CHAPTER 11

EDUCATION

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11.1 Current Situation and Problems in the Education Sector

11.1.1 Current Education System in Thailand[1]

The current education framework in Thailand is based on the 1992 National Education Scheme, which consists of two kinds of education system, i.e., school system and life-long education system. In the school system, there are four levels of education; i.e., pre-primary, primary, secondary, and higher education. Primary education is compulsory requiring a 6-year study for children ages 6 to 11. Secondary education is divided into two parts; i.e., lower secondary requiring a 3-year study for children ages 12 to 14, and upper secondary requiring another 3-year study for children ages 15 to 17. Higher education consists of three levels: lower than Bachelor's degree level[2], Bachelor's degree level, and (iii) graduate level.

Thailand adopted the Eighth National Education Development Plan (1997-2001) in1997. It stresses that (i) basic education will be expanded to all people and be extended to secondary education level[3], (ii) equality and relevance of education will be improved, and (iii) education will be enhanced to strengthen the national potential for self-reliance and to contribute to national economic stabilization. The National Education Act, which was established in 1999, would also require significant changes and new initiatives in the management of education as it is used as the framework and guidelines for educational development. The current educational reform is based on the Act.

[1] The Thai government is currently conducting educational reform. All information in this report is as of October 2000. It is highly possible that the Thai education system will be changed in the future.
[2] This level of higher education offers knowledge and vocational skills at middle level.
[3] Section 43 of the 1997 Constitution also stipulates that all Thai citizens shall enjoy their right to education, which will be provided by the government to all citizens, enjoying at least twelve years of basic education with quality and free of charge.

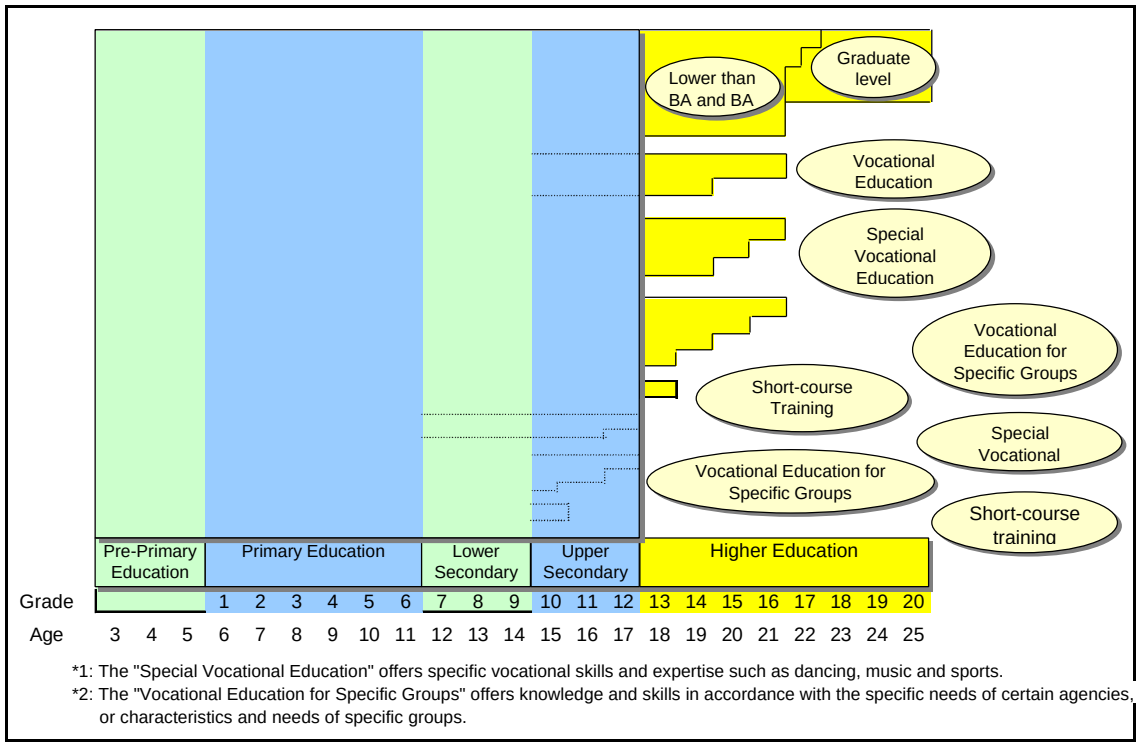


Figure 11.1 Education System in Thailand On-Going Reform Plan (as of October 2000)

The Office of the Prime Minister and other concerned agencies, as well as the Ministry of Education (MOE), are currently trying to create a new education system under the 1999 National Education Act. Many reform plans have already been announced as outlined below:

(1) Streamlining the Central and the Local Administrations

- MOE, Ministry of University Affairs (MOUA), and Office of the National Education Commission (ONEC) are consolidated into a new “Ministry of Education, Religion, and Culture (MOERC).” The current various departments and offices are streamlined into five new departments, i.e., Dept. of Basic Education, Dept. of Higher Education, Dept. of Culture & Religion, Dept. of Policy and Dept. of Permanent Secretary.
- The current 13 Educational Regions (12 Educational Regions plus Bangkok) will be reorganized into 290 Educational Zones plus Bangkok.
- At local level, provincial non-formal education offices will be closed and each school is in charge of non-formal education.
- All state-run schools will be administered by local administrations, and the status of teachers is changed from state employee to local employee (under discussion).

- All state-run universities will become autonomous bodies, and the status of staff can be chosen, either government employee or university employee (under discussion).

(2) Changing the Education System

- Compulsory education will be 9 years, i.e., primary and lower secondary education, and 12-year education will be offered free of charge.
- Student-centered learning will be a mainstream learning method.

(3) Changing Teacher Qualification

- All teachers are required to have at least a Bachelor's degree.
- Teacher's license or certificate will be created and be required to all teachers.
- Principal's license or certificate will be created and be required to all principals.
- There should be at least one person with a Master's degree in each school (under discussion).
- Teacher development will be laid stress on.
- A new teacher's salary scale will be introduced.
- A teacher award fund will be created.

(4) Introducing New Technology

- Information technology (IT) will be utilized for education at all levels[4].

11.1.2 Administration & Finance

(1) Central Administration

The current educational management is supervised by the following four ministries, i.e.,

- Office of the Prime Minister,
- MOE,
- MOUA, and
- Ministry of Interior (MOIr).

Some specific education, e.g., short-term vocational training, is provided by the Ministry of Labor and Social Welfare (MOLSW) and other concerned agencies as well as the ministries mentioned above.

[4] According to OPEC, the government is now considering a loan from JBIC for IT development in the education sector.

In Thailand, schools are administered by various ministries and departments as described below. For instance, MOE, MOUA, MOIr and MOLSW are all concerned in the management of primary schools.

(2) Local Administration

At the local level, there are provincial education offices under MOE and the Department of Local Administration under MOIr. These offices and departments coordinate local education plans.

(3) Finance

Thailand has a large budget for education. The public expenditure for education amounts to over 200 billion baht or 4% of GDP. It is equivalent to 25% of the total public expenditure. From the budget for education, 40% is spent for pre-primary and primary education, 25% for secondary education, 15% for higher education and 1% for non-formal education. In NBR, 90 million baht was allocated to Mukdahan, 150 million baht to Nakhon Phanom, 260 million baht to Sakon Nakhon, and 220 million baht to Kalasin, while the national budget was 87 billion baht in 2000[5]. This allocation of the budget to NBR is relatively higher than the national average.

Table 11.1 Total Budget and Budget per Student (1999)

(Baht)

	Budget for Primary Edu.	Budget per Students
Thailand	**86,940,044,100**	**1,603**
Mukdahan	87,334,240	2,555
Nakhon Phanom	153,615,784	2,260
Sakon Nakhon	259,259,743	2,412
Kalasin	218,047,207	2,286

Source: ONPEC and Provincial Education Offices

[5] The budget in NBR is only for primary education.

11.1.3 General Education

(1) Primary Education

1) Increasing Enrollment

Since 1980 when primary education became compulsory, the enrollment ratio in primary education has been significantly improved, from 89% in 1995 to 103% in 1999. However, the enrollment ratio varies from place to place. For instance, Bangkok shows 111% of enrollment, while the northeast is only 84%. There are still many children who are not in primary school, especially those who live in remote areas and are disabled.

Table 11.2 Gross Enrollment Ratio (Primary Education) in Thailand

(%)

	1995	1996	1997	1998	1999
Enrollment Ratio	89.7	89.7	90.7	102.6	103.6

Source: Education in Thailand 1999, Office of the Prime Minister

NBR shows significant improvement of enrollment in primary education. However, the current enrollment ratio is still lower than the national average. Especially, the enrollment ratios in Sakon Nakhon and Kalasin are relatively lower than the other two provinces. But it does not mean that Sakon Nakhon and Kalasin have more children who are not in primary school than Mukdahan and Nakhon Phanom, because these enrollment figures include repetition and over-aged students. The more repetition, the larger the figure becomes. It can be concluded that at least 12% of children aged 6 to 11, or 13,000 students, and at least 8%, or 7,600 students, do not go to school in Sakon Nakhon and Kalasin, respectively.

Table 11.3 Gross Enrollment Ratio (Primary Education) in NBR (1999)

(%)

	Thailand	Mukdahan	Nakon Phanom	Sakon Nakhon	Kalasin
Enrollment Ratio	**103.6**	106.6	103.3	87.9	92.0

Source: Provincial Education Offices

2) Large Number of Drop-outs

Dropping out of school is a serious problem. While the number of drop-outs has decreased since 1993, there are still 19,000 of them. Most students drop out at the first school year; they amount to approximately 20% of the total drop-outs. Main reasons for dropping out are poverty and family problem. They cannot afford to pay expenses for transportation and meals. Family members move to other places to work as seasonal workers, for instance in sugarcane and rice harvests, and children

have to quit school to follow their families.

Table 11.4 Number of Drop-outs (Primary Education) in Thailand

	1993	1994	1995	1996	1997	1998
No. of Dropouts	36,551	29,361	28,441	25,766	31,294	19,208
% of Total Students	0.68	0.58	0.60	0.55	0.67	0.41

Source: OPEC[6]

NBR had 737 drop-outs in 1998. The drop-out ratio in NBR is lower than the national average of 0.41%.

Table 11.5 Number of Drop-outs (Primary Education) in NBR

	Thailand	Mukdahan	Nakon Phanom	Sakon Nakhon	Kalasin
No. of Dropout	**19,208**	107	85	360	185
% of Total Studnets	**0.41**	0.32	0.13	0.35	0.20

Source: OPEC

3) Improving Teaching & Learning Conditions

For the past five years, teacher-student ratio has been improved from 1:20 to 1:18. In addition, the number of students per class is currently in an ideal level of 21. Both teacher-student ratio and number of students per class in NBR are as similar as the national average.

Table 11.6 Teacher-Student Ratio and Number of Students per Class (Primary Education) in NBR (1998)

	Thailand	Mukdahan	Nakon Phanom	Sakon Nakhon	Kalasin
Teacher-Student Ratio	**1:18**	1:17	1:18	1:19	1:19
No. of Students per Class	**21**	21	21	23	21

Source: Changwat Statistics

4) Low-Qualified Teachers

To maintain quality education, teacher quality is a crucial factor. Teacher quality can be measured by two factors: educational background and pre- and post-teacher training. Firstly, the current education laws mention neither educational background nor requirement of a teaching license[7]. A nationwide survey conducted in 1998 showed that 15.3% of primary school teachers do not have a Bachelor's degree. This ratio is higher in rural areas, especially the northeast, because there is severe

[6] These figures on the table are only students in the primary schools supervised by ONPEC. However, these are quite rational figures because ONPEC covers more than 90% of primary schools across the country.

[7] The Office of the Teacher Civil Service Commission (OTCSC) sets a rule clarifying that teacher civil servants must possess at least a Bachelor's degree.

shortage of teachers in these areas. Conditions are such that even those who finished diploma level courses only are hired just to have the required number of teachers.

In NBR, the provinces except Mukdahan show smaller ratios of teachers possessing a Bachelor's degree or higher educational background. In Nakhon Phanom, such highly educated teachers account for only 81%.

Table 11.7 Educational Background of Teachers in NBR (1999)

	Thailand	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin
% of Teachers with Less than BA	14.9	14.3	19.0	17.4	16.8
% of Teachers with BA or more	85.1	85.7	81.0	82.6	83.2

*These figures include teachers in either primary or secondary levels.

