

Chapter 2

EDUCATIONAL DEVELOPMENT TOWARD A KNOWLEDGE-BASED ECONOMY

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1. FRAMEWORK OF EDUCATION

At present, the framework of education in Thailand is based on the 1997 Constitution and the 1999 National Education Act. They provide principles and challenging guidelines for the provision and development of Thai education in order to prepare all Thai people for a learning society in a knowledge-based economy. The Constitution has greatly increased the rights of Thai people to political participation and the rights to voice public opinion on major problems, while the National Education Act has introduced new initiatives and provides principles and guidelines for the comprehensive reform of education in Thailand.

Following the Constitution and the National Education Act, the National Scheme of Education B.E. 2545-2559 (2002-2016) was promulgated emphasizing education that embraces equity and quality and aims at improving the quality of life of the country's citizens. The provisions in the Constitution relating to education and essential features of the National Education Act and the National Scheme of Education are summarized in this chapter.

1.1 The 1997 Constitution of the Kingdom of Thailand

The new Constitution, promulgated in October 1997, contains several provisions relating to education, religion and culture. Section 81, for example, prescribes that the State will "improve education to be in harmony with economic and social change", which means that the Government is committed to initiating educational reform whenever it is necessary to keep up with the pace of change.

In addition, the Constitution provides for the first time that all Thai people have equal rights to receive a quality basic education for free for 12 years (Section 43). This will make it easier to raise the educational level of Thai people.

The Constitution ensures that all people will have both the rights and duty to receive education and training (Sections 30 and 69) as well as academic freedom (Section 42). It also includes the rights of children, youth, women, the elderly, the underprivileged and people with disabilities to receive care and education (Sections 53, 55 and 80). These provisions should help move all Thai people toward a knowledge-based economy.

In providing education, maximum public benefit in national communication resources (Section 40) and the conservation and restoration of local wisdom (Section 46) will be taken into consideration. The role of the private sector in the provision of education at all levels is also emphasized (Section 43). The Constitution ensures the right of the local organizations to participate in the provision of education, which will facilitate decentralization of educational management (Section 289).

Furthermore, participation of local people and communities in educational provision will be enhanced, which will make education both relevant to the needs of the people and responsive to changing environments, demands and opportunities at local levels.

These provisions will empower and strengthen the organization of education in order to provide Thai people greater access to education through formal, nonformal and informal education, which will transform Thai society into a “learning society”.

These challenging guidelines mandated by the 1997 Constitution have been taken for implementation through the enactment of a National Education law in 1999.

1.2 The 1999 National Education Act and the Amendments

a) The 1999 National Education Act

In order to meet the requirements of Section 81 of the 1997 Constitution, the first National Education Act was promulgated in August 1999 to serve as the fundamental law for the administration and provision of education and training. Essential features of the Act are as follows:

Objectives and Principles (Chapter 1)

- *Educational objectives:* Full development of the Thai people in all aspects.
- *Principles in educational provision:*
 - 1) lifelong education for all,
 - 2) participation by all segments of society and
 - 3) continuous development of the bodies of knowledge and the learning process.
- *Principles in organizing the system, structure and process of education:*
 - 1) unity in policy and diversity in implementation,
 - 2) decentralization of authority,
 - 3) setting of standards and a system of quality assurance,
 - 4) raising the professional standards of teachers, faculty staff and educational personnel,
 - 5) mobilization of resources and
 - 6) partnerships with all sectors of society.

Educational Rights and Duties (Chapter 2)

- *Individual rights:* All individuals will have equal rights and opportunities to receive basic education provided by the State, free of charge, for at least 12 years. Special services will be specially provided to persons with special educational needs.
- *Duties of parents and guardians:* Parents or guardians will arrange for their children or those under their care to receive compulsory education as well as further education according to the families' capabilities, with support and benefits provided by the State.
- *Rights to provide basic education:* Parents, individuals, organizations and institutions will have the right to support or provide basic education, with the benefits provided by the State.

Educational System (Chapter 3)

- *Types of education:* Educational institutions will provide any one or all of the three types of education – formal, non-formal and informal. In this regard, transfer of learning outcomes will be allowed.
- *Formal education:* Formal education is divided into two levels – basic education and higher education, with nine years compulsory education.
- *Types of institutions:* Provision of various types and levels of education will be provided in numerous educational institutions.

National Education Guidelines (Chapter 4)

- *Provision of education:* Education will be based on the principle that all students are capable of learning and self-development and are regarded as being most important in the education process.
- *Organizing the learning process:* Substances and activities will be provided in line with students' interests and aptitudes by utilizing authentic experience; training in thinking process, management and problem-solving; combining the subject matter, integrity, values and desirable attributes into a balanced integration; providing lifelong learning sources; encouraging learning in communities; developing effective learning processes; and encouraging instructors to carry out research.
- *Curricula:* The Basic Education Commission will prescribe the core curricula for basic education while educational institutions will prescribe curricular substance relating to the needs of the community and society. Higher education curricula will emphasize academic development, higher professions and research.

