

Facility	Electricity consumption per hour	Estimated using hours of electricity (equinox)	
		Autumn to Spring	Spring to Autumn
4-CR type block	10.5 kw/h	1	0
8-CR type block	20.9 kw/h	1	0
10-CR type block	26.0 kw/h	1	0
Toilet	0.4 kw/h	1	0
Administrative & Library block	21.6 kw/h	3	1
Laboratory Block	62.0 kw/h	1	0
Multipurpose Hall	35.0 kw/h	1	0
Kitchen and Store	27.8 kw/h	7	6
Hostel for 96 beds	28.0 kw/h	7.5	4.5
Hostel for 64 beds	20.0 kw/h	7.5	4.5
Principal's Quarters	9.5 kw/h	7.5	4.5
Warden's & matron's Quarters	15.3 kw/h	7.5	4.5
Staff Quarters	44.5 kw/h	7.5	4.5

(2) Water and Sewage

Water bill is entirely free of charge since the Project schools take their water from the spring water, streams, surface water. Besides, the Project adopts sewage system that infiltrates sewage into the ground through a septic tank, so that sewage disposal expense is also free of charge.

(3) Labor Costs

After the completion of the Project, in addition to teachers, total 3 staff (1 office clerk, 1 laboratory assistant, and 1 librarian) needs to be hired in each school. In addition, cooks at the rate of 1 out of 60 students for boarding schools and 1 janitor for day schools need to be hired. The number of additional teachers and staffs to be needed is shown in Table 2-17.

Table 2-17: Number of Additional Teachers and Staffs

School	Additional number of teachers		Additional number of staff
	Primary Level	Secondary Level	
No.1 Phobjikha MSS	4	17	7
No.3 Kabjisa MSS	0	19	1
No.5 Pakshikha MSS	7	22	10
No.9 Kanglung MSS	0	22	0
No.13 Chukha HSS	0	14	0
Total	11	94	18

2-5-2-2 Maintenance Cost

For the maintenance of the facilities and equipment provided in the Project, the following items are expected to be the maintenance expenses in the long terms.

- ① Maintenance for deterioration
 - Stains on walls (Repainting of inside walls)
 - Faded colors on inside walls and ceilings (Repainting of inside walls and ceilings)
 - Corrosion of roofs (Repainting of roofs)
 - Faded colors on blackboards (Repainting)
 - Damages on lighting fixtures (to change bulbs)
- ② Maintenance for broken portions of a building
 - Door
 - Window glass
 - Toilet booth
 - Educational furniture
 - Switch and outlet
 - Plumbing equipment
 - Kitchen

In Bhutan the maintenance expenses for minor repair of deteriorated parts under ① are funded as “expenditures for daily maintenance” in the ordinary budget, whereas those for major repair of broken portions under ② is funded as “expenditures for large-scale repairs” in the capital budget.

In this Project, however, very careful consideration is paid at the time of designing so that trouble can be minimized. Hence, it is considered that no maintenance cost will be required for the time being.

2-5-2-3 Total Operation and Maintenance Cost

The increase in annual maintenance and operation expenses for 5 Project schools is shown in Table 2-18. According to the estimate, additional annual operation and maintenance expenses are expected to show approximately 12.0% of the total expenditures in 4 Dzongkhags in 2004 where the 5 Project schools are located. Although labor costs consist mostly of the increase, as mentioned in 2-4-1 Operation Plan, the budget for staff salary is sufficiently secured since the government of Bhutan positively promotes the increase in the number of teachers at present.

Table 2-18: Additional Annual Operation and Maintenance Cost (1,000Nu, %)

Item	Additional Annual Cost for Operation and Maintenance in 5 Project schools	Total Educational Expenditure in 4 Dzongkhags in 2004	Ratio of Additional Annual Cost for Operation and Maintenance out of Total Educational Expenditure
Electricity Cost	903	1,550	58.2%
Labor Cost	17,805	153,810	11.6%
Total	18,708	155,360	12.0%

Chapter 3 Project Evaluation and Recommendations

Chapter 3 Project Evaluation and Recommendations

3-1 Effects of the Project

(1) Direct Effects

1) Increasing capacity of educational facilities in Bhutan

By constructing 76 classrooms at 5 Project schools, the capacity of educational facilities can be expanded to accommodate an additional 2,736 students in Bhutan¹. As a result, the severe shortage of educational facilities will be alleviated in the country.

2) Improving the learning and teaching environment in the Project schools that the covered education level will not be changed

By constructing 20 classrooms at 2 existing schools (No.9 Kanglung MSS, No.13 Chukha HSS) in the Project, the total number of usable classrooms will increase from 18 to 38 and the number of students per classroom will be reduced from 158 to 75 students in 2009 when the Project will be completed². As a result of Project implementation, congestion in the classrooms will be alleviated without using old and dilapidated classrooms, which are regarded as unusable. Thus, a more desirable learning and teaching environment for class operations will be realized at those Project schools.

3) Improving access to schools in the Project schools which will be newly constructed and that the covered education level will be expanded

Through the Project implementation, by expanding the education level from PS or LSS to MSS at existing No.1 Phobjikha MSS and No.3 Kabjisa MSS, access to education of children who have had to go to schools in other Dzongkhag as boarders will be improved. Also, by constructing No.5 Pakshikha MSS (a new school) in an area where there have been no schools so far, access to education for the children living in the surrounding areas who have never attended school including at least 250 primary students and 143 secondary students will be given.

4) Improving the living environment in the Project schools with student hostels

By constructing an appropriate number of student hostels at 3 existing boarding schools (No.1 Phobjikha MSS, No.5 Pakshika MSS and No.13 Chukha HSS) according to the

¹ Based on the presumption that the number of students per classroom is 36, it is calculated as 76 classrooms (to be newly constructed in the Project)×36 students per classroom=2,736.

² The number of students per classroom = Expected number of students as of 2009 / the number of usable classrooms

number of classrooms, the absolute shortage of boarding facilities at secondary education level will be alleviated and the living environment for the boarders will be improved. Especially, in No.13 Chukha HSS in which car garages have been used as student hostels for girls, living conditions of girls who are forced to live a life under such a terrible situation will be improved. In addition, being separated from the residence areas in the standard design of the MOE, the toilet facilities of student hostels, in the Project, will be located near the residence areas in the hostels so that it will be possible especially for girls to go to toilets in the night time without going outside and feeling any fear.

(2) Indirect Effects

1) Efficient use of time by shortening the commuting time to school

Through the Project implementation, commuting time to and from school, which has been spent by children out of the residential areas, will be shortened. As a result, time before going to and after coming back from school will be able to be used efficiently for things which have been difficult to find time for such as studying at home and helping parents to do farmwork and/or housework and so on.

2) Improving educational standard in Bhutan

Through the Project implementation, the number of schools covering PS level will nationally be increased from 90 to 93, from 77 to 81 at LSS level, from 29 to 34 at MSS level and from 16 to 17 at HSS level. As a result, training and development of human resource in the country will be promoted, which will contribute to realize the “9th Five-Year Plan (2002-2007)”.

3-2 Recommendations

1) Technical support and monitoring of school facility maintenance by the government

In the Project, it is expected that proper school facility maintenance will be regularly and continuously implemented at each Project school. In the site survey; however, it was found that maintenance activities for existing facilities were not properly done in spite of the serious condition of damaged or old facilities and toilet facilities were not kept clean at most of the existing schools. Taking those situations into consideration, in order that both newly constructed and existing facilities are well maintained, it is required to allocate a necessary amount of budgets not only for highly prioritized major repair but also for daily maintenance as well. Furthermore, it is also indispensable that the government officials (especially Dzongkhag Education Officer: DEO) periodically visit

schools, monitor the maintenance activities, and provide necessary managerial and technical support to the schools.