Source: Changwat Statistics

Secondly, the government emphasized the training of teachers. For instance, Rajabhat Institute and the faculty of education of public universities offer pre-teacher training. However, such training is mainly pre-service training conducted only by the faculty of education at higher education institutes. Many incumbent teachers have not had training because they did not graduate from this type of institute. Training and development of teachers in-service to improve their teaching skills are not thoroughly conducted.

5) Low Achievement in Some Subjects

Students in Thailand have long been criticized for being relatively weak in mathematics and science subjects. This is attributable to traditional teaching method; i.e., memorization and teacher-centered lecture. The table below shows the result of the National Competency Test for Grade 6, conducted in 1997. In NBR, the achievement is slightly lower than the national average in all subjects. Especially, Mukdahan shows relatively lower numbers than the other provinces.

Table 11.8 Ratio of Students with more than Average Score (Primary Education) in NBR (National Competency Test 1997)

Source: Department of Curriculum and Development, MOE

(%)

	Thailand	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin
Thai	**62**	57	62	60	63
English	**64**	56	64	60	63
Mathematics	**53**	48	55	51	54
Science	**56**	54	57	55	58
Basic Occupation	**58**	53	57	54	56
Social Science	**56**	54	57	53	56
Public Health	**57**	54	57	53	57
Solution	**54**	52	52	51	51

* The figures indicates % of the students winning more than average

Under the current educational reform, student-centered method is emphasized, instead of the traditional ways. Currently various seminars are being held nationwide to introduce new teaching methods.

(2) Secondary Education

1) Increasing Enrollment

Enrollment in secondary education has significantly increased during the last five years, from 53% (1995) to 65% (1999). The enrollment ratio in lower secondary education increased from 69% to 84%, and that in upper secondary education climbed from 38% to 58%.

Table 11.9 Gross Enrollment Ratio (Secondary Education) in Thailand

(%)

	1995	1996	1997	1998	1999
Lower Secondary	68.6	71.5	72.5	83.4	84.0
Upper Secondary	38.0	42.5	46.8	52.0	58.3
Secondary	**53.2**	**56.9**	**59.5**	**66.8**	**70.5**

Source: Education in Thailand 1999, Office of the Prime Minister

In NBR, the enrollment ratio in secondary education has also increased. However, some differences are found among the provinces. Sakon Nakhon shows a significantly high enrollment ratio of 87.7%; meanwhile, Kalasin has only 27.3%.

Table 11.10 Gross Enrollment Ratio (Secondary Education) in NBR (1999)

(%)

	Thailand	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin
Lower Secondary	**84.0**	91.7	85.3	94.6	41.6
Upper Secondary	**58.3**	53.4	49.5	82.1	7.5
Secondary	**70.5**	**72.3**	**65.9**	**87.7**	**27.3**

Source: Provincial Education Offices

2) Large Number of School Drop-outs

There are many students dropping out of lower secondary school. The number of drop-outs in lower secondary education has rapidly increased year by year. The number of school drop-outs in 1998 is eight times as much as that in 1993. Poverty, family problem, and work were the reasons given for dropping out.

Table 11.11 Drop-outs (Lower Secondary Education) in Thailand

	1993	1994	1995	1996	1997	1998
No. of Dropouts	1,797	4,255	6,476	7,482	14,082	14,237
% of Total Studnets	0.72	1.21	1.52	1.51	2.63	2.48

Source: OPEC

NBR has a lower percentage of drop-outs than the national average of 2.48%. In NBR, Sakon Nakhon has the highest ratio of 2.42% and Mukdahan has the lowest with 1.68%.

Table 11.12 Drop-outs (Lower Secondary Education) in NBR (1998)

	Thailand	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin
No. of Dropouts	**14,237**	88	195	356	207
% of Total Students	**2.48**	1.68	2.11	2.42	1.86

Source: OPEC

3) Improving Teaching & Learning Conditions

Due to rapidly increasing enrollment in secondary education, teacher-student ratio has worsened from 1:20 (1996) to 1:22 (1998). The number of students per class has also risen rapidly. In 1999, the average number of students per class was 35. However, some rural areas have more than 40 students per class. In NBR, teacher-student ratio and number of students per class are as similar as the national average.

Table 11.13 Teacher-Student Ratio and Number of Students per Class (Lower Secondary Education) in NBR (1999)

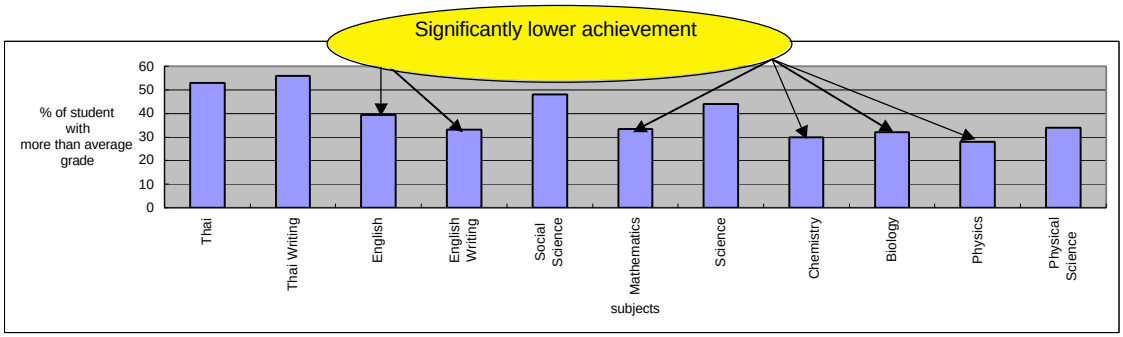
	Thailand	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin
Teacher-Student Ratio	1:22	1:23	1:22	1:23	1:24
No. of Student per Class	35	35	34	36	35

Source: Changwat Statistics

4) Low Achievement in Some Subjects

There has been a long-standing criticism that Thai students at secondary level are weak in subjects such as mathematics, science and foreign language. The result of the National Competency Test, held in 1997, also proves that students' performance in those subjects is relatively lower than in other subjects. In addition, the result of the

Third International Mathematics and Science Study (TIMSS) points that the Thai students' ability in mathematics and science is significantly lower than students of other countries, e.g., UK, Sweden, Ireland, Australia, Hungary, Austria, the Netherlands, as well as many Asian nations like South Korea, Japan and Singapore.



Source: Department of Curriculum and Development, MOE

Figure 11.2 Result of the National Competency Test, 1997 (Secondary Education)

NBR shows slightly lower achievement than the national average in all subjects. This can be attributable to lower quality of teaching, lower motivation of students and teachers, and lack of school equipment and facilities.

Table 11.14 Ratio of Students with more than Average Scores (Secondary Education) in NBR (National Competency Test 1997)

(%)

	Thailand	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin
Thai	**53**	50	52	51	49
Thai Writing	**56**	54	53	51	50
English	**40**	37	37	37	34
English Writing	**33**	37	43	31	39
Social Science	**48**	49	49	47	46
Mathematics	**34**	43	23	42	41
Science	**44**	27	29	32	35
Chemistry	**30**	26	28	28	26
Biology	**32**	30	31	31	28
Physics	**28**	26	26	26	24
Physical Science	**34**	34	33	32	30

*The figures indicate % of students winning more than average score.

Source: Department of Curriculum and Development, MOE

11.1.4 Higher Education

(1) Different Definition of Thai Higher Education

Thailand has determined three levels of education as higher education; i.e., 1) lower than a Bachelor's degree, 2) a Bachelor's degree, and 3) graduate level, while the level starting at a Bachelor's degree is internationally recognized to be higher education. There are quite a few personnel and teachers in Thailand without a Bachelor's degree from higher education institutes. This affects the quality of education as well as the quality of academic research.

(2) Rapidly Increasing Enrollment and Number of Institutes

The number of students enrolled in higher education institutes has increased by 40% during the past 5 years. Enrollment ratio also grew 26% from 15%. However, approximately 3.3 million students between the ages 18 and 21 in rural areas do not have access to higher education, because of shortage of institutes. About 15% of higher education institutes concentrate in Bangkok, and 32% of B.A. level, 54% of M.A. level and 65% of Ph.D. level are taught in Bangkok.

Table 11.15 Gross Enrollment Ratio (Higher Education) in Thailand

	1995	1996	1997	1998	1999
Enrollment Ratio (%)	14.8	16.8	19.3	21.3	25.7

Source: Education in Thailand 1999, Office of the Prime Minister

To solve the shortage of institutes, the government has tried to establish new institutes across the country, particularly, in rural areas of the northeast. According to Rajamangala Institute of Technology (RIT), 5 campuses out of 35 are located in the northeast and three more campuses are under construction. In addition, Rajabhat Institute (RI) has 36 campuses across the country and 8 of them are in the northeast. Five (5) more campuses are under construction in the northeast.

MOUA plans an IT campus system across the country. IT system can spread quality education easier because it uses a satellite to conduct lectures. Currently 37 IT campuses are planned nationwide. In NBR, Mukdahan, Nakhon Phanom and Sakon Nakhon are target provinces for an IT campus system.

Table 11.16 Higher Education Institutes and Students in Thailand

	Universities		College (Private)	RIT	RI	**Total**
	Public	Private				
No. of Institutes	24	23	27	55	36	**165**
No. of Students	828,035	164,257	14,619	13,027	426,000	**1,445,938**

*The figures are only the number of students with BA or more.

Source: Interview in MOUA, RIT and RI

In NBR, there are few higher education institutes. Five institutes are new and are continuing facility construction. They do not fully function yet. Three IT campuses are planned to be established.

Table 11.17 Higher Education Institutes and Students in NBR

	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin
No. of Institutes	0	3	3	2
No. of Students	0	1,335	4,789	428

* The number of students indicates students in B.A. level and

Source: Interview in Provincial Education Offices

(3) Low-Qualified Teachers

Because the Thai definition of higher education is different from the international standard, most of the teaching staff has a Bachelor's degree only, and some with lower than a Bachelor's degree. Such teaching staff accounts for 25% in the public universities. Teaching staff with more than a Bachelor's degree accounts for 75%. In RIT, the staff with a Bachelor's degree or less accounts for 63%.

In NBR, only RIT provided educational background information on teachers. Most teachers have only a Bachelor's degree, and teachers with more than a Bachelor's degree account for only 13.5% in Sakon Nakhon and for 45.5% in Kalasin.

Table 11.18 Educational Background of Teachers in Higher Education Institutes

(%)

	Lower than B.A.	B.A.	Higher Edu. Certificate	M.A.	Ph.D.
Public University	13.7	11.0	0	53.7	21.5
Private University	0.2	36.5	-	55.6	7.8
RI	0.5	29.8	0.6	64.9	4.3
RIT	1.5	61.7	-	34.5	2.3
Mukdahan	-	-	-	-	-
Nakon Phanom	-	-	-	-	-
Sakon Nakhon	1.9	84.6	0	13.5	0
Kalasin	0	54.4	0	39.2	6.3

*The figures in Sakon Nakhon and Kalasin indicate RIT.

Source: Education in Thailand 1999, Office of the Prime Minister

(4) Lack of Materials

Most higher education institutes have relatively small number of books and periodicals. The libraries in those institutes do not possess adequate stock. This is attributable to a less-developed academic research and poor publication sector.

To solve this constraint partially, the institutes emphasize using the Internet. However, most documents are written in English and students tend to hesitate using the Internet because of their limited literacy of computers and English. The government, therefore, lays stress on computer science and foreign language as a key issue for the country's educational development.

11.1.5 Vocational & Technical Education

(1) Various Certificates in Vocational & Technical Education

Vocational and technical education in Thailand is very complex. Various kinds of certificates are provided; i.e., (i) certificate in vocational education, (ii) diploma in vocational education, (iii) diploma in technician education, (iv) higher diploma in technology, and (v) Bachelor's degree. All certificates require at least a two-year study.