Educational Administration and Management (Chapter 5)

- *Administration and management by the State:* At the central level, the Ministry of Education will promote and oversee all levels and types of education. However, the administration and management of basic education and higher education at the lower-than-degree levels will be based on the educational service areas.
- *Administration and management by local organizations:* Local administration organizations will have the right to provide education at all levels according to readiness, suitability and requirements of the local areas in line with the policies and standards stipulated by the Ministry of Education.

- *Administration and management by the private sector:* The Government will provide support to private education institutions. They will enjoy independence in providing all levels and types of education with the Government overseeing, monitoring and assessing educational quality and standards.

Educational Standards and Quality Assurance (Chapter 6)

- *Quality assurance systems:* Internal and external quality-assurance systems will be established.
- *Internal quality assurance:* Educational institutions will establish an internal quality-assurance system as part of education administration.
- *External evaluation:* The Office of Education Standards and Evaluation will be responsible for external evaluation of educational institutions at least once every five years.

Teachers, Faculty Staff and Educational Personnel (Chapter 7)

- *Production and development:* The Fund for Development of Teachers, Faculty Staff and Educational Personnel and an independent organization to be responsible for related tasks will be established.
- *Professional standards and ethics:* An organization will be established to oversee professional standards and ethics of teachers, administrators of educational institutions, education administrators and other personnel. Those who are in educational institutions at the lower-than-degree levels are required to have professional licenses.
- *Personnel management:* There will be a central organization responsible for administering personnel affairs of teachers as well as a law with regard to salaries, remuneration, welfare and other benefits for teachers and educational personnel.

Resources and Investment for Education (Chapter 8)

- *Mobilization of resources:* Resources and investment for education will be mobilized from all sectors. State educational institutions will take charge of, oversee, maintain, utilize and earn interest from their properties.

- *Allocation of budget:* The Government will be responsible for the distribution of the following: general subsidies for per-head expenditure for those receiving compulsory and basic education; loans for those from low-income families; budgetary allocations and other special educational resources for those with special needs; budgetary allocations for operating and capital costs of state educational institutions; low-interest loans to private educational institutions; and general subsidies for education provided by individuals, families and other organizations.
- *Budget management:* There will be a system for auditing, following-up and evaluating the efficiency and effectiveness in utilization of the education budget.

Technologies for Education (Chapter 9)

- *Infrastructure, networking system, materials and other technologies for education:* The Government will distribute frequencies, signal transmission devices and other infrastructure for communication for use in provision of education.
- *Development of personnel and learners:* Development of producers and users of technologies will be enhanced. Students will have the right to develop their capabilities for utilization of technologies for education.
- *Establishment of a central unit:* A central unit responsible for proposing policies, plans, promotion and coordination of research, development and utilization of technologies for education will be established.

b) The Amended National Education Act 2002

For several decades, the Ministry of Education also supervised issues related to religion and culture in addition to education. The 1999 National Education Act was drafted in that spirit. After the bureaucratic reform in 2002, however, religion was placed under the supervision of the Office of the Prime Minister while culture was under the supervision of the Ministry of Culture. To reflect the revision, the National Education Act was amended in 2002.

There are only slight differences between the two Acts. The main differences are presented in Table 1.1.

Table 1.1: Comparisons of the National Education Act, 1999, and the Amended National Education Act, 2002

	National Education Act, 1999	Amended National Education Act, 2002
1. Name of the Ministry	Ministry of Education, Religion and Culture	Ministry of Education
2. Responsibilities of the Ministry:	Overseeing all levels and types of education, religion, art and culture	Promoting and overseeing all levels and types of education
3. Administrative Structure of the Ministry (Section 32):	National Council of Education, Religion and Culture; Commission of Basic Education; Commission of Higher Education; Commission of Religion and Culture	National Council of Education; Commission of Basic Education; Commission of Higher Education; Commission of Vocational Education

1.3 The National Scheme of Education (2002-2016)

The National Education Commission (ONEC) prepared the National Scheme of Education as mandated by the constitutional provisions and Section 33 of the 1999 National Education Act. Authorized for subsequent implementation by the Council of Ministers on 17 June 2002, the National Scheme of Education focuses on the integration of all aspects of the quality of life as well as attuned to other visions, policies, measures and legislation relating to the development of Thai society.