2) Establishment, reorganization and capacity building of the School Management Board (SMB) as a main actor in school management and maintenance

As for the School Management Board (SMB) as a main actor in school management and maintenance, although its formation depends on the size of the school and whether the school is a boarding school or not, it is indispensable to establish the SMB in order to maintain the newly constructed facilities properly. Both establishing the SMB at No.5 Pakshikha MSS (a new school) and reorganization and capacity building of the SMB at No.1 Phobjikha MSS and No.3 Kabjisa MSS in which the education level being covered will be expanded because of the implementation of the Project are required.

3) Support for opening new school

In No.5 Pakshikha MSS which will be newly opened in the Project, the preparation activities such as appointment of a new head teacher and other teachers, recruitment of school staff, the above-mentioned establishment of the SMB are expected to be done without delay.

Appendices

1. List of Team Members

Basic Design Study Team (October 5, 2004~November 13, 2004)

Name	Job Title	Organization
Mr. Hiroshi KURAKATA	Leader	Director, 1st Project Management Div., Grant Aid Management Dept. JICA
Ms. Asuka TSUBOIKE	Planning Management	Staff, 1 st Project Management Div., Grant Aid Management Dept. JICA
Mr. Akira YOKOYAMA	Chief Consultant/ Architectural Planning	Mohri, Architect & Associates, Inc.
Ms. Akane TOTANI	Education Planning/ Equipment Procurement Planning	Mohri, Architect & Associates, Inc
Mr. Hisafumi MICHIKAWA	Architectural Design 1	Mohri, Architect & Associates, Inc
Mr. Shinji KUMEKAWA	Architectural Design 2	Mohri, Architect & Associates, Inc
Mr. Haruo KANEKO	Construction, Procurement Planning/ Cost Estimate	Mohri, Architect & Associates, Inc
Mr. Hiroyasu KUDO	Project Coordinator	Mohri, Architect & Associates, Inc
Mr. Masao FUJIMOTO	Construction Planning	Mohri, Architect & Associates, Inc
Ms. Yumiko ONO	Educational Planning 2	Mohri, Architect & Associates, Inc

Draft Report Explanation Team (February 22, 2005~March 3, 2005)

Name	Job Title	Organization
Mr. Mitsukuni SUGIMOTO	Leader	Resident Representative JICA Bhutan Office
Ms. Asuka TSUBOIKE	Planning Management	Staff, 1 st Project Management Div., Grant Aid Management Dept. JICA
Mr. Akira YOKOYAMA	Chief Consultant/ Architectural Planning	Mohri, Architect & Associates, Inc
Mr. Hisafumi MICHIKAWA	Architectural Design1	Mohri, Architect & Associates, Inc
Mr. Haruo KANEKO	Construction, Procurement Planning/ Cost Estimate	Mohri, Architect & Associates, Inc

2. Study Schedule

Date	JICA	Chief Consultant/ Architectural Planning	Architectural Design 1	Project Coordinator	Educational Planning/ Equipment Procurement Planning	Architectural Design 2	Construction Procurement/ Cost Estimate	Construction Planning	Educational Planning		
	-	A	C	F	B	D	E	G	H		
	KURAKATA / TSUBOIKE 11days	YOKOYAMA 40days	MICHIKAWA 40days	KUDO 40days	TOTANI 36days	KUMEKAWA 40days	KANEKO 26days	FUJIMOTO 13days	ONO 20days		
1	5-Oct	Tue	Lv. Narita(16:55)→Arr. Bangkok(21:25)							Lv. Narita→Arr. Bangkok	
2	6-Oct	Wed	Lv. Bangkok(6:50)→Arr. Paro(11:10), Move to Thimphu, Courtesy Call to JICA Bhutan Office							Lv. Bangkok→Arr. Paro	
3	7-Oct	Thu	Courtesy Call to Ministry of Education(MoE), Ministry of Finance(MoF)			Cost Estimate Survey		Construction Survey	Accompanying B		
4	8-Oct	Fri	Courtesy Call to UNICEF Bhutan Office, Discussion with MoE			Ditto		Ditto	Ditto		
5	9-Oct	Sat	Inspection of School Sites (No.3 Kabjisa LSS, Kuruthang LSS)			Ditto		Ditto	Ditto		
6	10-Oct	Sun	Inspection of School Site constructed by DFID (Drukgyel HSS)			Ditto		Ditto	Ditto		
7	11-Oct	Mon	Courtesy Call to Minister of MoE, Discussion with MoE			Ditto		Ditto	Ditto		
8	12-Oct	Tue	Inspection of School Sites (Chanji LSS, RK PS), Discussion with MoE about draft of Minutes of Discussions			Ditto	Lv. Narita	Ditto	Ditto		
9	13-Oct	Wed	Signing on Minutes of Discussions, Report to JICA Bhutan Office			Ditto	Arr. Paro	Ditto	Ditto		
10	14-Oct	Thu	Lv. Paro	Site Survey (No.8 Lango) Paro		Ditto	Accompanying A	Ditto	Ditto		
11	15-Oct	Fri	Arr. Narita	Joint Site Survey (No.13. Chukha) Chukha							
12	16-Oct	Sat		Ditto (No.5. Pakshikha) Chukha						Lv. Paro	Accompanying B
13	17-Oct	Sun		Internal Meeting, Data Analysis						Arr. Narita	Data Analysis
14	18-Oct	Mon		Site Survey (No.4 Bitekha) Paro			Cost Estimate Survey		Accompanying B		
15	19-Oct	Tue		Ditto (No.3 Kabjisa) Punakha			Ditto		Ditto		
16	20-Oct	Wed		Ditto (No.12 Tsirang) Tsirang			Ditto		Ditto		
17	21-Oct	Thu		Back to Thimphu (Afternoon) Architectural Survey	Ditto (No.1 Phobjikha) Wangdue		Ditto		Back to Thimphu (Afternoon)		
18	22-Oct	Fri			Ditto (No.6 Tangsibi) Trongsa		Ditto		Educational Survey		
19	23-Oct	Sat			Ditto (No.11 Buli) Zhemgang		Ditto		Lv. Paro		
20	24-Oct	Sun		Data Analysis	Move to Jakar		Data Analysis		Arr. Narita		
21	25-Oct	Mon		Discussion with MoE	Move to Mongar		Architectural Survey				
22	26-Oct	Tue		Ditto	Site Survey (No.14 Gyelposhing) Mongar		Ditto				
23	27-Oct	Wed		Ditto	Ditto (No.10 Minjay) Lhuentse		Ditto				
24	28-Oct	Thu		Architectural Survey	Ditto (No.15 Autsho) Lhuentse		Ditto				
25	29-Oct	Fri		Ditto	Ditto (No.7 Bartsham) Trasigang		Ditto				
26	30-Oct	Sat		Ditto	Ditto (No.9 Kanglung) Trasigang		Ditto				
27	31-Oct	Sun		Data Analysis	Move to Jakar		Data Analysis				
28	1-Nov	Mon		Discussion with MoE	Move to Thimphu		Cost Estimate Survey				
29	2-Nov	Tue		Site Survey (No.2 Genekha) Thimphu			Ditto				
30	3-Nov	Wed		Discussion with MoE, Additional Survey		Educational Survey	Cost Estimate Survey				
31	4-Nov	Thu		Ditto		Ditto	Ditto				
32	5-Nov	Fri		Ditto		Ditto	Lv. Paro				
33	6-Nov	Sat		Internal Meeting		Ditto	Ditto	Arr. Narita			
34	7-Nov	Sun		Data Analysis							
35	8-Nov	Mon		Discussion with MoE, Additional Survey		Lv. Paro	Cost Estimate Survey				
36	9-Nov	Tue		Discussion with UNICEF, Additional Survey		Arr. Narita	Ditto				
37	10-Nov	Wed		Discussion with MoE, Report to JICA Bhutan Office			Accompanying A				
38	11-Nov	Thu		Internal Meeting, Data Analysis							
39	12-Nov	Fri		Lv. Paro(11:30)→Arr. & Lv. Bangkok (23:10)			Internal Meeting				
40	13-Nov	Sat		Arr. Narita(7:30)			Arr. Narita				