Table 11.19 Certificates in Vocational and Technical Education in Thailand

ResponsibleOrganizations	yr	Types of degree	Required Educational Background
Ministry of Education (MOE)			
Department of Vocational Education (DOVE)			
Certificate courses	3	Certificate in Vocational Education	Lower sec. graduate
Diploma courses	2	Diploma in Vocational Education	Completed certificate course
Diploma courses	2	Diploma in Technician Education	Upper sec. graduate
Higher Diploma courses	2	Higher Diploma in Technology	Completed diploma in Vocational Ed.
Rajamangala Institute of Technology (RIT)			
Certificate course	3	Certificate in Vocational Education	Lower sec. graduate
Diploma courses	2	Diploma in Vocational Educatin	Completed certificate course
Bachelor's Degree courses		BA	

Source: Education in Thailand 1999, Office of the Prime Minister

(2) No Regulations in Vocational & Technical Education

There is currently no legal framework on vocational and technical education and no regulations about teacher qualification, school locations, introduction of curriculum, and teacher in-service training. To improve vocational and technical education, legal measures and framework of vocational and technical education are greatly required as soon as possible[8].

[8] According to ONEC, a draft of the Vocational Education Act has been completed and is awaiting approval of Parliament (Interview on October 31, 2000).

(3) Rapidly Increasing Enrollment

Vocational education has been regarded as important by the government, because it creates skilled labor and plays significant roles in the national economic growth. Recently the number of students in vocational education has been increasing rapidly. There are currently 782,000 students studying in vocational schools as compared to 603,000 students in 1995[9], an increase nearly 1.3 times. Enrollment ratio also rose from 17% to 25%. It is also estimated that more students will enroll in vocational schools under the new education system, i.e., free 12-year education.

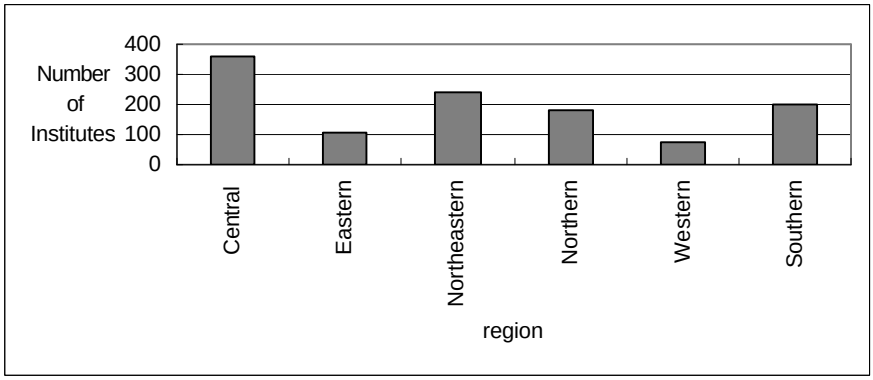
Table 11.20 Enrollment Ratio (Vocational Education) in Thailand

	1995	1996	1997	1998	1999
Enrollment Ratio (%)	17.3	19.1	21.5	22.1	25.1

Source: Education in Thailand 1999, Office of Prime Minister

(4) Increasing Technical & Vocational Institutes

There are currently 1,156 vocational institutes, accommodating 1.1 million students in Thailand. The government has established new vocational and technical schools across the country. Most new schools are located in the northeast, because of strong local demands. Around 20% of the total vocational and technical schools are currently located in the northeast.



Source: Report of Education Statistics: Academic Year 1998, Office of the Prime Minister

Figure 11. 3 Vocational & Technical Institutes by Region

In NBR, there are 34 institutes with 35,000 students. This number is still relatively smaller than the population size of this area. NBR shares 5% of the total population and only 3% of the total students enrolled in vocational and technical schools.

[9] These two numbers of enrollment are only the vocational level equivalent to upper secondary.

Table 11.21 Vocational & Technical Institutes and Students in NBR

	Thailand	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin
No. of Institutes	**1,156**	3	8	11	12
No. of Students	**1,135,560**	2,476	7,305	13,552	11,442

Source: Information gathered at Provincial Education Offices

(5) Worsening Teaching & Learning Conditions

With rapidly increasing enrollment, teacher-student ratio has become worse. The present ratio of 1:36 signifies that there are 15 students more than the 1995 level.

Table 11.22 Teacher-Student Ratio (Vocational & Technical Education) in Thailand

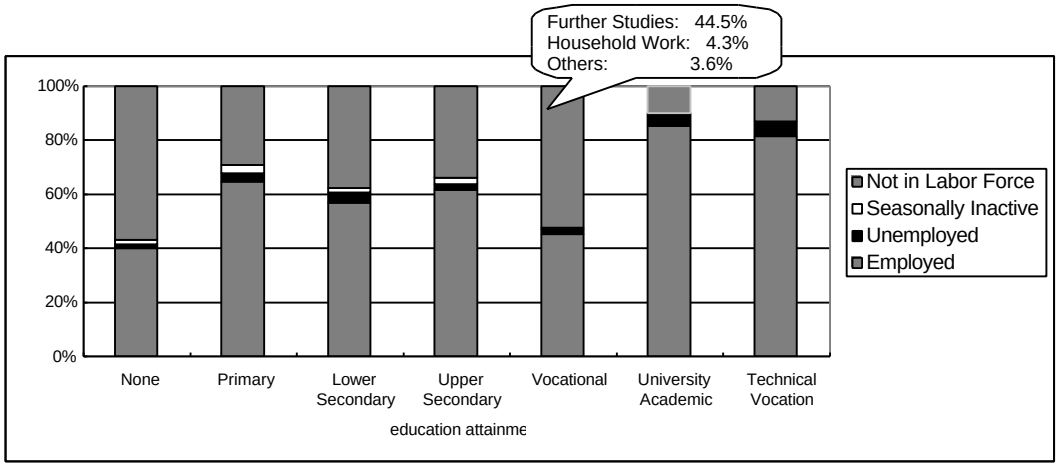
	1995	1996	1997	1998	1999	2000
Teacher-Student Ratio	1:21	1:24	1:29	1:30	1:30	1:36

Source: Department of Vocational Education, MOE

In NBR, teacher-student ratio is still better than the national average. It is 1:30 in 1999. However, the ratio is expected to become larger soon. This increasing number of students significantly affects education quality.

(6) Difficult Job Seeking

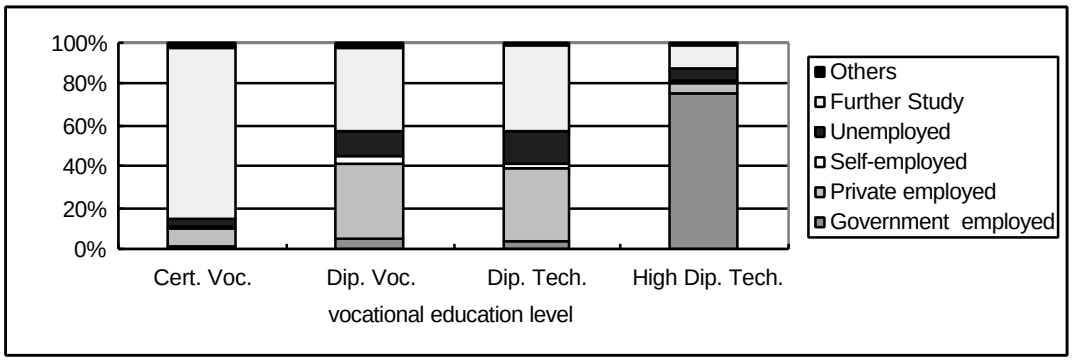
According to MOE's DOVE, currently it is difficult for most graduates from vocational schools to find jobs. Figure 11.4 shows that the employment ratio of people attaining vocational education is the second lowest, and more than half of them become non-labor force, e.g., further study and household work. It is often said that the low employment ratio of vocational school graduates is mainly because the Thai economy has not completely recovered from the 1997 crisis. However, the most fundamental factor is usually forgotten in this phenomenon—the quality of vocational education. Skill and technical levels taught in current vocational schools in Thailand are usually far behind from the demand of the private sector. The reasons are (i) lack of practical training, (ii) lack of adequate equipment and instruments, (iii) low quality of teacher's skills, and (iv) lack of communication to the industrial sector.



Source: Labor Force Survey 2000, National Statistics Office

Figure 11.4 Employment Status by Educational Attainment (2000)

Most students choosing further study go for a diploma course, and then some of them continue to a higher diploma course, because the graduates from diploma courses can find jobs easier while the certificate holders do not. About 40% of students from diploma courses are employed in the private sector, while those at the certificate level employed in the private sector account for only 10%, as shown in the figure below.



Source: DOVE

Figure 11.5 Employment Status by Vocational Education Level

The current transition of students is shown below. The transition ratio from lower secondary to vocational certificate level is 32%. A large number of students are willing to study vocational skills. Then, 84% of students completing certificate level apply at the diploma level. Students entering the labor market account for only 16%.

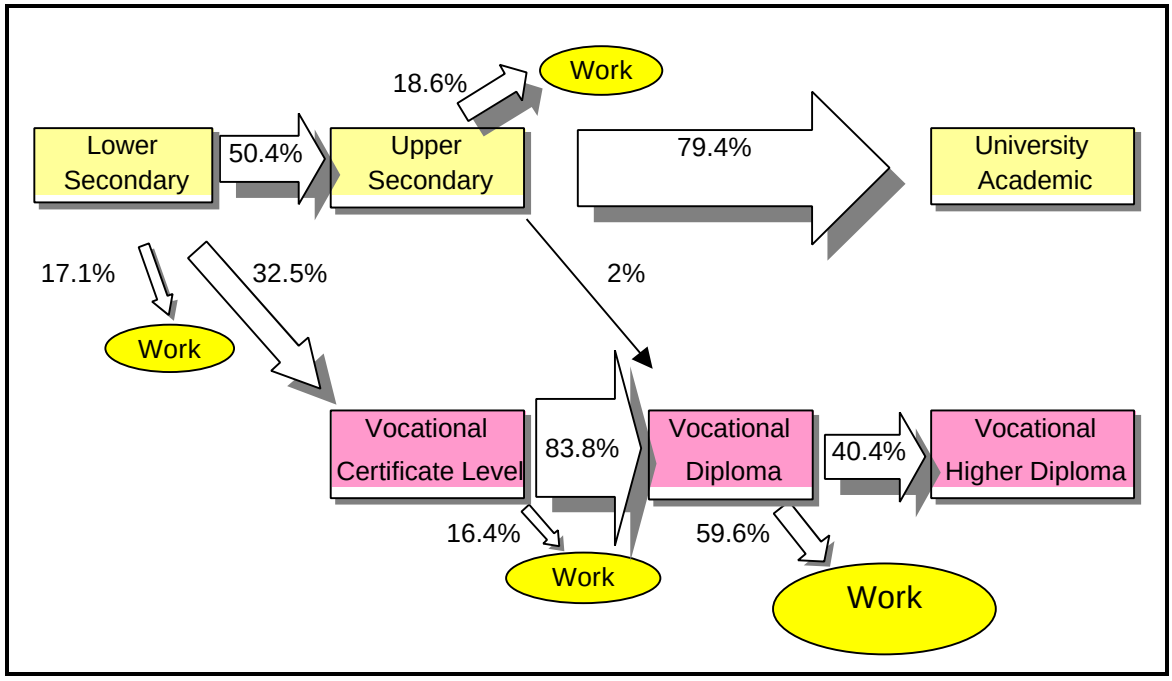


Figure 11.6 Student Transition toward Higher Level of Education

As a result, certificate level of vocational education in Thailand does not contribute enough to create a demand for them, and even the diploma level does not thoroughly meet demands of the private sector.

To improve quality of vocational education and increase employment ratio of the graduates, continuous efforts have been made and various programs were introduced; e.g., "Dual Vocational Training (DVT)[10]," "Tight Relationships with Industries," "Emphasis on Learning by Doing," "School-Enterprises," and "Information Network." Especially, DVT is very successful in some places. However, due to limited relation and access to the private sector, only 6% of the total students in vocational level enjoyed the DVT program (1999).

In NBR, there is no adequate statistics on student transition to higher level of education. However, some trends and outlines will be estimated. Most vocational schools in NBR offer only certificate level. If students continue onto the diploma level, they have to move to other provinces. Many of them, however, cannot move away from their province due to financial constraint. As a result, when they enter the labor market, it is quite difficult for them to be employed because their skill level is not high enough.

[10] This program emphasizes more on practical training in the private sector and students work in companies as trainees for a certain term under the school curriculum. However, it is not yet fully utilized across the country because of limited relation with the private sector. In 1999, only 5.7% of total vocational education students enjoyed this program in the country.