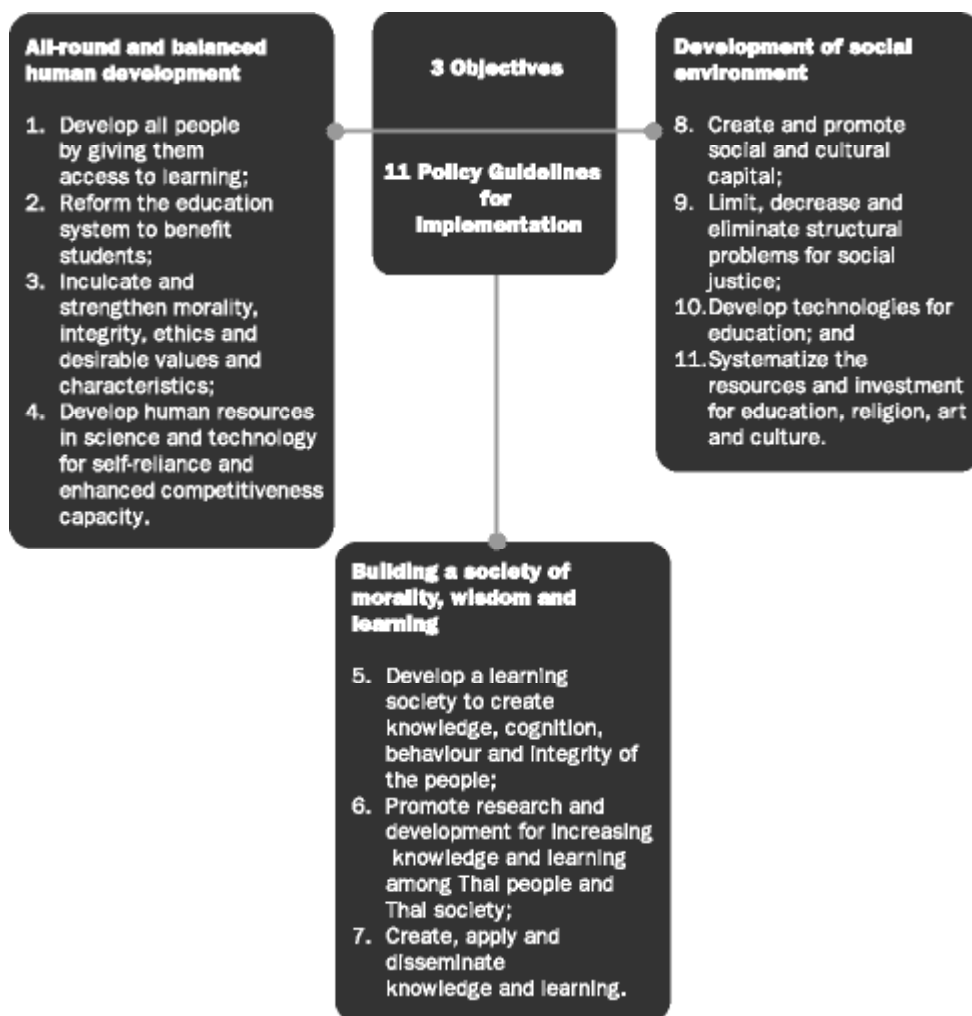
Based on the sufficiency economy philosophy of His Majesty the King of Thailand, who advocates adherence to the middle path or moderation as well as ability for reasonable appraisal and sensitivity to world trends and events, the National Scheme emphasizes human-centred development and an integrated and holistic scheme of education, religion, art and culture. In this regard, Thai people shall attain full development in terms of physical and spiritual health, intellect, morality and integrity as well as a desirable way of life that focuses on living in harmony with other people.

Covering a 15-year period from 2002 to 2016, the National Scheme will serve as a strategic plan to ensure harmony of the efforts for education reform throughout the country. The National Scheme serves as the framework for formulating the development plans pertaining to basic education, vocational education, higher education and religion, art and culture. It also provides guidelines for formulating operational plans at the levels of educational service areas and educational institutions.

The National Scheme represents the major reform plan, bringing together the relevant provisions of the Constitution and the National Education Act. It also is based on government policy aimed at transforming the society into a society of knowledge, leading to a knowledge-based economy that enables all Thai people to have equal access to lifelong learning and training and, once endowed with intellect, serving as a capital for income-generating employment, thus saving the country from economic and social crisis. It is a scheme that manifests the vision of the long-term development inscribed in the Ninth National Economic and Social Development Plan as well as the Act Stipulating the Plan and Steps for Decentralizing Authority to the Local Administration Organizations of 1999 and other relevant laws and regulations.

The National Scheme of Education stipulates three objectives and 11 policy guidelines for implementation, as shown in Figure 1.1.