Notice: 11-Nov to 13-Nov on holidays due to the current King's Birthday

Date	JICA	JICA	Chief Consultant/Arc hitectural Planning	Architectural Design 1	Construction Procurement Planning /Cost Estimate		
	SUGIMOTO	TSUBOIKE	YOKOYAMA	MICHIKAWA	KANEKO		
		10 days	10 days	10 days	10 days		
1	22-Feb	Tue	Lv. Narita(10:45)→Arr. Bangkok(21:25)				
2	23-Feb	Wed	Arr. Paro(10:10), Courtesy Call to MOE, JICA Bhutan Office				
3	24-Feb	Thu	Internal Meeting, Discussion with MoE		Cost Estimate Survey		
4	25-Feb	Fri	Discussion with UNICEF	Discussion with SPBD	Ditto		
5	26-Feb	Sat	Discussion regarding M/D			Ditto	
6	27-Feb	Sun	Site Survey (Changisi/LGSF Method)			Ditto	
7	28-Feb	Mon	Data Analysis/Internal Meeting				
8	1-Mar	Tue	Discussion with DADM	Discussion with SPBD	Cost Estimate Survey		
9	2-Mar	Wed	Discussion regarding M/D with MOE				
10	3-Mar	Thu	Signing of M/D, Report to JICA Bhutan Office				
11	4-Mar	Fri	Lv. Paro(09:30)→Arr. Delhi(12:30), Report to Embassy of Japan in India				
12	5-Mar	Sat	Lv. Delhi(00:05)→Arr. Bangkok(08:20)→Arr. Narita(16:00)				

3. List of Concerned Parties in the Recipient Country

Ministry of Education

Mr. Lyonpo Thinley Gyamtsho	Minister
Mr. Pema Thinley	Secretary
Mr. Thewang Tandin	Director, Department of School Education
Mr. Karma Yeshey	Joint Director, Department of School Education
Mr. Singye Namgyel	Joint Director, Department of Adult & Higher Education
Mr. Karma L. Dorji	Joint Director, SPBD(School Planning & Building Division)
Mr. Pasang Dorji	Project Engineer, SPBD
Mr. Neten Wangchuk	UNICEF Project Engineer, SPBD
Mr. Jambay Wangchuk	Deputy Secretary, Policy & Planning Division
Mr. Shinge Namgyel Dorji	Planning Officer, Policy & Planning Division
Mr. Dawa Wangchuk	Planning Officer, Policy & Planning Division
Mr. Dochu	Planning Officer, Policy & Planning Division
Mr. Thinley Rinzin	Planning Officer, Policy & Planning Division
Mr. Karma Lhendup	Statistician, Policy & Planning Division
Mr. Sonam Tshering	Head of Personnel Division, Administration & Finance Division
Mr. Chimmi Jantsho	Personnel Officer, Administration & Finance Division
Mr. Thewang Dorji	Finance officer, Administration & Finance Division

Ministry of Finance

Mr. Nima Wangdi	General Director
Mr. Phuntsho Wangyel	Program Officer, Department of Aid & Debt
Mr. Tashi Dorji	Assistant Program Officer, Department of Aid & Debt

National Institute of Education (NIE)

Ms. Jagar Dorji	Director, NIE Paro
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District (Dzongkhag) Administration Office

Mr. Dawala	Governor, Chukha
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District (Dzongkhag) Educational Officer

Ms. Kinley Pem	DEO (District Educational Officer), Punakha
Mr. Wangchuk Namgyel	DEO, Paro
Mr. Tshewang Rinzni	DEO, Chukha
Mr. Chimi Dorji	DEO, Tsirang
Mr. Lekey Tshering	Assistant DEO, Wandue Phodrang
Mr. Ngawang Dorji	Assistant DEO, Trongsa
Mr. Dorji Wangdi	Assistant DEO, Zhemgang
Mr. Rinzin Wangdi	DEO, Mongar
Mr. Kenley Gyeltshen	DEO, Lhuentse
Mr. Figme Yaagtsi	DEO, Trasigang
Mr. Sonam Tshering	DEO, Thimphu

Ministry of Trade and Industry

Mr. Karma P. Dorji	National Project Manager, Rural Electrification Project, Department of Energy
Mr. Kiyoshi HIRATA	JICA Expert for Micro Hydro Power, Department of Energy

National Environment Commission

Mr. Karma C. Nyedrup	Deputy Director
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UNICEF Bhutan Office

Mr. Pawan Kucita	Project Officer, Education
Mr. Pema Dhendup	Project Officer
Mr. Tim Sutton	Program Officer
Ms. Khandu Om Dorji	Assistant Project Officer
Ms. Hitomi Okubo	Intern, Education

Canada Cooperation Office (CCO)

Ms. Nancy Strickland	Coordinator
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Swiss Development Coordination (SDC)/Helvetas

Mr. Erwin Koenig	Resident Coordinator
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JICA Bhutan Office

Mr. Mitsukuni Sugimoto	Resident Representative
Mr. Yusuke Kubo	Project Formulation Advisor

Appendix 4

Minutes of Discussions (M/D)

Appendix 4-1

Minutes of Discussions (M/D) on the Basic Design Study

**Minutes of Discussion on
the Basic Design Study on the Project for
Construction of Primary and Secondary School
in the Kingdom of Bhutan**

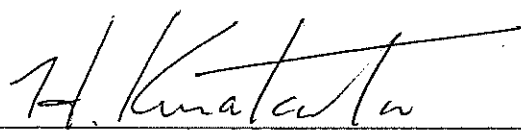
Based on the results of the Preparatory Study, the Government of Japan decided to conduct a Basic Design Study on the Project for Construction of Primary and Secondary School (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to the Royal Government of Bhutan (hereinafter referred to as "Bhutan") the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Hiroshi KURAKATA, Group Director, Project Management Group 1, Grant Aid Management Dept., JICA, and is scheduled to stay in the country from October 6th to October 14th.

The Team held discussions with the officials concerned of the Government of Bhutan and conducted a field survey at the study area.

In the course of discussions and field survey, both parties confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Thimphu, 13th October, 2004



Mr. Hiroshi KURAKATA
Leader
Basic Design Study Team
JICA
Japan



Dr. Pema Thinley
Secretary
Ministry of Education
Royal Government of Bhutan

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve the access and the educational environment of Primary and Secondary Schools (LSS, MSS, HSS) in Bhutan by reconstructing the damaged/old-aged school buildings, extending the capacity of existing schools and constructing new schools.

2. Project Sites

The sites of the Project are located in 11 Dzongkhags of Bhutan as shown in Annex-1.

3. Responsible and Implementing Organizations

3-1. The responsible organization is the Ministry of Education.

3-2. The implementing agency is the Policy Planning Division (PPD) and the School Planning and Building Division (SPBD).

3-3. The organization chart of the Ministry of Education is attached as Annex-2.

4. Items requested by the Government of Bhutan

After a series of discussion with the team, the schools and its related components described in Annex-3 (Data of Each School) and Annex-4 (Prioritization of the schools and its components) were finally requested by the Bhutanese side.

The schools and its components are prioritized by the Bhutanese side.

JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

5. Japan's Grant Aid Scheme

5-1. The Bhutanese side understood the Japan's Grant Aid Scheme as explained by the Japanese Team, as described in Annex-5.

5-2. The Bhutanese side will take the necessary measures, as described in Annex- 6, for smooth implementation of the Project, on condition that the Japan's Grant Aid will be extended to the Project.

6. Schedule of the Study

6-1. The Consultants will proceed to further studies in Bhutan until November 11th.