They end up helping in the family business or engaging in agricultural work. On the other hand, some students who could afford to move outside for further studies, usually do not return to their home province. In NBR, the so-called “brain drain” is apparently observed.

11.1.6 Out-Of-School Education

Apart from formal education, out-of-school education is organized to provide an opportunity for those who have missed formal schooling. Out-of-school education provides various forms of education; i.e., (i) non-formal education, (ii) vocational education, and (iii) informal education. General education is herein described in this section[11].

(1) General Education

1) High Demand of Educational Opportunity

General education in out-of-school education system is administered by MOE. The Department of Non-Formal Education (DNFE) and the Office of Private Education Commission (OPEC) are especially in charge of it. They offer primary and secondary education mainly to disadvantaged people; e.g., women, detainees, in-service military personnel and farmers. Following widespread formal primary education across the country, enrollment at primary education in out-of-school system has decreased significantly. On the other hand, enrollment at upper secondary level has risen by 50% during the past five years.

Table 11.23 Enrollment of Basic Education in Thailand (1998)

	Primary Education	Lower Secondary	Upper Secondary
No. of Enrollment	197,958	849,252	847,998

Source: Report of Education Statistics, 1998

In NBR, the number of participants in general education has tended to decline since 1995. However, there are still 84,000 people needing general education in out-of-school system, equivalent to 13% of the total population in NBR.

[11] Vocational education and training in out-of-school system is described in the chapter S10, human resource development.

Table 11.24 Enrollment of General Education in NBR (1999)

	Mukdahan	Nakhon Phanom	Sahon Nakhon	Kalasin	**Total**
Primary Education	1,490	830	3,839	5,942	**12,101**
Lower Secondary	5,280	2,216	13,973	10,226	**31,695**
Upper Secondary	3,233	2,515	31,694	2,563	**40,005**
Total	**10,003**	**5,561**	**49,506**	**18,731**	**83,801**

Source: Provincial Non-Formal Education Offices

2) Lack of Personnel and Facilities

DNFE allocates personnel to provinces, and sets up various facilities, i.e., district centers, community learning centers and reading centers. Under the current situation, the learning centers and the reading centers rely on volunteers to run them, due to budgetary constraints and small number of allocation of personnel from the government.

Table 11.25 Personnel in Non-Formal Education Centers (2000)

	Mukdahan		Nakhon Phanom		Sakon Nakhon		Kalasin	
Provincial Center	20	(30)	6	(35)	9	(15)	7	(13)
District Center	77	(105)	16	(22)	36	(72)	20	(51)
Community Learning Center	122	(208)	97	(194)	125	(125)	98	(98)
Reading Center	0	(1,910)*1	58	(97)	58	(806)	0	(5,712)*2

*( ) indicates ideal numbers.

*1 and *2 indicate the current number of volunteers

Source: Provincial NFE Offices

It is ideal that every sub-district and village should have a community learning center and a reading center, respectively. However, there are still many villages without a reading center. As shown below, 2 sub-districts do not have a learning center, and 1,498 villages do not have a reading center.

Table 11.26 NFE Centers in NBR

	Mukdahan		Nakhon Phanom		Sakon Nakhon		Kalasin	
	No.of Admin Areas	No. of Centers	No.of Admin Areas	No. of Centers	No.of Admin Areas	No. of Centers	No.of Admin Areas	No. of Centers
District Center	6	6	11	11	17	17	17	17
Learning Center	53	52	97	97	125	125	135	134
Reading Center	490	382	1,026	548	1,195	806	1,475	952

Source: Provincial NFE Offices

3) Reforming Non-Formal Education

In the ministerial meeting held on October 12, 2000, a reform plan of non-formal education was proposed. The reform plan will be conducted under the governmental decentralization scheme, followed by the 1999 National Education Act. Under this draft plan, non-formal education will be implemented by each school. The director in each provincial non-formal education office will be transferred to school. However,

schools are not fully prepared to have such responsibility and lack personnel with adequate knowledge and skills about non-formal education.

11.2 Issues to be Addressed in NBR Education Development

11.2.1 Basic Education

(1) Low Enrollment Ratio

In NBR, there are significant lower enrollment ratios in all levels of general education as shown below[12]. There are three major reasons for this, namely: (i) lower awareness of education value, (ii) many drop-outs, (iii) the age of starting school is not strictly regulated, and (iv) lower accessibility to school.

Table 11.27 Gross Enrollment Ratio in NBR (1999)

	Thailand	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin	**NBR**
Primary	**103.6**	106.6	103.3	87.9	92.0	**94.5**
Lower Secondary	**84.0**	91.7	85.3	94.6	49.5	**75.5**
Upper Secondary	**58.3**	53.4	49.5	82.1	7.5	**53.8**

Source: Provincial Education Offices

1) Lower Awareness of Education Value

Basic education, especially primary education, is now widespread across the country and most children in rural areas can have the opportunity to get an education. However, some places show relatively low enrollment. These are places where accessibility to other places is not convenient, and where locals still keep a traditional way of life and refuse to be integrated into a modern social system. According to the Mukdahan Education Office, **Nong Sung** and **Dong Luang** districts are such places—mountainous and poverty-stricken—and most people are ethnic minorities. Their educational awareness is significantly low. There is also such a place in Nakhon Phanom; i.e., **Phon Sawan** district. The locals there are also ethnic minority with a different culture and language.

2) Many Drop-outs

In NBR, quite a large number of students have dropped out of school. In 1999, the number of drop-outs rose to 1,583, which amount to 0.47% of the total students in NBR. Students in NBR usually drop out at the beginning of the grade (grade 1) and the end of the grade (grade 6).

[12] Kalasin shows quite lower enrollment ratio, particularly at secondary level. In reality, the enrollment ratio in Kalasin is not so low. Many students in Kalasin tend to go out of the province to seek better education, usually to places such as Khon Kaen and Mahasarakarn because they are geographically close and people believe that these places offer a better quality of education.

Table 11.28 Drop-outs in NBR (1999)

	Thailand	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin	**NBR**
Primary	19,208	107	85	360	185	737
Lower Secondary	14,237	88	195	356	207	846
Total	**33,445**	**195**	**280**	**716**	**392**	**1,583**
% of Total Students (%)	**0.64**	**0.58**	**0.14**	**0.6**	**0.38**	**0.47**

Source: ONPEC

The major reasons for dropping out are poverty and family problem, accounting for 23% and 14% respectively. Especially in places far from provincial capitals and isolated from the economic and social development, the locals there are poverty-stricken. The children are often forced to support family members by helping in farm work. In addition, when parents move to other places as temporary or seasonal workers, the children also follow them and therefore had to quit school.

Table 11.29 Reasons for Dropping Out from School, NBR (1999)

	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin	**Total**
Poverty	44	41	206	78	**369**
Family Problem	34	28	88	78	**228**
Employment	18	33	99	63	**213**
Death	13	28	58	34	**133**
Marriage	3	18	20	16	**57**
Difficulty of Adjustment	6	15	24	6	**51**
Sick or Accidents	2	2	8	2	**14**
Crime	0	0	3	0	**3**
n.a.	31	50	54	62	**197**
Others	44	65	156	53	**318**
Total	**195**	**280**	**716**	**392**	**1,583**

Source: ONPEC

3) Starting School Age is NOT Strictly Regulated

Under the current law, 6-year old children are required to enter primary school. However, in NBR, the age of children at grade 1 varies from 5 to 8. To expand basic education across the province, this age variation is not a serious problem, according to the Provincial Education Offices; however, it does cause lower enrollment in basic education in NBR. In NBR, the number of students, aged 8, and not aged 6, is the largest number, as shown in the table below. This means that some students in NBR do not go to school even when turning 6 or 7 years old.

Table 11.30 Population and Primary School Students in NBR (1999)

Age	Mukdahan		Nakhon Phanom		Sakon Nakhon		Kalasin		**Total**	
	Population	Students	Population	Students	Population	Students	Population	Students	**Population**	**Students**
6	5,425	5,935	11,398	11,581	17,544	13,953	15,429	13,300	**49,796**	**44,769**
7	5,408	5,831	11,343	11,498	17,876	17,002	16,010	14,771	**50,637**	**49,102**
8	5,102	5,477	11,383	11,747	18,451	18,174	16,318	15,013	**51,254**	**50,411**
9	5,011	5,381	10,452	11,061	18,958	16,099	16,283	15,155	**50,704**	**47,696**
10	5,178	5,391	10,998	10,734	18,549	14,741	15,808	14,520	**50,533**	**45,386**
11	5,336	5,514	10,090	11,198	16,317	14,711	15,442	14,929	**47,185**	**46,352**
	31,460	**33,529**	**65,664**	**67,819**	**107,695**	**94,680**	**95,290**	**87,688**	**300,109**	**283,716**
12	5,623	5,554	10,721	9,747	16,429	15,472	15,843	10,612	**48,616**	**41,385**
13	6,384	5,780	10,678	8,946	16,519	15,991	15,144	4,615	**48,725**	**35,332**
14	6,556	5,682	10,913	8,853	17,503	16,250	15,618	4,157	**50,590**	**34,942**
	18,563	**17,016**	**32,312**	**27,546**	**50,451**	**47,713**	**46,605**	**19,384**	**147,931**	**111,659**
15	6,441	3,768	11,730	6,938	19,101	15,132	16,818	10,612	**54,090**	**36,450**
16	6,385	3,467	12,852	6,155	20,663	17,530	16,930	4,615	**56,830**	**31,767**
17	6,261	2,963	13,286	5,634	21,315	17,486	n.a.	4,157	**n.a.**	**30,240**
	19,087	**10,198**	**37,868**	**18,727**	**61,079**	**50,148**	**33,748**	**19,384**	**151,782**	**98,457**

Source: Provincial Education Offices

4) Lower Accessibility to School

For primary and lower secondary students, it is said that the distance of three kilometers[13] is the limit to everyday travelling. In NBR, there are currently 57,000 students, who have difficulty traveling to school, because they live more than 3 kilometers away from their school. These students might drop out of school in the future. Some 880 lower secondary students stay at a cheap lodging house on campus.

Table 11.31 Students Living Far From School and Commuting Ways (1999)

		Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin	**Total**
Travelling to Schools	On Foot	5,315	4,107	11,044	6,907	**27,373**
	By Bus	1,589	2,051	2,917	4,496	**11,053**
	By Car	3,642	3,194	7,511	3,363	**17,710**
Staying at Schools		126	136	80	538	**880**
Total		**10,672**	**9,488**	**21,552**	**15,304**	**57,016**

Source: ONPEC

To solve this problem, the provincial governments had set school branches in some remote areas, and they are administered by the primary school nearest them. For example, there are 70 school branches in Sakon Nakhon, and 20 in Kalasin. However, the number of students in those branches has been decreasing rapidly. According to the Asian Development Bank (ADB), these school branches waste limited resources and should be closed down in the near future. The Provincial Education Offices in NBR are now moving to close down those school branches where there are few students. In this policy, it is very important how to improve accessibility to school for those children living far from their school.

[13] In consideration with this limitation for traveling to school, the Primary Education Act (1980) states that a primary school, or a newly established branch, must be located at a distance not less than 6 kilometers by transportation route from the existing primary school.

(2) Low Quality and Motivation of Teachers

According to a research in northeast Thailand, conducted by Khon Kaen University, some important issues on education are that students lack motivation and incentives to study, teachers are not willing to teach in rural areas, and many schools face shortage of classrooms and teachers. The important finding herein is that "teachers are not willing to teach in rural areas." In NBR, most places are rural areas and majority of teachers must teach in rural areas.

The educational background of teachers in NBR is relatively low. About 17% of them do not possess a Bachelor's degree. This means that those teachers did not have any pre-teacher training. The 1999 National Education Act requires at least a Bachelor's degree to all teachers. Those under-qualified teachers are currently eager to study to get a Bachelor's degree.

Table 11.32 Educational Background of Teachers in NBR (1999)

	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin	**Total**
M.A. or more	45	68	131	157	**401**
B.A.	3,057	5,499	8,376	8,065	**24,997**
Less than B.A.	518	1,314	1,786	1,657	**5,275**
Total	**3,620**	**6,881**	**10,293**	**9,879**	**30,673**

*Including primary and secondary teachers

Source: Changwat Statistics, 1999

In-service training is also very important for maintaining quality teachers. Under the current situation, the training has not been regularly conducted for all teachers. An interview with some teachers revealed that most of them did not have any in-service training, and only few of them had the opportunity to attend some training courses, such as computer course.