Figure 1.1: Objectives and Policy Guidelines of the National Scheme of Education



In summary, it is hoped that the National Scheme will 1) lead to a knowledge-based society; 2) promote continuous learning; and 3) involve all segments of society in designing and decision-making concerning public activities. It is also expected that the National Scheme will empower Thai people to develop desirable characteristics, including virtue, competency, happiness and self-reliance, and yet maintain the Thai identity while adjusting to world trends and events.

2. EDUCATIONAL ADMINISTRATION AND MANAGEMENT

In accordance with the promulgation of the 1999 National Education Act and the Bureaucratic Reform Bill, the agencies with the main responsibility for education provision, namely the Ministry of Education, the Ministry of University Affairs and the Office of the National Education Commission, have been reorganized into a single Ministry of Education (MOE).

However, local education administration is still under the supervision of the Ministry of Interior (MOI). In addition, other ministries also take charge of the management of education in specialized fields or for specific purposes. The reformed administration and management system of Thai education is presented in Figure 2.1.

The reformed education administration and management is based on the principle of unity in policy and diversity in implementation as well as decentralization of authority to educational service areas, educational institutions and local administration organizations.

Accordingly, education administration and management in Thailand can be categorized as follows:

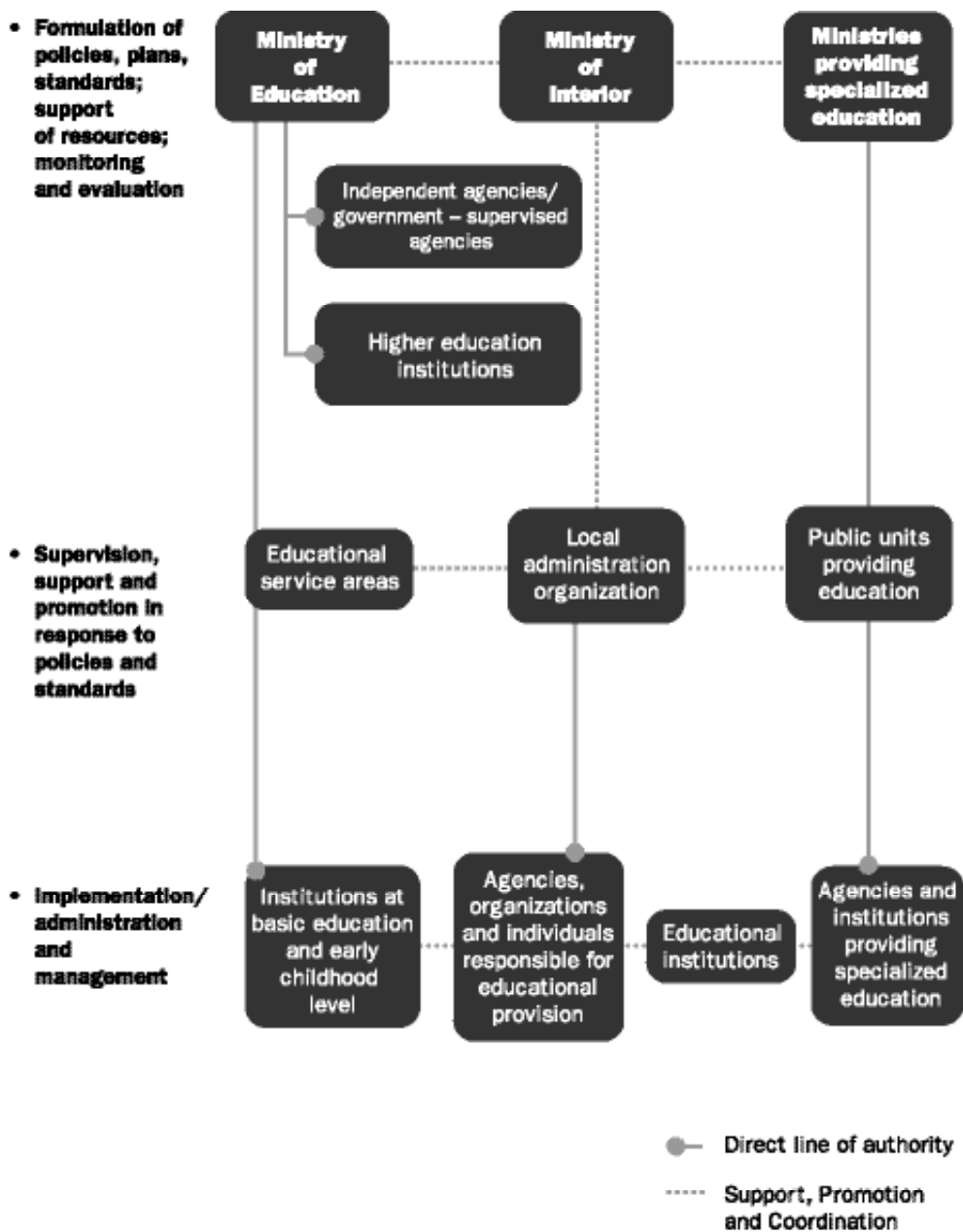
2.1 Administration and Management of Education by the State