6-2. JICA will prepare the draft report in English and dispatch a mission in order to explain its contents around the end of February, 2005.

6-3. In case that the contents of the report is accepted in principle by the Government of Bhutan, JICA will complete the final report and send it to the Government of Bhutan by the end of April, 2005.

7. Other relevant Issues

7-1. Selection of the Schools and Components

Considering the growing needs for the primary and secondary education in Bhutan, the Japanese side pointed out the importance of enlarging beneficiaries of the Project by prioritizing the schools and the components that have direct impact on improving the access to the schools such as classrooms and hostels and explained that the full set of requested components in all schools may not be met in the Project.

The Bhutanese understood the Japanese policy and set the priority order for the requested school and its components based on the urgent needs and regional equity through a prioritization of the schools, keeping the idea of essential items for school operation and management as its component.

The Bhutanese side also explained that the components with the priority number 1 to 3 are the standard components for existing Primary and Secondary Schools.

7-2. Preparation works, demolishing works and temporary classrooms

The Bhutanese side strongly requested that the site development works such as cutting, clearance, level, and reclaim the land, to be done as Japanese undertakings, because of the mountainous topography in Bhutan.

The Japanese side understood that some of the sites might to be done by Japanese side in order to secure reasonable range of the time and to secure the safety of the land.

However, the Japanese side explained that it should be considered on an individual site basis based on the required technique and timing in the time frame of the Project.

The Bhutanese side understood basically that implementing a part of demolishing works and securing necessary temporary classrooms are to be the Bhutanese undertakings under the Japanese Grant Aid system.

7-3. Construction method and the Bhutanese traditional building designs

The Bhutanese side explained that the Ministry of Education had piloted the Light



Gauge Steel Frame method in Thimphu funded by Denmark. This method has been recommended to the school construction projects funded by the World Bank. The Bhutanese side also explained that in terms of the school construction to be implemented by the Dzongkhags (districts) level, which are to be funded by the Government of India, and through the Royal Government of Bhutan's capital budget including the budgetary support from Denmark, the ordinary construction method (rock laid method) would be applied. Both sides agreed that the construction method to be applied to the Project would be decided by the Japanese side based on the following field survey and further analysis in Japan.

Also, the Bhutanese side explained that the Bhutanese traditional building designs must be attached to every general building to be constructed in Bhutan. The Bhutanese side suggested that the Japanese side to refer to the standard designs made by the Ministry of Education in attaching the Bhutanese traditional designs, which are not very complicated.

The Japanese side explained that it is necessary to make every effort in attaining the cost effectiveness of the Project both in terms of the construction method and the application of the traditional building designs in order to make the most out of the limited budget.

7-4. Access to the water, electricity, and the drainage work

The Japanese side pointed out the importance of the water resource and electricity in a school compound, as far as the toilets, hostels, and kitchen are included as school components.

The Bhutanese side agreed that the road, water and electricity would be brought to each school site.

The Bhutanese side requested to the Japanese side to arrange the road, footpath, parking, water distribution, electricity piping works and the drainage works within the school compound.

The Japanese side further explained that it should be decided after the following site survey, and also based on the final project components (schools, facilities) which would be fixed after the detail analysis in Japan.

7-5. Environmental Law and its procedure

The Bhutanese side explained that it is necessary to get environmental clearance from the National Environmental Commission (NEC) for all the schools covered with this



project, and it would be undertaken by the Bhutanese side to be done before the implementation of the project.

7-6. School Management and Maintenance

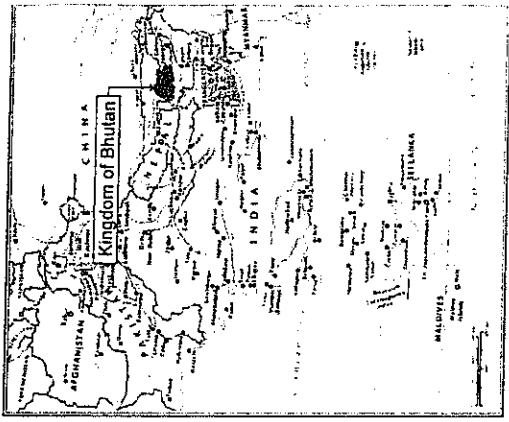
Both sides understood the importance of the school management and proper maintenance.

The Bhutanese side promised to allocate enough number of people and budget for that.

The Bhutanese side further explained that, especially for the new schools, the School Management Board (i.e. the committee of the teachers, parents, and the people from the community) would be established when the school starts.