(3) Low Quality of Lower Secondary Education

NBR has many primary schools providing lower secondary education. Such primary schools number 425, or 92% of the total primary schools. This is called "expanded education," started in 1992 in order to expand secondary education to rural areas. Although this policy achieved its purpose, deterioration in quality of secondary education was seen owing to lack of necessary school equipment. In NBR, only 223, or 34%, of the total secondary schools are independent schools for the secondary education.

Table 11.33 School Types in NBR (1999)

	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin	**Total**
Primary School (independent)	0	9	19	11	**39**
Lower Secondary (independent)	2	10	12	13	**37**
Lower & Upper Secondary	29	49	44	64	**186**
Primary & Lower Secondary (combined)	55	77	153	138	**423**
Primary, Lower & Upper Secondary (combined)	0	0	2	0	**2**

Source: Changwat Statistics 1999

To solve this problem, several measures can be considered, e.g., (i) dispatching secondary education teachers to such primary schools, and (ii) upgrading primary teachers through training.

11.2.2 Higher Education

(1) Shortage of Institutes

There are currently 8 higher education institutes in NBR. Four of them are still under construction and not yet fully functional. Although some institutes, the Sakon Nakhon Campus of Rajabhat Institute, for instance, plan to expand and offer new courses and a higher degree, the current 7,000-student capacity may be relatively small, considering that 18,000 upper secondary students graduate every year in NBR.

During interviews, Sakon Nakhon and Mukdahan expressed strong interest in establishing new higher education institutes in their provinces. On the other hand, Nakhon Phanom and Kalasin are satisfied with the current number of institutes they have, because two out of three institutes in Nakhon Phanom are newly opened, and Khon Kaen and Mahasarakhan, whose quality of education is believed to be better, are easily accessible to people in Kalasin.

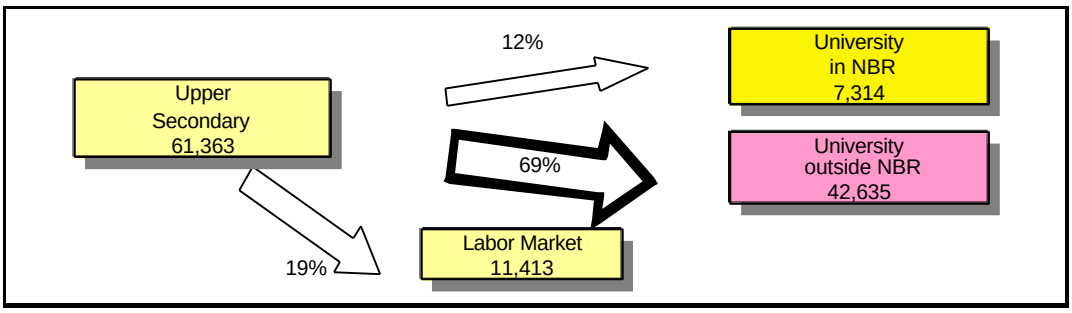


Figure 11.7 Estimated Current Transition to Higher Education in NBR

Table 11.34 Higher education institutes in NBR

Province	Institutes	Courses	Degree	No. of Students	No. of Teaching Staff	Remarks
Mukdahan	-	-	-	-	-	
Nakhon Phanom	Rajabaht Institute (RI	Business Administration Electronic	BA BA	BA: 195	6	Facilities are under construction.
	Mahasar akarn	Business Administration Management Educ ation	BA BA MA	BA: 82 MA: 93	18	Temporary facilities in a secondary school are used. A new campus is under construc tion.
	Ramkhamheang	Law Politics Law Politics	BA BA MA MA	BA: 831 MA:134	145	It is an open university.
Sakon Nakhon	Rajabaht Institute (RI	Science & Technol ogy Agriculture Technology Anthr olopology & Sociology Management Science Science & Technol ogy Agriculture Technology Anthr olopology & Sociology Management Science Educ ation Science & Technol ogy Management Science Educ ation	Diploma Diploma Diploma Diploma BA BA BA BA BA MA MA MA	Dip: 380 BA: 3,541 MA: 551	n.a.	
	Kasets ert	Agro-Industry Scienc e & Management Engi neering	BA BA BA	BA: 477	22	Facilities are under construction.
	Rajamangala (RIT)	Technology Business Administration Electricity Building Construction Auto-mechanic Agriculture	Diploma Diploma Diploma Diploma Diploma BA	Dip:750 BA:220	82	
Kalasi n	Rajabaht Institute (RI)	Scienc e	-	183	5	It is offering only 2-year study and then
	Rajamangaka (RIT)	Management Business Computer Marketing Agriculture Food Technology		Dip: 883 BA: 446	85	the students must move to Mahasar akarn to continue studying.

Source: Interview in the provinces and institutions

Based on the current enrollment at upper secondary and the transition ratio to higher education, it is estimated that only 12% of NBR's students can continue studying in their home provinces, and 69% of NBR's students must move outside NBR. At present time, NBR student-capacity of higher education is estimated to be short by at least 42,000.

It is very important to expand the capacity of NBR's higher education institutes. From NBR's future development point of view, the following courses are preferable:

- Agriculture technology;
- Science technology;
- Business administration;
- Information technology (IT); and
- Tourism.

(2) Low Quality of Education

According to MOUA, the quality of university education in NBR is not high enough, compared to international standard. The main factors causing low quality of higher education in NBR are:

- Lack of academic materials, textbooks and documents written in the Thai

language;

- Lack of adequate equipment, especially those related to the field of science;
- Lack of in-service training for teaching staff;
- Few capable teaching staff holding M.A. or Ph.D.;
- Low level of English literacy of faculty and students;
- Low level of computer literacy of faculty and students; and
- Low level of research and study.

In order to improve the quality of NBR's higher education, it is the first priority to upgrade teaching staff through training and to strengthen their English and computer literacy.

11.2.3 Vocational and Technical Education

(1) Shortage of Student Capacity in Vocational Schools

With soaring enrollment in NBR's vocational education, the government has recently established new vocational schools. There are currently 34 vocational schools with a 35,000-student capacity in NBR. Most schools offer only certificate level, and a few offer diploma level. Currently 3,000 students are studying at diploma level in NBR. This present capacity is still short by 10,000 at certificate level and 9,000 at diploma level. The Provincial Education Offices expect to have at least one vocational school in every district. Vocational schools in NBR are concentrated in Muang district, where the provincial capital is located.

Table 11.35 Vocational Schools, Students and Teachers in NBR

	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin	**Total**
No. of Institutes	3	8	11	12	**34**
No. of Students	2,476	7,305	13,552	11,442	**34,775**
No. of Teachers	89	228	437	396	**1,150**

Source: Provincial Education Offices

Table 11.36 Vocational Schools in Mukdahan

	Institutes	Location	Pub/Pr	No.of Students	No.of Teachers	Courses	No.of Students
1	Nawamintrachinee Mukdahan Industrial & Community Education College	Mukdahan Municipality	Public	1,676	41	Trade & Industry	856
						Commerce & Business	431
						Home Economics	186
						Agriculture	59
						Short-courses	405
2	Nikonkamsai Industrial & Community Education College	Nikonkamsai	Public	400	3	Industry	
						Automobile & Repair	160
						Electricity	50
						Commerce	
						Accounting	198
3	Mukdahan Technology School	Mukdahan Municipality	Private	400	NA	Coomerce	1,465
						Accounting	
						Computer Science	

Source: JICA Study Team

Table 11.37 Vocational Schools in Nakhon Phanom

	Institutes	Location	Pub/Pr	No.of Students	No.of Teachers	Courses	No.of Students
1	Nakhon Phanom Technical School	Nakhon Phanom Municipality	Public	4,000	111	Industrial	2,290
						Mechanic	523
						Machine	312
						Welding	210
						Electrical	448
						Electronics	230
						General Electronics	160
						Building	407
						Agriculture	0
						Commerce	1,537
						Business Computer	379
						Business Homecare	34
						Business Hotel	3
						Secretary	257
						Marketing	308
						Accounting	482
						Communication	74
2	Nakhon Phanom College of Agriculture & Technology	Nakhon Phanom Municipality	Public	1,282	67	Agriculture	
						Plant Science	63
						Animal Science	45
						Fishery	76
						Machinary	945
						Business Administration	
						Accounting	78
						Business Computer	66
3	Tart Phanom Professional College	Tart Phanom	Public	702	4	Automobile	
						Accounting	
						Computer	
						Electlicity	
4	Nakhon Phanom Polytechnic College	Nakhon Phanom Municipality	Public	499	33	Industrial	
						Automobile	101
						Electronic	86
						Electlicity	44
						Commerce	
						Commercial & Accounting	105
						Computer Business	122
5	Na Wha Polytechnic College	Na Wha	Public	275	18	Electricity	
						General	
6	Nakhon Phanom Technical School 2 (Baan Paeng)	Baan Paeng	Public	164	15	Electricity	
						Buiding	
						Basic Technic	
						Foudamental Subject	
7	Khaluha Business Administration School	Nakhon Phanom	Private	120	8	Computer	120
8	Tart Phanom Polytechnic	Tart Phanom	Private	263	21	Industry	
						Electrical	114
						Construction	48
						Commerce	
						Computer	68
						Accounting	33
9	(Rajamangala Institute of Technology)		Public			Industrial Technology	not open yet will open in 2002

Source: JICA Study Team

Table 11.38 Vocational Schools in Sakon Nakhon

	Institutes	Location	Pub/Pri	No.of Students	No.of Teachers	Courses	No.of Students
1	Sakon Nakhon Technical College	Sakon Nakon Municipality	Public	4,669	142	Industrial	
						Automotive	733
						Construction	358
						Electrical	717
						Machine Workshop	509
						Metal Weld	77
						Civil Work	132
						Electronics	168
						Industry	96
						Manifactuiring Technique	135
						Telecommunications	81
						Computer	174
						Commerce	
						Commercial	929
						Accounting	341
						Secretarial	98
						Marketing	121
2	Sawang Daen Din Polytechnic College	Sawang Daen Din	Public	1,098	30	Metal welding	116
						Electrical	185
						Electronics	194
						Construction	129
						Commercial	394
						Business Administration	79
3	Phanna Nikon Polytechnic College	Phanna Nikon	Public	417	21	Automotive	202
						Electrical	79
						Commercial	136
4	Rajamangala Institute of Technology	Phang Khon	Public	1,331	82	Technology (Dip)	156
						Business Administration (Dip)	370
						Electricity (Dip)	108
						Building Construction (Dip)	63
						Automechanic (Dip)	53
						Agriculture (BA)	220
5	Northeastern Technical School	Sakon Nakon Municipality	Private	1,432	67	Automotive	321
						Elecrical	253
						Construction	31
						Commercial	202
						Business Administration	625
6	Commercial Technology School	Sakon Nakon Municipality	Private	1,301	45	Automotive	135
						Electrical	235
						Computer	385
						Accounting	435
						Marketing	111
7	Phu Pharn Technical & Business Administration School	Phu Pharn	Private	455	17	Computer	240
						Construction	118
						Accounting	97
8	Buddharaksa Polytechnic School	Sakon Nakon Municipality	Private	466	24	Computer	124
						Automotive	134
						Accounting	154
						Electrical	54
9	Phanna Nikom Technology & Business Administration School	Phanna Nikom	Private	240	10	Computer	90
						Accounting	80
						Electrical	35
						Electronics	35
10	Sakon Nakhon Technical & Machanical School	Sakon Nakon Municipality	Private	187	10	Automotive	99
						Electrical	25
						Accounting	63
11	Phang Khonh Commercial School	Phang Khon	Private	1,956	73	Business Computer	139
						Accounting	1,817