Education in Thailand is currently administered and managed by the Government at three levels: central, educational service areas, and educational institutions at basic and lower-than-degree levels.

a) Administration at the central level

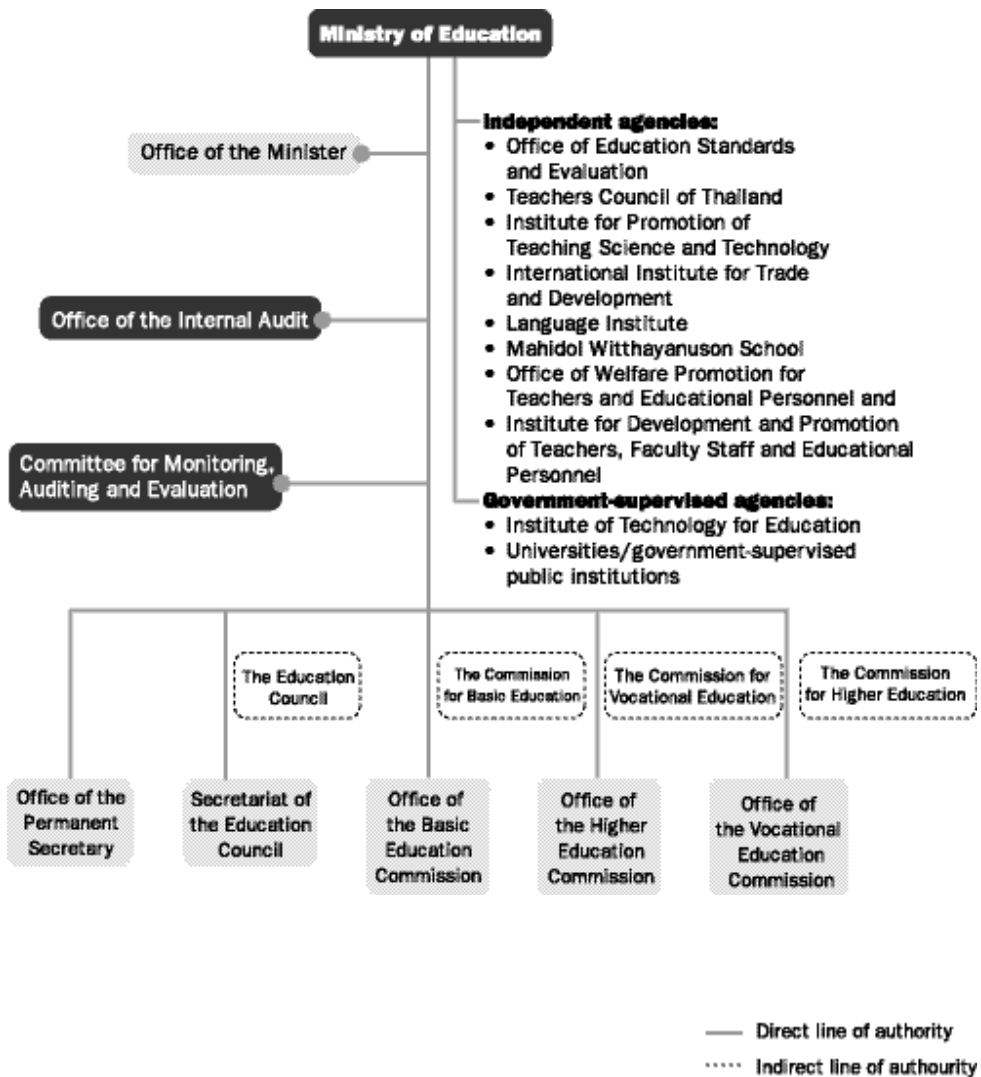
After the reorganization of the administrative structure, the main responsibility for education in Thailand is under the Ministry of Education. According to the amendments of the National Education Act, the MOE is responsible for promoting and overseeing all levels and types of education; formulation of education policies, plans and standards; mobilization of resources for education; promotion and coordination in religious affairs, art, culture and sports in relation to education; and monitoring, inspection and evaluation of educational provision.

Figure 2.1: Educational Administration and Management Structure



The administration and management at the central level is under the responsibility of five main bodies: the Permanent Secretary Office, the Secretariat of the Education Council, Office of the Basic Education Commission, Office of the Higher Education Commission and Office of the Vocational Education Commission. The administrative structure at the central level is organized as presented in Figure 2.2.