END



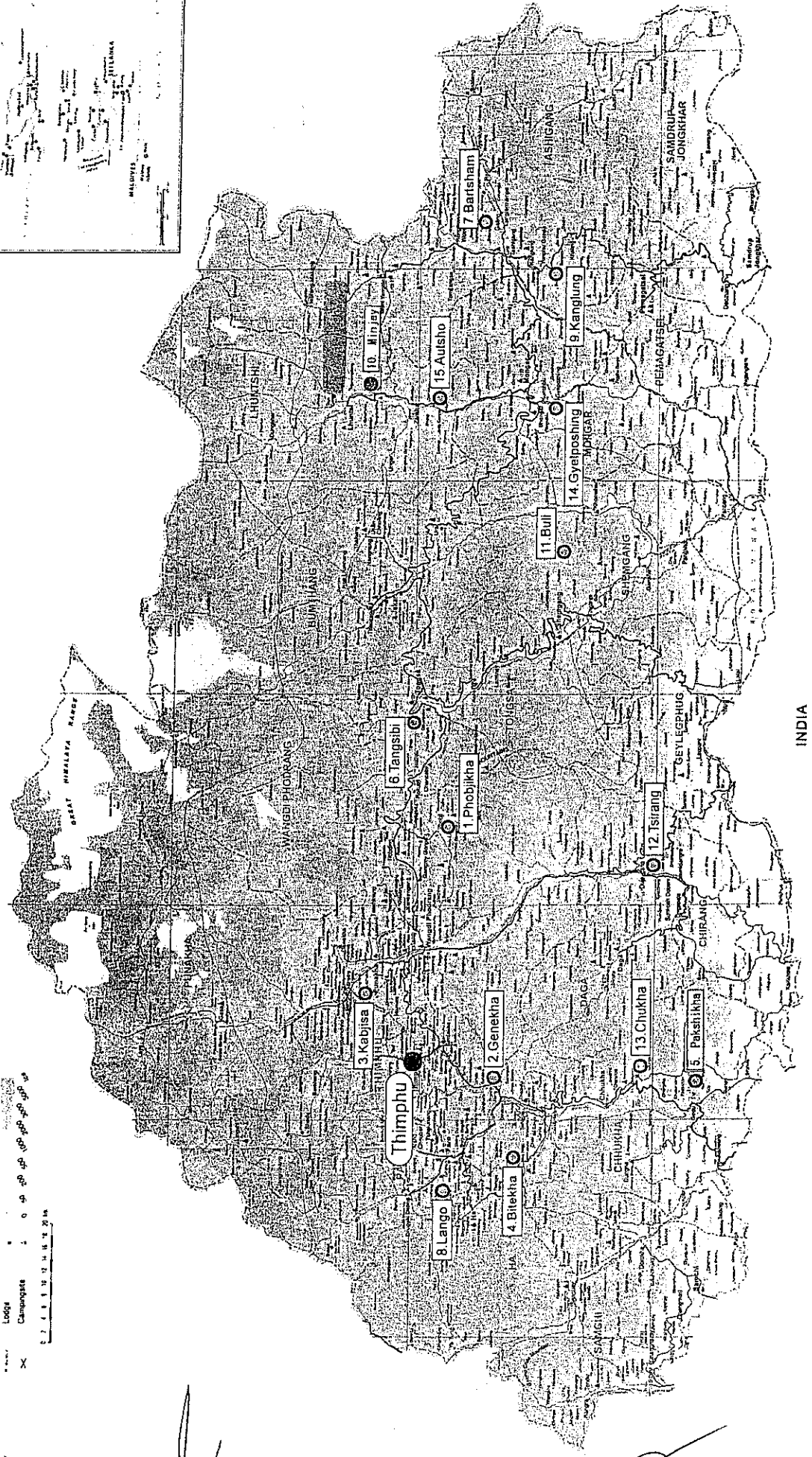


Location Map of Proposed Schools

Legend

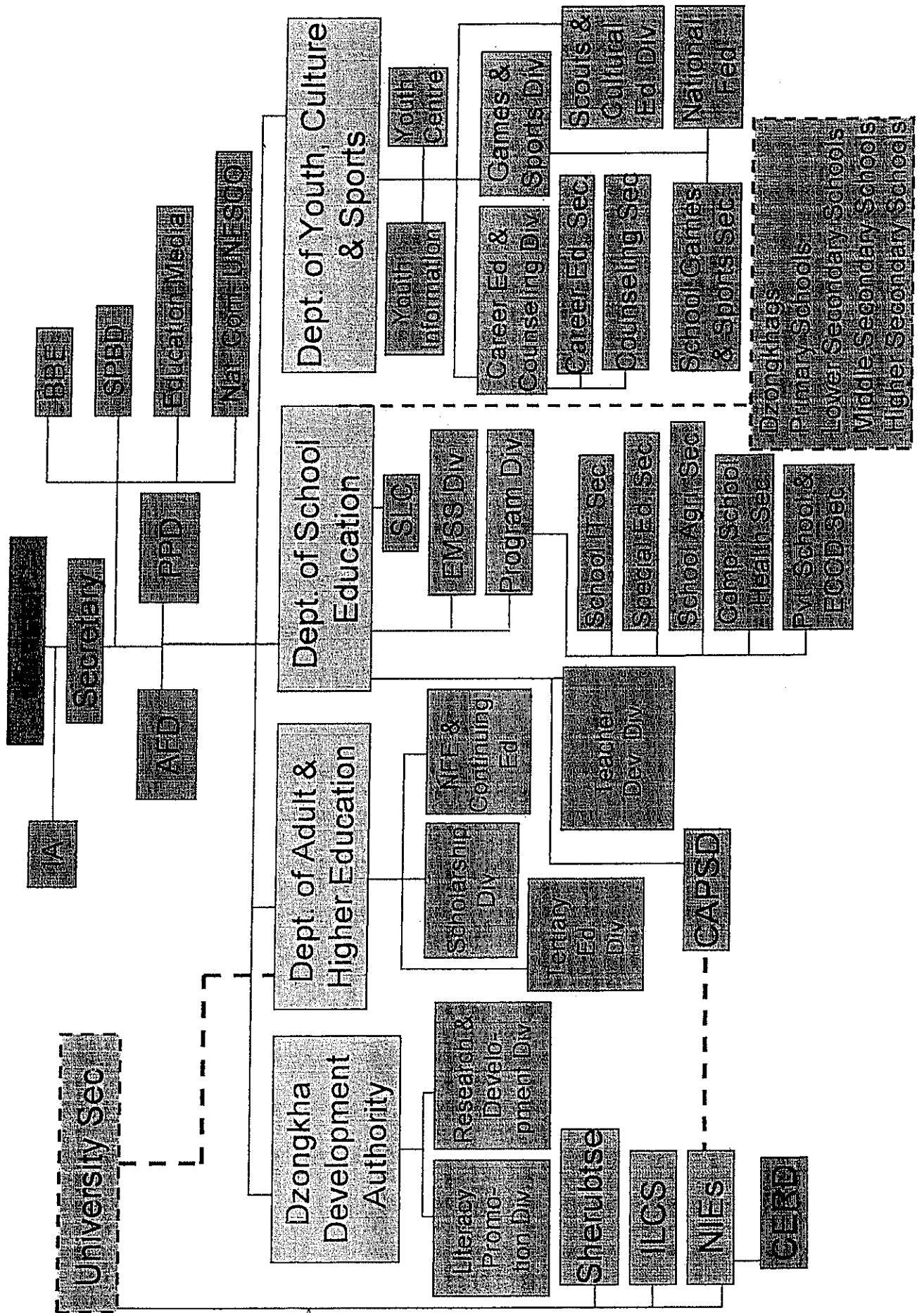
National Capital	Thimphu	Airport	✈	Museum	🏛
Centre of Districts	Paro	Bus Station	🚌	Buddhist temple	🏠
More than 20,000 inhabitants	✳	Embassy	🏢	Chorten (Buddhist Monument)	🗼
10,000 - 20,000 inhabitants	⦿	Police	👮	Monastery, Church	⛪
Less than 10,000 inhabitants	⦿	Hospital	🏥	Dzong (Fortress - Monastic compound)	🏰
Widely spread settlement	⦿	Postoffice	📮	Park or forest	🌳
International boundaries	—	Telephone	📞	Nature reserve	🌿
District boundaries	—	Broadcasting Station	📻	Library	📖
Main road	—	Radio Tower	📡	Cinema	🎬
Secondary road	—	Police Station	👮	Govt. courts	⚖
Path	—	Hotel	🏨		
Railway	—	Looph	🚰		
Pass	—	Campsite	🏕		

0 2 4 6 8 10 12 14 16 18 20 km



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3

4

Annex 3 List of Requested Schools

School	Dzongkhag		Level		Classes		Students		Boarders		Day/ Boarding	Status Change	Type of Construction	Existing Cl.rooms	Demolish	Reconst.	Add. Const.	Const. Requested to	Total
	Now	Planned	Now	Planned	Now	Planned	Now	Planned	Now	Planned									
1	Phobjikha	Wangdue	New	MSS	I-VI	PP-X	550	720	0	256	Boarding	Upgrade	Relocation/New Const.	0	0	0	20	20	20
2	Genekha	Thumphu	LSS	MSS	PP-VII	PP-X	179	576	134	384	Boarding	Upgrade	Add. Const.	8	0	0	8	8	16
3	Kabjisa	Punakha	LSS	MSS	PP-VII	PP-X	578	720	80	0	Day	Upgrade	Reconst. & Add. Const.	17	17	17	3	20	20
4	Bitekha	Paro	LSS	MSS	PP-VIII	PP-X	406	720	57	256	Boarding	Upgrade	Add. Const.(10) only	10	10	10	10	20	20
5	Pakshikha	Chukha	New	MSS	None	PP-X	0	576	0	384	Boarding	New Establishment	New Const.	0	0	0	16	16	16
6	Tangisibi	Trongsa	New	MSS	None	VII-X	0	504	0	384	Boarding	New Establishment	New Const.	0	0	0	14	14	14
7	Bartsham	Trashigang	LSS	MSS	P-VII	PP-X	421	432	0	256	Boarding	Upgrade	Recon. & Add. Const.	0	0	0	12	12	12
8	Lango	Paro	LSS	MSS	P-VIII	PP-X	766	864	0	0	Day	Upgrade	Recon. & Add. Const.	18	12	12	6	18	24
9	Kanglung	Trasigang	New	MSS	None	VII-X	0	720	0	0	Day	New Establishment	Add. Const.	8	0	0	12	12	20
10	Minjey	Lhuentse	PS	MSS	PP-VI	PP-X	197	432	0	256	Boarding	Upgrade	Add. Const.	10	10	10	2	12	12
11	Buli	Zhemgang	New	MSS	None	PP-X	0	504	0	384	Boarding	New Establishment	New Const.	0	0	0	20	14	14
12	Tsirang	Tsirang	New	HSS	None	VII-XII	0	720	0	384	Boarding	New Establishment	New Const.	0	0	0	20	20	20
13	Chukha	Chukha	HSS	HSS	IX-XII	IX-XII	561	828	372	512	Boarding	No change	Recon. & Add. Const.	20	5	5	3	8	23
14	Gyelposhing	Mongar	HSS	HSS	VII-XII	VII-XII	787	720	663	352	Boarding	No change	Add. Const.	6	0	0	14	14	20
15	Autsho	Lhuentse	CPS	MSS	PP-VI	PP-X	162	720	0	256	Boarding	Upgrade	Reconst. & Add. Const.	12	6	6	8	14	20
													109	60	60	168	222	271	

Note: The present class coverage comes from Page 64-72 of the General Statistics 2003 issued by MOE.