Source: JICA Study Team

Table 11.39 Vocational Schools in Kalasin

	Institutes	Location	Pub/Pri	No.of Students	No.of Teachers	Courses	No.of Students
1	Kalasin Technical College	Kalasin Municipality	Public	5,265	112	Industry (Certificate, Diploma)	2,798
						Industrial Technology	249
						Construction	408
						Machine	936
						Electronic	1,037
						Building	168
						Commerce (Certificate, Diploma)	
						Business Administration	1,682
2	Kalasin Polytecnic College	Kalasin Municipality	Public	309	45	(Certificate)	
						Automotive	
						Electrical	
						Metal Welding	
						Electronics	
						Accounting	
						Computer	
3	Kow Wong Technical College	Kow Wong	Public	180	3	(Certificate)	
						Accounting	
						Computer	
4	Traditional Dance College (Under the Ministry of Culture)	Kalasin Municipality	Public	537	60	(Certificate)	
						Thai classic dance stage performance	
						Musical instruments	
						Pop music	
5	Huay Pung Polytechnic College	Huay Pung	Public	1,102	44	(Certificate)	
						Accounting	
						Marketing	
						Automotive	
						Electrical	
						Construction	
						Electrionics	
6	Kam Muang Polytechnic College	Kam Muang	Public	280	3	(Certificate)	
						Electrical	
						Automotive	
7	Kalasin Commercial School	Kalasin Municipality	Private	852	50	Commerce (Certificate, Diploma)	852
						Accounting	
						Business Computer	
						Marketing	close
						Banking & Finance	close
						Public Relation	close
8	Business Administration Technology Kalasin	Kalasin Municipality	Private	180	7	(Certificate)	
						Accounting	
						Business Computer	
9	Kusinarai Technology School	Kusinarai	Private	186	10	(Certificate)	
						Accounting	
						Computer	
10	Nong Kung Sri Polytechnic	Nong Kung Sri	Private	156	15	(Certificate)	
						Accounting	
						Marketing	
11	Fishery College in Yantanalat	Yang Talat	Public	61	3	(Certificate)	
						Agriculture & Technology	
12	Rajamangala Institute of Technology	Kalasin Municipality	Public	1,698	85	(Diploma 883, BA 446)	
						Management	
						Business computer	
						Animals	
						Plants	
						Animal husbandary	
						Fishery	
						Machine workshop	
						Food Technology	
						Marketing	
						Plants	

Source: JICA Study Team

To overcome this problem, it is necessary to establish new vocational schools in NBR. The possible locations for new vocational schools are in:

- Mukdahan: Khamcha-I
- Nakhon Phanom: Na Kae, Phon Sawan, and Si Songkhram
- Sakon Nakhon: Ban Muang, Wanon Niwat, Waritchaphum, and Akat Amnuai
- Kalasin: Kamalasai, Sahatsakhan, and Huai Mek

In addition to establishing new vocational schools, efforts should be made to set up diploma courses in the current existing vocational schools.

Table 11.40 Districts, Population and Vocational Schools in NBR

Province	District	Population	No. of Vocational Schools
Mukdahan	1 Muang Mukdahan	28,345	2
	2 Don Tan	7,914	-
	3 Khamcha-I	8,930	-
	4 Dong Luang	6,382	-
	5 Nikhon Kham Soi	8,429	1
	6 Wan Yai	3,662	-
	7 Nong Sung	4,364	-
NakHon Phanom	1 Muang NP	34,177	4
	2 Tha Uthen	11,170	-
	3 That Phanom	17,402	2
	4 Na Kae	15,368	-
	5 Na Wa	9,461	1
	6 Ban Phaeng	7,414	1
	7 Pla Pak	9,975	-
	8 Phon Sawan	10,592	-
	9 Renu Nakhon	9,159	-
	10 Si Songkhram	13,116	-
	11 Na Thom	4,531	-
	12 King Amphoe Wang Yang	2,796	-
Sakon Nakon	1 Muang SN	43,961	5
	2 Kusuman	8,909	-
	3 Kut Bak	6,306	-
	4 Kham Ta Kla	7,419	-
	5 Khok Si Suphan	7,464	-
	6 Charoen Sin	8,095	-
	7 Tao Ngot	4,877	-
	8 Nikhom Nam Un	2,687	-
	9 Ban Muang	12,881	-
	10 Phanna Nikhom	17,296	2
	11 Phang Khon	11,909	2
	12 Phon Na Kaeo	6,919	-
	13 Phu Phan	8,219	1
	14 Wanon Niwat	22,596	-
	15 Waritchaphum	10,372	-
	16 Sawang Daen Din	30,878	1
	17 Song Dao	6,092	-
	18 Akat Amnuai	13,081	-
Kalasin	1 Muang Kalasin	30,785	6
	2 Kamalasai	13,968	-
	3 Kuchinarai	21,432	1
	4 Khao Wong	8,496	1
	5 Kham Muang	9,132	1
	6 Tha Khantho	7,440	-
	7 Na Mon	6,833	-
	8 Yang Talat	27,768	1
	9 Rong Kham	3,222	-
	10 Somdet	12,481	1
	11 Sahatsakhan	8,436	-
	12 Nong Kung Si	14,310	1
	13 Huai Phung	5,968	-
	14 Huai Mek	9,941	-
	15 King Amphoe Khong Chai	5,270	-
	16 King Amphoe Don Chan	4,814	-
	17 King Amphoe Nakhu	6,436	-
	18 King Amphoe Samchai	4,950	-

Source: JICA Study Team

(2) Low Quality of Vocational Education

The quality of NBR's vocational education is not high enough. This is attributable mainly to (i) lack of practical training of students, (ii) low quality of teacher's skill, and

(iii) little incentives and low motivation of students and teachers. Most vocational schools in NBR face severe shortage of equipment and do not provide sufficient practical training to students. In addition, most schools cannot implement the DVT scheme, due to a limited local industry. Therefore, students completing vocational education in NBR face a difficult task ahead looking for jobs.

The quality of teaching staff in NBR is not high enough, because of lack of in-service training. Most teachers at vocational education in NBR complete a Bachelor's level, but they had neither pre-teacher training nor in-service training.

Table 11.41 Educational Background of Vocational Education Teachers in NBR

	Mukdahan	Nakhon Phanom	Sakon Nakhon	Kalasin	**Total**
M.A. or more	1	25	159	62	**247**
B.A.	78	257	382	307	**1,024**
Less than B.A.	14	21	62	40	**137**
Total	**93**	**303**	**603**	**409**	**1,408**

Source: Provincial Education Offices

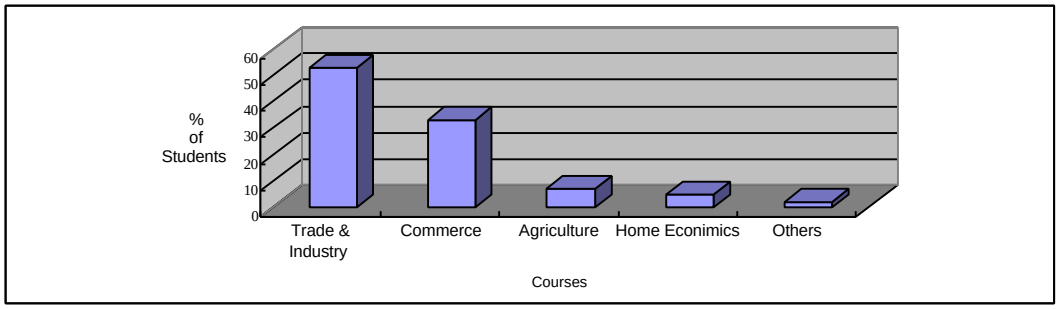
Quite a few students and teachers lose enthusiasm about studying and teaching. The reason behind this is that most graduates remain unemployed even after completing their vocational education. Some of them help in family businesses and the others engage in farming. Under this severe employment situation, their motivations tend to weaken and they lose the incentives to study.

To solve this problem, it is a key that vocational schools offer quality education through adequate practical training. This requires more cooperation between the education sector and the industrial sector. It is necessary that the private companies provide more chances of practical training for students and teachers. Given the present industrial situation in NBR; i.e., under-developed industrial sector, such companies providing practical training should be sought nationwide.

(3) Lack of Clear Vision of HRD in Vocational Education

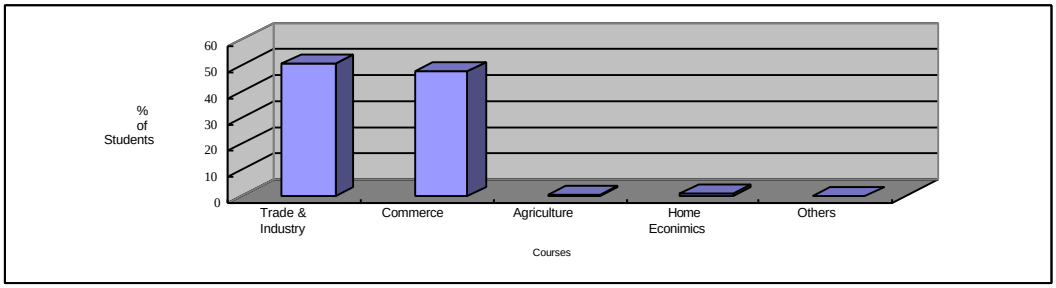
In NBR, many vocational schools have been built one after the other in recent years, because enrollment in vocational education has soared and local demand for more vocational education opportunities has increased. However, the government seems to lack a clear vision for the development of NBR's vocational education. This is apparently seen in its school curricula. The courses offered by NBR's vocational schools are not different from the other regions. For instance, there are courses in industrial technology, automotive, electricity, computers and accounting. Their curricula are the same as DOVE's standard ones. There is no concern about regional characteristics and local needs.

Only a few vocational schools in NBR have successfully implemented unique curricula; e.g., food catering and home economics. These courses significantly represent the local characters. These are being watched by concerned people.



Source: DOVE

Figure 11.8 Enrollment in Vocational Education in Thailand



Source: DOVE

Figure 11.9 Enrollment in Vocational Education in NBR

In this study's research, it is determined that NBR will be a place based on agriculture, and industry in NBR will be related to the agricultural sector. In addition, in consideration of some structural change after completion of the Second Mekong Bridge between Mukdahan and Savannakhet, tourism industry will be developed in NBR. Furthermore, information technology (IT) industry is a potential sector in NBR. The vocational schools in NBR, therefore, must have a role to offer those new courses and to create solid personnel for such fields.

11.3 Regional Education Development Plan

11.3.1 Development Objectives

As analyzed in the foregoing sections, NBR has a number of constraints in the education sector. The regional education development plan is to work out measures to mitigate such constraints one by one.

Firstly, the NBR education development plan proposes expansion of basic education, in order to give an educational opportunity to every corner of NBR. This will bring about overall improvement of basic education and political and economical stability in NBR.

Secondly, the NBR development plan aims at improving basic education, especially lower secondary education, in order to create affluent human resources possessing adequate educational background. The development of fundamental human resources will elevate quality of life by alleviating poverty and make future social and economic development easier.

Thirdly, given the geographical advantage of NBR, it can be a center for cooperation with neighboring countries, i.e., Lao PDR, Vietnam, Cambodia, and China. To promote such cooperation among these countries, the development plan recommends establishing a higher education institute in NBR. Cultural and academic exchange at the institute can create a new atmosphere of international interacting center within the region, and raise its social status.

Fourthly, it has been long criticized that the quality of the Thai higher education is not high enough. This is attributable to lack of materials written in Thai language. To ease this problem and to improve the access to more information, information technology (IT) should be extensively utilized. To promote using IT, the development plan suggests strengthening English and computer competency of teaching staff and students.

Fifthly, the plan focuses quality improvement of vocational education, which can create more skilled labor and bring industrial development in NBR. This is one of the most important plans for the NBR educational development plan, because creating adequate skilled labor and developing the region's industry are immediate needs for the locals. In this respect, creating a number of skilled workers meeting the demands from the private sector is a key in this plan.

Lastly, under the current reform of decentralization, the local government will have more responsibility to produce local policy and manage various activities. The personnel at local level, however, do not have enough knowledge and skills to do it.

Therefore, the development plan proposes capacity-building of the local officers through training.

11.3.2 Targets and Scenario

In education analysis, enrollment ratio is one of the most significant measures. Given the government policy of 9-year compulsory education and 12-year free education, being effective in 2002, NBR's enrollment ratio at primary and lower secondary education should have risen. At present, NBR's enrollment ratios at primary and lower secondary education are 94.5% and 75.5%, respectively. There are still 5.5% of children in NBR that do not go to primary school. This regional education development plan sets some targets as indicated below.

(1) Targets in Basic Education

1) Short-Term Scenario (2000-2004)

- Enrollment ratio at primary education reaches more than 97%.
- Enrollment ratio at lower secondary education reaches more than 80%.
- Primary teachers teaching lower secondary education curricula are trained.