Figure 2.2: Organization of the Ministry of Education at the Central Level



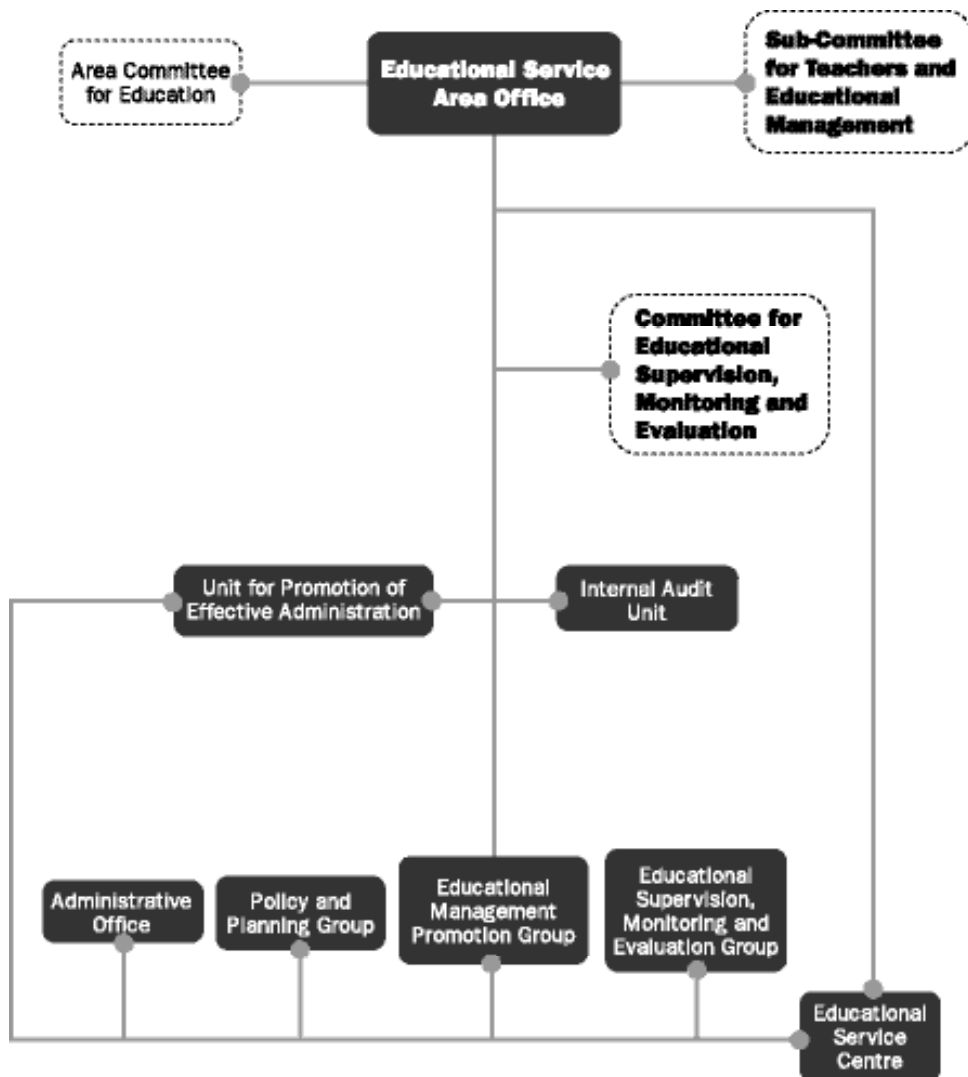
b) Administration in educational service areas

The educational service areas have been established under the jurisdiction of the Basic Education Commission in response to the decentralization of responsibility for educational administration as stipulated in the National Education Act. Based on approximately 200 educational institutions and a population of 300,000-500,000, the country is currently divided into 175 educational service areas in 76 provinces, with 172 areas in various provinces and the remaining 3 areas in Bangkok.

In each educational service area, there is an Area Committee for Education consisting of representatives of the community, private sector (such as an industry commission) and local administrative organizations; teacher associations; educational administrator associations; parent-teacher associations; and scholars in education, religion, art and culture (See Figure 2.3). The Area Committee for Education and its office are responsible for the following:

- 1) Overseeing, establishment, dissolution, amalgamation or discontinuance of basic education institutions;
- 2) Coordination, promotion and support for private educational institutions in the educational service areas;
- 3) Coordination and promotion for local administration organizations so as to be able to provide education in accord with the educational policies and standards; and
- 4) Promotion and support for education provided by individuals, families, community organizations, private organizations, professional bodies, religious institutions, enterprises and other social institutions offering a variety of training.