* Kabjisa LSS will become a day school.

** The level of current Kanglung LSS (PP-8) will be reduced to Kanglung MSS (PP-6) and new Kanglung MSS (7-10) will be created.

***The level of current Gyelposhing HSS (7-12) will be reduced to Gyelposhing LSS (PP-8) and new Gyelposhing HSS (9-12) will be created.

Annex4 Schools and facilities by Priority

Priority	Priority 1										Priority 2		Priority 3						
	Level	Class rooms	AP Toilet	Hostel (No. of Beds)	Hostel Toilet	Science, Laboratory	Adm. Block	MPH	K/chen & Store	P/Pal's Qtr	Ward/Mat's Qtr	Staff Qtr (No. of Qtrs)	Staff Qtr (No. of Qtrs)	L a b	L a b	L a b	Q t r	Q t r	Q t r
1	Chukha	8	2	128	1	1	1	1	1	1	1	0	2	1	1	20	1	0	
1	Pakshikha	16	2	192	2	2	1	1	1	1	1	4	2	1	1	20	1	0	
1	Autsho	14	2	128	1	1	1	1	1	1	1	4	2	1	1	20	1	1	
1	Lango	18	2	0	0	1	1	0	1	0	0	0	2	1	1	20	1	0	
1	Kabjisa	20	2	0	0	1	1	0	1	0	4	2	1	1	1	20	1	0	
1	Kanglung	12	2	0	0	0	0	0	1	0	4	2	1	1	1	20	1	0	
1	Tangtibji	14	2	192	2	2	1	1	1	1	1	0	2	1	1	20	1	1	
1	Phobjikha	20	2	128	1	1	1	1	1	1	1	4	2	1	1	20	1	0	
1	Buli	14	2	192	2	2	1	1	1	1	1	4	2	1	1	20	1	1	
2	Minjey	12	2	128	1	1	1**	1	1	1	1	4	2	1	1	20	1	1	
2	Bithekha	20	2	128	1	1	1	1	1	1	1	4	2	1	1	20	1	1	
2	Bartsham	12	2	128	1	1	1	1	1	1	1	4	2	1	1	20	1	0	
2	Genekha	8	2	192	2	2	1	1	1	1	1	0	2	1	1	20	1	1	
3	Gyelposhin	14	2	80	1	2	0	1	1	1	1	0	2	0	2	20	1	0	
3	Tsirang	20	2	192	2	2	1	1	1	1	1	0	2	1	1	20	1	1	

Key

* Special Classroom for computer science & IT

** Special Classroom for Bio, Phys & Chem (General Science)

*** 1 set

Japan's Grant Aid Scheme

The Grant Aid Scheme 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.

1. Grant Aid Procedures

(1) Japan's Grant Aid Scheme 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 Implementation (The Notes exchanged between the Governments 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 (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 to conduct a study on the request. If necessary, JICA send a Preliminary Study Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Programme, 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 Government of Japan. The contents of the Study are as follows:

- a) confirmation of the background, objectives and benefits of the 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 the technical, social and economic points 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; and
- 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 the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participates the Study and prepares a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design.

3. Japan's Grant Aid Scheme

(1) 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.

(2) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors 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.

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

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, constructing 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.)

(4) Necessity of "Verification"

The Government of the 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.

(5) Undertakings required to 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:

- a) to secure a lot of land necessary for the construction of the Project and to clear the site;
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;
- c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
- d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
- e) 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;

- f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
- g) to bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.

(6) "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 covered by the Grant Aid.

(7) "Re-export"

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

(8) Banking Arrangement (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 a 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 (A/P) issued by the Government of recipient country or its designated authority.

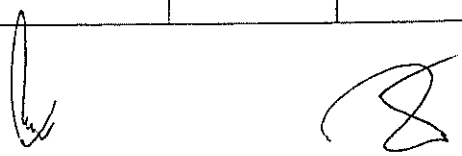
(9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions to the Bank.

Necessary Measures to be taken by each government

No	Items	To be covered by Japanese side	To be covered by Bhutanese side
1	To secure land		●
2	To clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To construct the parking lot	(●) ¹	(●)
5	To construct roads		
	1) Within the site	(●)	(●)
	2) Outside the site		●
6	To Construct the building	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distributing line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer	●	
	2) Water Supply		
	a. The city water distribution main to the site		●
	b. The supply system within the site (receiving and/or elevated tanks)		●
	3) Drainage		
	a. The city drainage main (for storm, sewer and others) to the site		●
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site		●
	4) Gas Supply		
	a. The city gas main to the site		●
	b. The gas supply system within the site		●
	5) Telephone System		
	a. The telephone trunk line to the main distribution frame / panel (MDF) of the building		●
	b. The MDF and the extension after the frame / panel	●	
6) Furniture and Equipment			
a. General furniture		●	
b. Project equipment	●		
8	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	●	●
10	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 the recipient country and stay therein for the performance of their work		●
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts		●

¹ Should be considered on site basis after further analysis



12	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant		●
13	To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for transportation and installation of the equipment		●



Appendix 4-2

Minutes of Discussions (M/D) on the Explanation on Draft Report

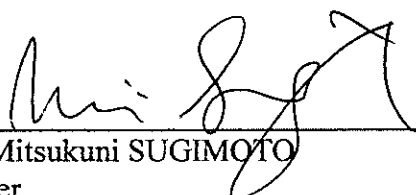
Minutes of Discussions
On the Basic Design Study on the Project for
Construction of Primary and Secondary Schools
In the Kingdom of Bhutan
(EXPLANATION ON DRAFT REPORT)

In October 2004, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Project for Construction of Primary and Secondary Schools(hereinafter referred to as "the Project") to the Kingdom of Bhutan (hereinafter referred to as "Bhutan"), and through discussions, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult the Bhutanese side on the components of the draft report, JICA sent to Bhutan the Draft Report Explanation Team (hereinafter referred to as " the Team "), which was headed by Mr. Mitsukuni SUGIMOTO, Resident Representative, JICA Bhutan Office, from February 23 to March 2 .

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

Thimphu, March 1, 2005



Mr. Mitsukuni SUGIMOTO
Leader
Draft Report Explanation Team
JICA
Japan



Dr. Pema Thinley
Secretary,
Ministry of Education
Royal Government of Bhutan

ATTACHMENT

1.Components of the Draft Report

The Government of Bhutan agreed and accepted in principle the components of the draft report explained by the Team.

2. Japan's Grant Aid scheme

The Bhutanese side understood the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Bhutan as explained by the Team and described in Annex-5 and Annex- 6 of the Minutes of Discussions signed by both parties on October 13, 2004.

3.Schedule of the Study

JICA will complete the final report in accordance with the confirmed item and send it to the Government of Bhutan by the end of April, 2005.

4.Other relevant issues

4-1. Schools and facilities covered by the Project

Both sides confirmed the final request of the schools and components covered by the Project as shown in Annex-1. The Bhutanese side agreed that the Japanese side would make final decision on this matter through further study in Japan.

4-2 Evidence of Land ownership(Deed)

The certificates of land ownership (for three schools; Kanglung, Chukha, and Phakshikha) have been provided by the Bhutanese side.


However for the rest of two schools; Kabjisa, and Phobjikha , the land ownership certificates were not provided.