2) Medium-Term Scenario (2005-2009)

- Primary education is universalized.
- Enrollment ratio at lower secondary education reaches more than 90%.
- New secondary schools are built as independent schools.

3) Long-Term Scenario (2010-2020)

- Lower secondary education is universalized.

Secondly, for higher education improvement, establishing a new higher education institute is a major pillar. It will facilitate the region's academic status and bring active exchange of personnel and information among the neighboring countries. This plan also includes facilitating the development of IT.

(2) Targets in Higher Education

1) Short-Term Scenario (2000-2004)

- A GMS international training center is established.
- Training of English and computer for teaching staff and students is started.
- IT course at university education is prepared and to be offered.

2) Medium-Term Scenario (2005-2009)

- The GMS international training center

- IT course at university level is to be offered.
- Training of English and computer literacy is widespread.

3) Long-Term Scenario (2010-2020)

- IT course is more expanded.

Thirdly, for improvement of vocational education, upgrading educational quality is the first priority. Under the current educational policy, the government tends to focus more on expansion of educational opportunities through establishment of vocational schools one after the other in NBR. However, as analyzed above, this policy does not fully contribute to the region's economic development. In this development plan, some targets are set with consideration of quality improvement of vocational education.

(3) Targets in Vocational Education

1) Short-Term Scenario (2000-2004)

- CBT system is established.
- Internship scheme is established.
- Internship fund is established.

2) Medium-Term Scenario (2005-2009)

- CBT system is implemented.
- Internship scheme is implemented as a pilot project and then expanded.
- New vocational schools are established.
- Diploma course is set up in the existing vocational schools.

3) Long-Term Scenario (2010-2020)

- CBT is expanded nationwide.
- Internship scheme is expanded nationwide.

Lastly, with consideration of the decentralization plan in Thailand, upgrading capacity of local personnel through adequate training is very important. Schoolteachers, TAO officers and personnel in various local organizations are targeted.

(4) Targets in Local Government Personnel Training

1) Short-Term Scenario (2000-2004)

- Key persons at local organizations are trained.

2) Medium-Term Scenario (2005-2009)

- All persons who need to upgrade their skills receive training.

11.3.3 Strategies

(1) Basic Education Development

To expand more basic education in NBR, some distorted areas should be focused and effective programs must be implemented. For instance, Nong Sung, Dong Luang (Mukdahan) and Phon Sawan (Nakhon Phanom) are such areas. In these areas, there are many people living under the poverty line. They are ethnically different from the others and this ethnic difference has brought political instability. In this education development plan, financial support, counseling, and improvement of physical conditions in such areas are proposed.

Under the "expanded education" scheme, quality of lower secondary education is not high enough, while the enrollment has rapidly risen. This education development plan highly considers quality of education and proposes intensive training for primary teachers.

(2) Higher Education Development

NBR is a long-neglected area from the national economic development policy. To promote the development of NBR, it is necessary to make NBR an attractive area. NBR has a geographical advantage of being close to the neighboring countries. International exchange and cooperation activities are effective ways to renew NBR. Therefore, the first strategy at higher education development is to revitalize NBR as an international academic center through information and personnel exchanges with neighboring countries, e.g., Lao PDR, Vietnam, Cambodia and China.

To improve NBR's higher education quality, improvement of accessibility to information is crucial. The development plan **introduces development of IT system in NBR.**

(3) Vocational and Technical Education Development

To overcome a long-criticized issue of low quality vocational education, this educational development plan focuses on quality improvement of NBR's vocational education. The first strategy is **to create a model of demand-centered vocational education system, which has flexibility to cope with industrial demands.** In addition, it is a key strategy **to provide more opportunities of practical training for students through a newly proposed internship scheme**, by which students can choose a company for practical training in the company files collected nationwide. This scheme can provide students up-dated skills and technology, and a better understanding of the real working situation. This scheme is different from DVT, which usually offers practical training in line with relating with local companies.

Through learning up-dated skills and technology in the advanced industrial areas, skill level of students can be expected to meet the demand from the private sector.

(4) Training in Out-Of-School System

The decentralization plan, which the Thai government is perusing, requires more responsibility and higher knowledge from local governments. However, under the current situation, most local organizations cannot deal with such responsibility due to lack of skills and knowledge. This educational development plan focuses on **capacity building of local government personnel through intensive training.**

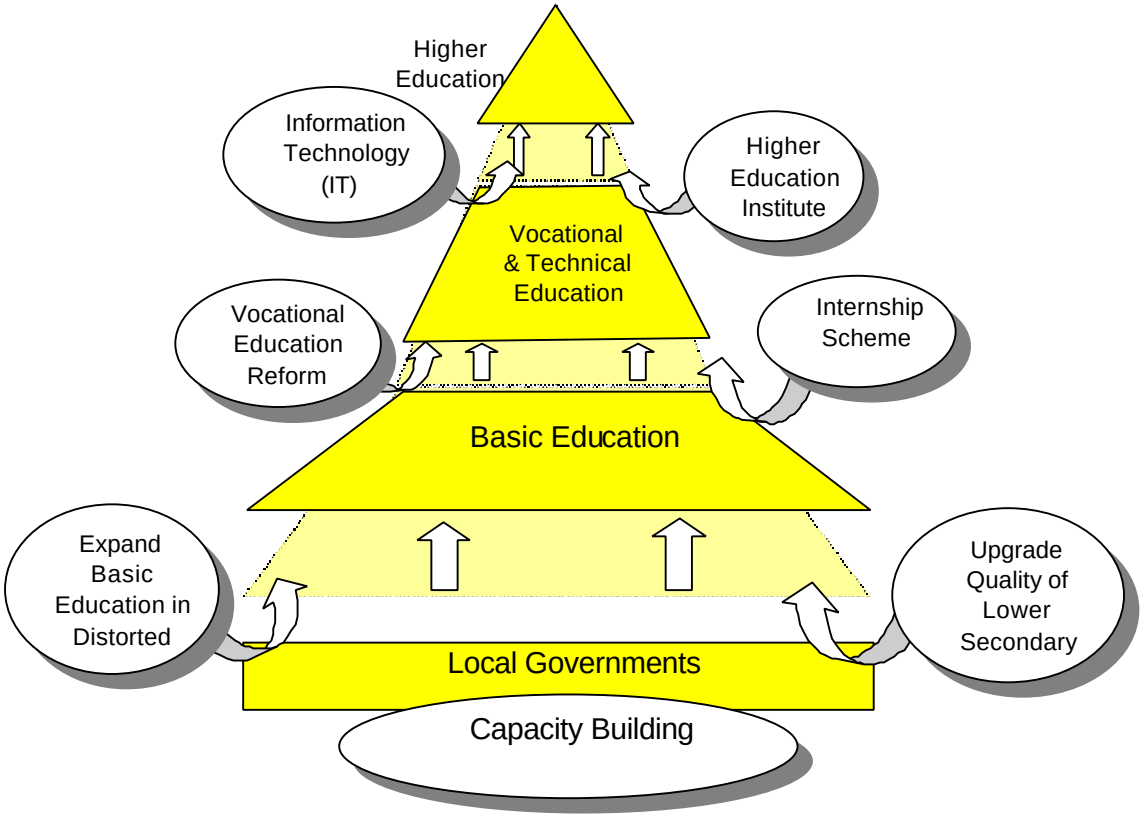


Figure 11.10 Strategy for NBR Education Development Plan

11.3.4 Education Development Plan and Projects

The NBR education development plan proposes the following programs to solve a number of constraints discussed in the forgoing sections. These programs aim at improving the NBR's education sector and creating adequate human resources.

Basic Education Expansion Program

- Education Awareness Campaign Project

- School Accessibility Improvement Project
- Scholarship Fund Project

Basic Education Improvement Program

- Primary Teachers Training Project
- Lower Secondary School Independence Project

GMS International University Program

- GMS International University/Training Center Project

English and Computer Literacy Improvement Program

- English and Computer Literacy Improvement Project

Vocational Education Improvement Program

- Vocational School System Reform Project
- Internship Project
- Vocational Education Expansion Project

Local Government's Capacity Building Program

- Capacity Building Training Project

(1) Education Awareness Campaign Project

NBR have some places whose enrollment at basic education is significantly low; i.e., Nong Sung, Dong Luang (Mukdahan) and Phon Sawan (Nakhon Phanom). These areas are ethnically and culturally different from the other places. To improve enrollment at basic education in such areas, raising educational awareness of locals is very important. A comprehensive campaign for educational awareness is proposed in the educational development plan.

The campaign project consists of three activities, namely: (i) providing brochures, posters and videos, and broadcasting campaign shows through local media, (ii) holding seminars and workshops, and (iii) organizing study-tours for locals to observe educationally- advanced areas.

The NBR's targeted enrollment ratio is 100% at primary education by 2009, and 100% at lower secondary education by 2020.

(2) School Accessibility Improvement Project

Currently there are 56,136 students travelling to school more than 3 kilometers everyday and 468 students staying at school campuses, where cheap lodging houses are available. These students often drop out of school. To reduce drop-outs and to

increase enrollment at basic education, it is important to improve school accessibility. This project consists of two methods, namely: (i) operating school buses, and (ii) providing rental bicycles[14]. The project can clarify the better method, based on the size of students and school location.

(3) Scholarship Fund Project

In NBR, some children could not continue with their schooling because they had to stay at home and help the family or they could not pay for school-related expense, such as transportation, meals and study materials. To help these children, the development plan proposes to establish a scholarship fund for the poor. The financial sources can come from the provincial budget and donations. This fund is to be organized and administered by provincial education offices and will provide poor students with loans at no-interest and a 5-year grace period of payment. The fund will be available to every student living in the province.

(4) Primary Teachers Training Project

Under the current school system in NBR, 425 primary schools offer lower secondary education and about 16,000 primary teachers are involved in it. These primary teachers have not been trained for teaching lower secondary education. NBR's lower secondary education, therefore, does not often meet required quality level. This education development plan reflects much concern with regard to this problem and proposes intensive training for primary teachers.

Targeted teachers are 16,655 primary teachers. Training course is organized and offered by the Rajabhat Institute. The training will last 1 to 2 months and primary teachers participate in the training course during the school vacation period. Teachers completing the course will be given a certificate for teaching lower secondary education under limited conditions.

(5) Lower Secondary School Independence Project

In NBR, lower secondary education is offered by primary schools, and its quality is not high enough. Although the primary teachers' training project is effective for improving the quality of education, it is not a final solution. The educational development plan recommends that lower secondary education be made independent from primary education and that formal lower secondary teachers carry out qualitative education. A total of 423 primary schools combined with secondary education are targeted.

(6) GMS International University/Training Center Project

[14] It is possible that second-hand bicycles would be collected for use in this project.

In NBR, there are only few higher education institutes. Shortage of higher education institutes is apparent and new higher education institutes are highly expected by locals. To revitalize long-neglected NBR, it is very important to establish an institute with some unique characteristics. The education development plan proposes a university characterized by international cooperation with Thailand's neighboring countries, such as Lao PDR, Vietnam, Cambodia and China. Because there is no such university in Thailand, it must be attractive to many students and contribute to the region's revitalization.

The possible courses that the university could offer are:

- Tourism;
- Business administration;
- Agricultural technology;
- Science technology; and
- Information Technology (IT).

Teaching staff and students from foreign countries would be welcomed. The proposed institute starts as a GMS international training center and then it will be developed to a GMS international university.

(7) English and Computer Literacy Improvement Project

The quality of higher education in Thailand has long been criticized to be quite low. This is attributable partly to lack of materials and publications, written in Thai language. At present, thousands of documents are accessible through the Internet, while most of them are written in English. Most students and teaching staff, however, hesitate to access such information. This is because their English and computer literacy is not high enough.

To solve this problem, the education development plan proposes upgrading English and computer capability of students and teaching staff at higher education institutes through intensive training program. It is suggested that the institutes invite native English speakers as English teachers. This can be called "Thailand Exchange Teaching (TET)" program, supported by the Thai government. In the recruitment process of native English speakers, the Thai embassies can take responsibility, i.e., from announcement, interview, and screening, to contract and visa arrangement. The contract term is at least 1 year, and normally runs up to 2 years; contract extension is possible. Allowance will be paid by the Thai government, based on average salary of the Thai.

To raise computer literacy of students and teaching staff, instructors are to be invited from the private sector.

These training courses are organized by each institute and offered as both formal curriculum and additional curriculum. Tuition will be paid by participants of the courses.