Figure 2.3: Organization of Administration in Educational Service Area



2.2 Administration in Educational Institutions

Educational administration and management at educational institutions can be divided into two categories:

(a) Institutions at basic education, or lower-than-degree level

The Ministry of Education is decentralizing responsibility in administration and management regarding academic matters, budgets, personnel and general affairs administration directly to the educational institutions. In each institution providing basic education or education at lower-than-degree level, there is a School Board composed of 7-15 members who are the representatives of parents, teachers, community organizations, local administration organizations, alumni and scholars. The Board of each educational institution takes responsibility for the following:

- Approve the policy, plans and budgets of the school/institution;
- Promote academic matters and the development of teachers and educational personnel;
- Mobilize resources for education;
- Promote internal and external evaluations;
- Participate in the monitoring, inspection and evaluation of the administrator; and
- Promote and support the performance of the institution/school.

Following the decentralization of authority to educational institutions, the school-based management approach has been implemented. All schools are required to take greater responsibility in performing their duties as follows:

Academic matters – Each school can provide any one or all of the three types of education: formal, non-formal and informal education. Schools are required to promote learning reform by changing the teaching-learning method from a teacher-centred to a student-centred approach. As for the reform of the curriculum, each school will be responsible for prescribing curricular substance relating to the needs of the community and society, local wisdom and attributes of desirable members of the family, community, society and nation.

Budget – In order to meet the objectives of decentralization, budget decision making will be delegated to the schools. General subsidies will be distributed as per head expenditure directly to schools on an equal basis. Public schools will have the autonomy to utilize the budget allocated in response to their needs, taking into consideration the quality of the education and the efficiency of the administration.

Personnel – Schools will be authorized to take responsibility of their own personnel management, including recruitment of teachers as well as appointments, training, rewards and dismissals. Moreover, they are required to mobilize human resources in their locality to participate in educational provision. These resource providers will contribute their knowledge, experience and expertise to the development of schools in their own communities.

General affairs administration – Each school will have the autonomy to design its own working system and process without any interference from the Ministry, with the aim of achieving the national education goals. The management of the school will be under the responsibility of its administrator and School Board. For the purpose of educational quality assurance, the development of the school will be evaluated every five years by the Office of Education Standards and Evaluation.

So far, a pilot project on school-based management in learning reform has been undertaken. Following the pilot project, the schools involved are required to provide their best practices on school-based management to 40,000 other institutions.

(b) Institutions at degree level

All educational institutions providing education at the degree level are legal entities and allowed to function with freedom. Each institution can develop its own administration and management system with flexibility and academic freedom under the supervision of the institutional council empowered by its own Act.

To improve the quality of higher education, government-supervised public universities are being promoted. The university's Bill has been stipulated in the action plan for changing the university's role to the government-supervised public university approved by the Council of Ministers.

So far, six government-supervised public universities have been established: two universities for monks – Mahamakutrajavidyalaya University and Mahachulalongkornrajavidyalaya University and four other universities – Suranaree University of Technology, King Mongkut's University of Technology Thonburi, Mae Fah Luang University and Walailak University. Another 20 universities are being established.

2.3 Administration and management of education by local administration organizations

In accordance with the National Education Act, local administration organizations can provide education at any or all levels of education according to readiness, suitability and requirement of the local areas. The Ministry of Education is responsible for prescribing the criteria and procedures for assessing the readiness of the local administration organizations to provide education, including coordination and promotion of the local administration organizations' capability to provide education in line with the policies and standards required. In addition, the MOE will also advise on the budgetary allocations for education provided by local administration organizations. The relationship between public educational organizations and local administration organizations are presented in Table 2.1.

With regard to the local administration organizations, including the Provincial Administration Organizations and the Sub-District Administration Organizations as well as other local organizations that have never experienced the provision of education, the criteria and methods have been drafted for assessing their readiness in providing education. In addition, a 15-year policy has also been formulated by the MOI to prepare the local administration organizations for the provision of education. The policy includes the following issues: equal opportunity in basic education, education administration system, quality and standards in line with potential, readiness and requirements of the local areas and teachers, faculty staff and educational personnel.