The Bhutanese side agreed to provide the Japanese side with the evidence of land ownership issued by the appropriate government authority responsible for land and property for all of the schools listed in Annex-1, by the time as below.

2nd stage(Kabjisa):by the end of February, 2006.

4th stage(Phobjikha):by the end of February, 2008.

If any school fails to submit the above evidence by the due date, it may be excluded from the Project.



4-3. Electric Facility in Phobjikha MSS

For the Phobjikha MSS, the Japanese side explained that there was no plan of electrification in the school area at the National level and could not plan any electrical facilities.

The Bhutanese side strongly requested for the electrical appliance for Phobjikha MSS.

The Japanese side further explained that if the letter is submitted from the Ministry of Trade and Industry, Department of Energy, which assures the plan to reach there by the time of commencement of Japanese side construction, it would be considered.

The Bhutanese side explained that the MOE discussed with the Ministry of Trade and Industry, Department of Energy requesting to include Phobjikha MSS area to the 10th five year plan of electrification.

The Bhutanese side further explained the need for electrical provision, and promised that in case the electricity will not come by the intended time, the MOE will install power generator in the school with funding from RGOB.

The Japanese side understood the need for the provision, however, they explained that the final decision would be made after detail analysis in Japan.

4-4. Securing of Proposed Building Sites

The Bhutanese side confirmed that they would complete the preparation works in the identified construction sites in the recipient schools by the time of the commencement of the Japanese side works.

4-5. Site preparation works to be covered by the Bhutanese side

The Japanese side explained that the site preparation works to be covered by the Bhutanese side in principle. However, the Japanese side promised to cover the essential works which affect the building structure and its safeness as a project component.

Both sides understood what should be covered as the Bhutanese side major undertakings as a preparation works as shown in Annex- 2.

The Bhutanese side confirmed that they would secure necessary budget for the 1st stage schools; Chukha and Kanglung, by making application for the Ministry of Finance for the coming Fiscal Year of 2005/2006. The Bhutanese side further promised to complete the required works before the commencement of the Japanese side construction.

The Bhutanese side also confirmed to inform the Japanese side timely of the result of the Budget application and its result concerning those site preparation works.



The Bhutanese side further confirmed that the same arrangement would be made for further stages(2nd to 4th), with the application for each Fiscal Year budget to the Ministry of Finance.

4-6. Allocation of Personnel and Budget

The Bhutanese side agreed to allocate necessary budget and personnel for the preparation works to be done by the Bhutanese side, and also for the proper operation and maintenance of the facilities covered by this Project.

4-7. Proper Use and Maintenance

Both sides understood that proper use and maintenance of the facilities would be indispensable for their lifelong use. The Bhutanese side assured the Japanese side that it would facilitate the proper use and maintenance of facilities in the schools covered by the Project with the active involvement of concerned parties such as District Education Officer, schools, communities and so on.

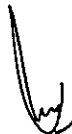
Both sides further understood the importance of the school management and proper maintenance. The Bhutanese side promised to allocate enough number of personnel and budget for that.

4-8. Necessary Undertakings

The Japanese side strongly emphasized that the necessary undertakings described in Annex-3 are standard mandatory requirements for the smooth implementation of the Project by the Bhutanese side.

4-9 Copyright of the Drawings

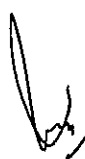
The Bhutanese side requested to utilize the drawings arranged by the Consultant for this Project. The Japanese side explained that the copyright belongs to the Consultant, and agreed to use for other school projects in Bhutan under the MOE.



END

Schools and facilities covered by the Project

No	School	Category												
		Education						Multipurpose		Residential				
		4 CL. TYPE	8 CL. TYPE	10 CL. TYPE	Administration & library block	Laboratory block	Toilet	Multipurpose hall	Kitchen and store	Hostel (96 beds)	Hostel (64 beds)	Principal's quarters	Staff quarters	Warden's & matron's quarters
1	Phobjikha MSS	0	0	2	1	1	2	1	1	0	4	1	1	2
3	Kabjisa MSS	1	2	0	1	1	2	0	0	0	0	1	1	0
5	Pakshikha MSS	2	1	0	1	1	2	1	1	4	0	1	1	2
9	Kanglung MSS	1	1	0	0	0	2	0	0	0	0	1	1	0
13	Chukha HSS	2	0	0	1	0	2	1	1	0	4	1	0	1

Site Preparation works to be covered by the Bhutanese side

Bhutanese side work School Name		Access road Construction	Existing Buildings Removal	Temporary Classrooms Provision	Other Obstacles Removal	Electric Line Shift	Electric Power Supply	Water Supply
		Distance	No. of Buildings	No. of Classrooms		Length, No. of Posts	Distance to Connection	Distance from Source
1	Phobjikha	Construction of Access bridge	-	-	Water pipe 540m	-	-	1.5km
3	Kabjisa	Gravel the access road	3	3	Water pipe100m	11.5m 1 Nos.	Within the site	3km
5	Pakshikha	Construction of the Road approx.150m	-	-	-	-	100 m	3.5km
9	Kanglung	-	-	-	-	-	300 m	5km
13	Chukha	-	27	-	Water tank & Water pipe100m	-	Within the site	0.3km



Work to be done before the commencement of Japanese side works

Necessary Measures to be taken by each government

NO	Items	To be covered by Grant Aid	To be covered by Bhutanese side
1	To secure land		•
2	To clear, level and reclaim the site when needed	•	•
3	To construct gates and fences in and around the site		•
4	To construct the parking lot		•
5	To construct roads		
	1) Within the site(footpath and finishing driveway)		•
	2) Outside the site(feeder road)		•
6	To construct the building	•	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1)Electricity		
	a.The distributing line to the site		•
	b.The drop wiring and internal wiring within the site	•	
	c.The main circuit breaker and transformer	•	
	2)Water Supply		
	a. Water distribution main to the site(from water source to water tank)		•
	b.The supply system within the site (receiving and/or elevated tanks)	•	
	3)Drainage		
	a.The drainage system for toilet sewer, ordinary waste and storm drainage around the building	•	
	b.The site drainage for the dispose of storm water		•
	4)Furniture and Equipment		
	a.General furniture for school activity	•	
	b.Furniture for hostels and sick rooms	•	
8	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
9	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1)Transportation of the products from Japan to the recipient country	•	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		•
	3) Internal transportation from the port of disembarkation to the project site	•	
10	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 the recipient country and stay therein for the performance of their work		•

NO	Items	To be covered by Grant Aid	To be covered by Bhutanese side
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		•
12	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		•
13	To bear all the necessary expenses, other than those to be borne by the Grant Aid		•

ns b

5. Cost Estimate for the Works Borne by the Bhutanese Side

Item	Sub-Item	Unit Cost	Unit	No. 1 Phobjikha MSS	No. 3 Kabjisa MSS	No. 5 Pakshikha MSS	No. 9 Kanglung MSS	No. 13 Chukha HSS	Grand Total
Construction of Roads		1	Unit	5,227,000	541,000	640,000	239,000	45,000	6,692,000
	Existing Foundations	40	m ²		773			30,181	1,238,160
	Existing Buildings	25	m ²			12			300
	Trees	15		6	1				105
Removal of Obstacles	Electric Wire & Pole	1	Unit		16,000				16,000
	Water	211	m	1,500	3,000	3,500	5,000	300	2,806,300
Extension to the Construction Site	Electricity	1	Unit			19145	27145	4000	50,290
	(Preparation of School Grounds)	1	Unit	(156890000)	(23795000)	(58169000)	(109254000)	(149341000)	(497,449,000)
Total									10,803,155