(8) Vocational School System Reform Project

Current vocational school curricula do not reflect much concern with the situation of the industrial sector. Vocational schools often provide unnecessary semi-skilled workers to the industrial sector. This is because there is no communication between MOE and the industrial sector. Given this situation of vocational education, quantitative expansion may waste limited financial resources and fail to carry out any human resource development. Vocational education should be a fundamental factor providing necessary skilled labor to the industrial sector. In this respect, the educational development plan strongly proposes qualitative improvement of vocational education, i.e., adopting "competency-based training (CBT)[15]," which was started in Germany and Canada, and introduced into many countries by 1990s, such as Australia, Singapore and Malaysia.

In this education development plan, it is recommended that CBT should be implemented as a model project. To do that, it would be necessary to establish the following organizations:

- Regional Industrial Training Advisory Board (RITAB) in MOI's Northeastern Branch Office
- RITAB is set in all of the different types of industrial sector. It analyzes necessary competence of workers and provides such information to vocational institutes;
- Curriculum Planning Board (CPB) in MOE's provincial education offices;
- CPB produces relevant curricula based on the information from RITAB and provides the curricula to each vocational school in NBR;
- Regional Training Qualification Authority (RTQA) in NESDB Northeastern Office; and
- RTQA consists of representatives from all vocational-training-related agencies, i.e., MOE, MOI, MOIr, and MOLSW. It conducts monitoring and quality auditing to vocational schools.

Under the regional CBT system, RITABs collect information about what competence of workers is needed and provide an analysis by sector. This information is sent to CPB. CPB produces vocational education curricula based on the information.

[15] CBT is a system to establish tight relationship between the industrial sector and the education sector. Industrial Training Advisory Board (ITAB), which is set in each industrial sector, analyzes what competence is needed. Based on such information, educational institutes create learning strategies and materials.

Local vocational schools implement the curricula and give feedback to RITAB. RTQA monitors the implementation of the curricula at schools.

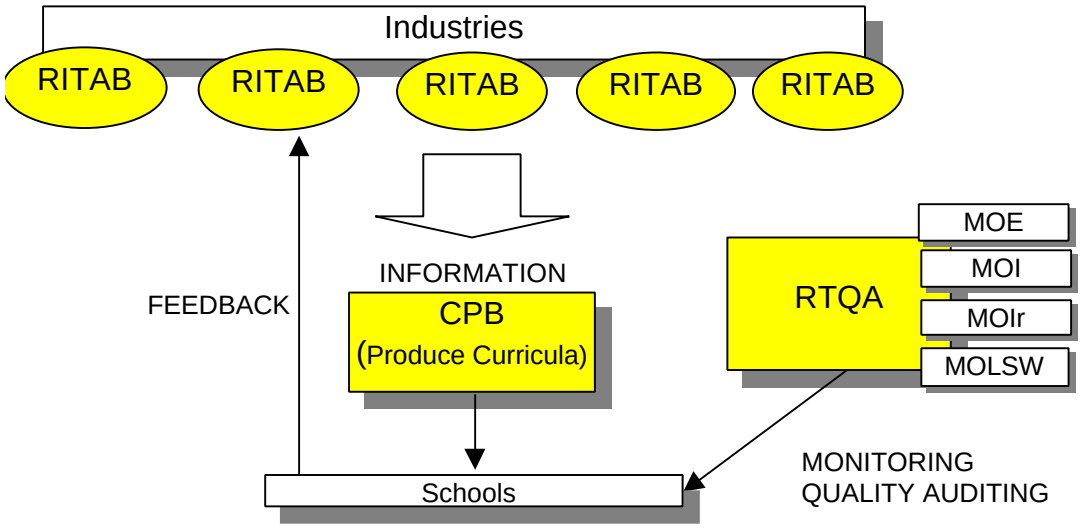


Figure 11.11 CBT Model in NBR

(9) Internship Project

To raise the quality of vocational education, practical training is necessary. Under the current situation of NBR, vocational schools have not given students sufficient practical training, due to lack of industries in NBR. The newly proposed "internship project" is designed to give more opportunities for practical training in the private sector.

RITABs prepare a nationwide company profile list, by sector; they also select companies that can accommodate students as interns. This information can be accessed by schools and students to apply as interns to the companies through RITAB. RITABs screen the applications if there are more applicants than positions being offered. RITABs also prepares the contract between companies and students.

The internship is offered 2 to 6 months, depending upon the expectation of companies and students. The interns do not directly receive any allowance from companies; instead the allowance is paid to an internship fund, which can be used to pay for various fees for student internship, e.g., accommodation, meals, and transportation.

The internship scheme is also available to teaching staff who would like to improve and further develop their teaching skills.

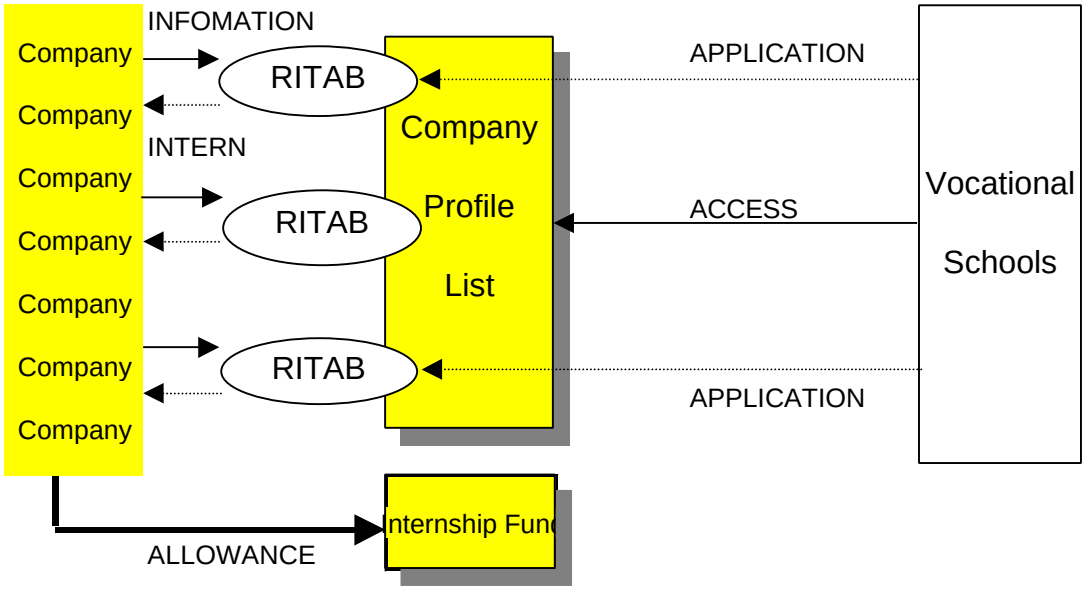


Figure 11.12 Internship System

(10) Vocational Education Expansion Project

As analyzed in the forgoing section, NBR's current vocational education capacity does not meet local demand. Especially 11 districts, namely, Khamcha-I (Mukdahan), Na Kae, Phon Sawan, Si Songkhran (Nakhon Phanom), Ban Muang, Wanon Niwat, Waritchaphum, Akat Amnuai (Sakon Nakhon), Kamalasai, Sahatsakhan and Huai Mek (Kalasin), greatly expect to have a vocational school. This development plan proposes to establish new vocational schools in these districts.

It is also necessary to upgrade the current existing vocational schools from certificate level to diploma level. At least vocational schools located in municipalities should set up diploma course.

(11) Capacity Building Training Project

Under the ongoing decentralization scheme, local governments will have more responsibility to manage local policies. However, most local personnel are not ready to carry out such responsibility because of lack of ability and experience. To promote the decentralization in NBR, upgrading of personnel capability is crucial. This development plan highly proposes that they attend an intensive training course.

The targeted persons are local government officers, i.e., officers in organizations at provincial and district levels, Tambon Administrative Organization (TAO) officers, and school teachers. The training consists of various topics, such as:

- Policy making;

- Management for finance, personnel and project;
- Project implementation;
- Monitoring; and
- Evaluation.

The training for each topic lasts 1 to 2 weeks. Lecturers can be invited from the central government.

Reference

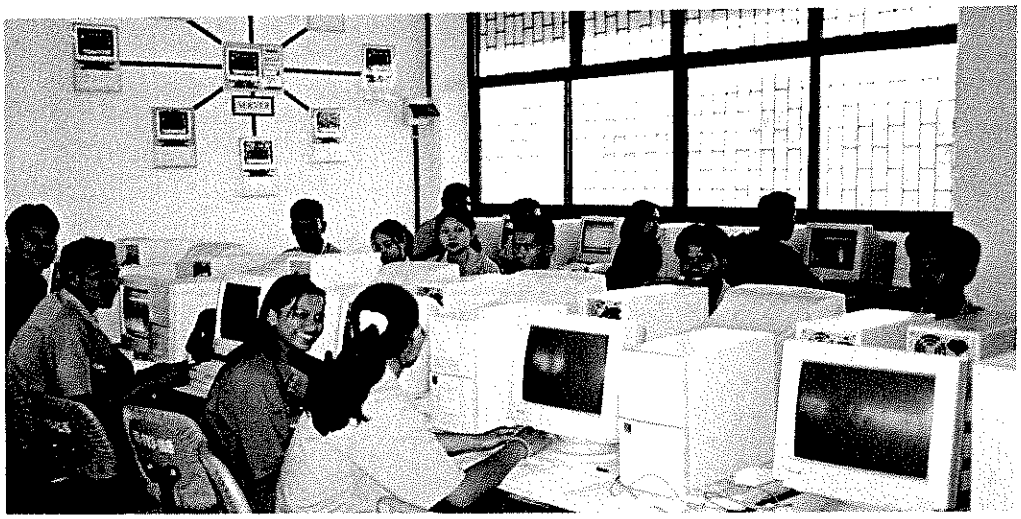
This institute focuses mainly on agricultural technology. It contributes much to region's agricultural development. Recently some staff at this institute started their own business; e.g., wine production, and it is expected to be a model for creating entrepreneur-ship in the area.

Picture 11.1 Rajamangala Institute of Technology in Kalasin

The vocational school has some practical activities. However, skill level and technical knowledge are not high enough.

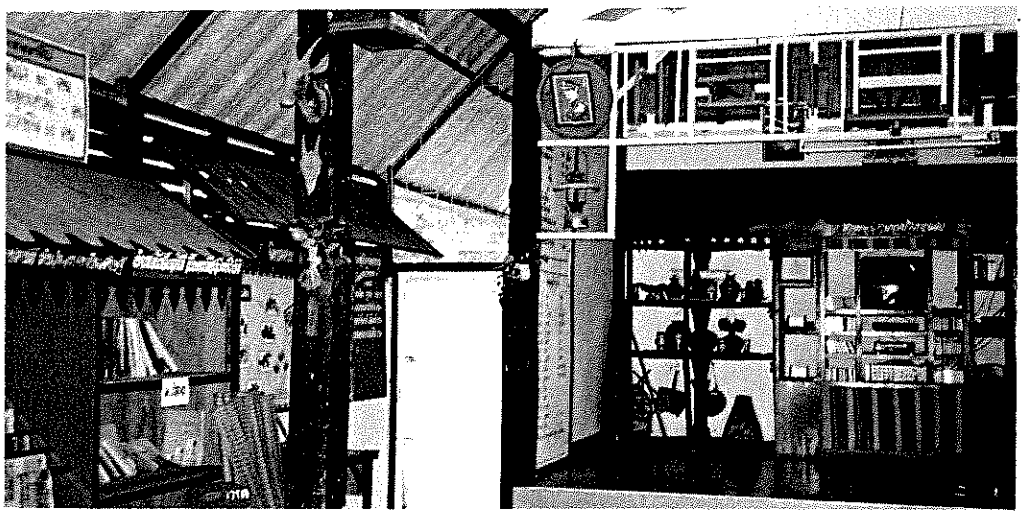
Picture 11.2 Class Activities at Public Vocational School

This is a private vocational school and it has adequate equipment and facility. The school focuses on commercial issues and keeps a significant level of education. There are only a few of this type of vocational school in NBR.



Picture 11.3 Computer Class at Private Vocational School

This is a typical reading center. It exhibits traditional items that local people are using. There are also some books and magazines on shelves. Several newspapers are delivered everyday.



Picture 11.4 Reading Center in a Village