6. Reference

No.	Title	Publisher	Year
1	21 st Education Policy Guidelines & Instructions	Education Department, Ministry of Health & Education	2002
2	22 nd Education Policy Guidelines & Instructions	Education Development, Ministry of Health & Education	2003
3	23 rd Education Policy Guidelines & Instructions	Policy & Planning Division, Ministry of Education	2004
4	General Statistics 2004	Policy & Planning Division, Ministry of Education	2004
5	A Guide to Decentralised Education Monitoring and Support Services System	Department of Education, Ministry of Health & Education	2003
6	Drukgyel Higher Secondary School	N.A	N.A
7	Statistical Yearbook of Bhutan 2003	National Statistical Bureau	Mar. 2004
8	National Revenue Report 2002-2003	Department of Revenue & Customs, Ministry of Finance	2004
9	Water Caretaker's Manual	Public Health Department, Ministry of Health supported by UNICEF	N.A
10	Education Department Statistics 1999	Education Department, Ministry of Health & Education	1999
11	Education Department Statistics 2000	Education Development, Ministry of Health & Education	2000
12	General Statistics 2002	Education Department, Ministry of Health & Education	2002
13	General Statistics 2003	Policy & Planning Division, Ministry of Education	2003
14	Building Code of Bhutan 2003 Part 1: Structural Design	National Authority for Construction Standards and Quality Control, Ministry of Communication	2003
15	Building Code of Bhutan 2003 Part 2: Building Services	National Authority for Construction Standards and Quality Control, Ministry of Communication	2003
16	National Revenue Report 2003-2003	Department of Revenue and Customs, Ministry of Finance	2004
17	Revised Customs Tariff & Sales Tax Schedule, 2002	Department of Revenue and Customs, Ministry of Finance	2004
18	Indian Standard, Criteria for Earthquake Resistant Design of Structures, Fifth Revision	Bureau of Indian Standards	2002
19	Specifications	Education Department, Ministry of Health & Education	2004
20	Specification for Building & Road Works-2001	Standard & Quality Control Division	2001

21	Environmental Assessment Act, 2000	National Environment Commission	2000
22	Regulation for the Environmental Clearance of Projects and Regulation on Strategic Environmental Assessment	National Environment Commission Secretariat	2002
23	Labour & Material Coefficients (Civil)-2001	Standard & Quality Control Division, Ministry of Communications	2001
24	Labour & Material Coefficients (Electrical)-2001	Standard & Quality Control Division, Ministry of Communications	2001
25	Bhutan Schedule of Rates (Civil)-2001	Standard & Quality Control Division, Ministry of Communications	2001
26	Bhutan Schedule of Rates (Electrical)-2001	Standard & Quality Control Division, Ministry of Communications	2001
27	Statistical Yearbook of Bhutan 2003	National Statistical Bureau	2004
28	Rates of testing of Construction Materials at Material Testing Laboratory	Standard & Quality Control Division, Ministry of Communications	2004
29	Fare Chart for Passenger Transport Services	Road Safety & Transport Authority, Ministry of Communications	2001
30	Shaba Junior High School, Bill of Quantities	SPBD, Education Department	1966
31	Shaba Junior High School, Contract Package	SPBD, Education Department	2000
32	Chapcha Junior High School, Bill of Quantities	SPBD, Education Department	1966
33	Chapcha Junior High School, Bill of Quantities	SPBD, Education Department	2000
34	Notification for Construction Development Board	Ministry of Works & Human Settlement	2004
35	Labour and Employment 2005 Draft	Ministry of Labour and Human Resources	2004
36	Handbook on Recruitment and Employment of Foreign Workers in Bhutan Draft	Ministry of Labour and Human Resources	2004
37	Rules and Regulations on Employment of Bhutanese Nationals in the Private Sector Draft	Ministry of Labour and Human Resources	2004
38	Computation of Labour Requirement	SPBD, Education Department	2004
39	TDS Schedule for Monthly Salary Income	SPBD, Education Department	2004

7. Estimation of the Number of Students in the Requested Schools (2009)

School	Dzongkhag	Priority	Current situation in the existing schools					Planned changes in this Project										Estimated number by the Bhutnese side											
			School type	Number of Student (2004)				Number of available classrooms	School type	Hostel	(A) Estimated number of students in the existing schools					(B) Estimated number of out-of-school children within a Dzongkhag					A+B	(C) Average growth rate	(D) Estimated number of students in 2009 (= (A+B) × C)						
				PS Level	LSS Level	MSS Level	HSS Level				Total	PS Level	LSS Level	MSS Level	HSS Level	Total	PS Level		LSS Level	MSS Level				HSS Level	Total				
1	Phobjikha	Wangdue	1	PS	550	-	-	-	550	-	-	-	-	550	●	-	-	-	-	550	-	838	1,105	-	1,943	2,493	-2%	2,253	720
2	Genekha	Thimphu	2	LSS	145	33	-	-	178	8	-	-	-	186	●	145	41	-	-	145	-	1,435	2,338	-	3,773	3,959	8%	5,817	576
3	Kabjisa	Punakha	1	LSS	482	86	-	-	568	0	-	-	-	758		482	138	138	-	-	-	-	-	0	758	2%	837	720	
4	Bitekha	Paro	2	LSS	324	82	-	-	406	1	-	-	-	417	●	324	93	-	-	324	-	765	582	-	1,347	1,764	4%	2,146	720
5	Pakshikha	Chukha	1	New	-	-	-	-	-	-	-	-	-	0	●	-	-	-	-	-	250	1,700	909	-	2,859	2,859	-	2,859	576
6	Tangsibji	Trongsa	1	New	-	82	-	-	-	-	-	-	-	82	●	-	82	-	-	-	-	443	518	-	961	1,043	-	1,043	504
7	Bartsham	Trashigang	2	LSS	350	71	-	-	421	0	-	-	-	450	●	350	100	-	-	350	-	1,401	1,576	-	2,977	3,427	8%	5,035	432
8	Lango	Paro	1	LSS	643	123	-	-	766	6	-	-	-	1,011		643	184	184	-	-	-	-	-	0	1,011	7%	1,418	864	
9	Kanglung	Trasigang	1	LSS	-	146	-	-	146	8	-	-	-	452		-	226	226	-	-	-	-	-	0	452	10%	728	720	
10	Minjey	Lhuentse	2	PS	197	-	-	-	197	0	-	-	-	197	●	197	-	-	-	-	-	493	-	493	690	3%	800	432	
11	Buli	Zhemgang	1	PS	165	-	-	-	165	-	-	-	-	165	●	165	-	-	-	-	-	564	551	-	1,115	1,280	-2%	1,157	504
12	Tsirang	Tsirang	3	New	-	-	-	-	-	-	-	-	-	0	●	-	-	-	-	-	-	1,956	2,141	2,313	6,410	6,410	-	6,410	720
13	Chukha	Chukha	1	HSS	-	318	237	555	10	-	-	-	-	555	●	-	-	318	237	-	-	-	909	1,415	2,324	2,879	-6%	2,113	828
14	Gyelpoishing	Mongar	3	HSS	-	210	360	791	6	-	-	-	-	791	●	-	210	360	221	-	-	-	-	680	1,800	2,591	10%	4,173	720
15	Autsho	Lhuentse	1	CPS	162	-	-	-	162	0	-	-	-	162	●	162	-	-	-	-	-	493	540	-	1,033	1,195	7%	1,676	720

(A) Estimated number of students in the existing schools: number of students in the existing schools (PS+ Secondary level) + transfer students from the neighboring schools + estimated number of students at newly established grades (for only day schools)

(B) Estimated number of out-of-school children within a Dzongkhag: The number is calculated from current student population in Dzongkhag in which each Project school is located based on the following three assumptions:

1. The boarding schools will receive out-of-school children at secondary level within the Dzongkhag.

2. Primary enrollment rate in 2004 is 84%.

3. Enrollment rate will reach 100% at PS, LSS and MSS level and 56% at HSS respectively.

(C) Average increase rate of the number of students: Average growth rate of students for the past 5 years in the existing schools (For the past 3 years only in No.3 Kabjisa MSS)