Table 2.1: Educational Administration by Local Administration Organizations

Public Educational Organizations	Local Administration Organizations
<p>1. Ministry of Education will be responsible for the following:</p> <ol style="list-style-type: none"> (1) Formulating the criteria and methods for assessing the readiness to provide education of local administration organizations. (2) Supporting and collaborating with local administration organizations so as to enable them to provide education in line with policies and standards. (3) Giving recommendations on educational budgetary allocations of local administration organizations. 	<p>Local Administration Organizations, i.e. municipalities, Bangkok Metropolitan Administration, Pattaya City, Provincial Administration Organizations, District Administration Organizations and other local administration organizations established by the law, will:</p> <ol style="list-style-type: none"> 1. Have the rights to provide education at any or all levels of education in accord with readiness, suitability and requirements of the local administration organizations. 2. Participate in the provision of education by: <ol style="list-style-type: none"> 2.1 being a Committee representative of local administration organizations, committees in each level (at the central level, in educational service areas and in educational institutions). 2.2 mobilizing resources for education in local areas i.e. allocation of local income for education. 2.3 monitoring, auditing and evaluating the provision of education as the main organizations and the representatives of people in local areas.
<p>2. Educational Service Area Office Area Committees for Education and Educational Service Area Offices are responsible for promotion of and collaboration with local administration organizations in provision of education in line with policies and educational standards.</p>	<ol style="list-style-type: none"> 1. Local Administration Organizations cooperate with educational service areas. 2. The representatives of local administration organizations participate in the Area Committees for Education.
<p>3. Institutions at basic education level These institutions are responsible for the provision of and service on education to people in local areas. In each institution, there will be a board supervising and supporting the management of the institution.</p>	<p>The representatives of local administration organizations will be members of the board that supervises and supports the management of the institution.</p>

Public Educational Organizations	Local Administration Organizations
<p>4. Office of Educational Standards and Evaluation (OESE) This office is responsible for developing the criteria and methods of quality evaluation of educational institutions under the supervision of local administration organizations as well as submitting the report to local administration organizations.</p>	<p>Local Administration Organizations are responsible for the following:</p> <ol style="list-style-type: none"> 1. Developing a quality assurance system in the educational institutions. 2. Endorsing the result of the external evaluation. 3. Improving and developing the educational institutions as proposed by the OESE.

2.4 Administration and management of education by the private sector

There are two categories of private institutions: 1) private schools that provide general education, which range from kindergarten to primary school, secondary school, college and university and 2) private schools or colleges that provide vocational education. Currently, most private institutions are prospretorial schools, with a few prestigious schools still associated with Christian denominations.

According to the National Education Act, private education institutions can provide education at all levels and of all types. The administration and management of education by the private sector will continue enjoying independence with the State being responsible for overseeing, monitoring and assessing educational quality and standards as those for state educational institutions.

It is thus essential for the Government to provide support for private institutions to promote the role of the private sector in education provision. Clear-cut policies and measures should be defined by the State regarding participation of the private sector in the provision of education. In addition, private institutions providing education at the degree level will be allowed to function with autonomy, develop their own system of administration and management, flexibility and academic freedom. The State will provide support in terms of grants, tax rebates or exemptions and other benefits to private education institutions as appropriate, including academic support.

In order to promote and support private education, relevant laws and regulations have been prepared. A strategic plan for the reform and promotion of private education also has been formulated so as to be a framework for development of private education during a period of 5-10 years. In addition, the MOE has conducted a pilot project on educational administration and the management of private education institutions as legal entities.

The streamlined structure of educational administration and management at the central level, together with the decentralization of authority to educational service areas, have led to new structures in administration and management. The changes are expected to accelerate the educational reform efforts because they reduce the redundancy and, hence reduce the administrative expenditures, and because they increase the efficiency in mobilization of resources and investment for education, allocation of budget and budget management.

3. SIGNIFICANT PROGRESS IN EDUCATION REFORM

Following the promulgation of the 1999 National Education Act, all relevant agencies are required to carry out education reforms along the lines stipulated by the Act.

3.1 Ensuring basic education for all

In accordance with Section 43 of the 1997 Constitution and Section 10 as well as Section 72 of the 1999 National Education Act, by 11 October 2002, 12 years of quality basic education were to be provided free of charge equally to all Thai people.

The action plan for 12-year basic education was formulated in line with the policy guidelines approved by the Council of Ministers. Since it required considerable financial resources, the fiscal impact in providing basic education was estimated carefully before being submitted to the Council of Ministers for approval. However, the implementing agencies prepared their own projects and programmes as well as budget appropriation for the fiscal year 2002 based on the draft action plan. In addition, the local authorities responsible for the

provision of education formulated their own basic education policy, both formal and non-formal.

The provision of basic education has been divided into four key stages: 1) primary education grades 1-3; 2) primary education grades 4-6; 3) secondary education grades 7-9; and 4) secondary education grades 10-12. The ministerial regulations to differentiate the levels and types of basic education also were approved by the Council of Ministers.

In addition, guidelines for the provision of nine years of compulsory education have been clearly set. Relevant laws and ministerial regulations on the criteria and methods of calculating children's age for compulsory education have been prepared based on considerable research.

3.2 Reform of the education system

Due to globalization resulting in ongoing economic, social and cultural changes, the education system in Thailand increasingly needs improvement to meet the demands of a knowledge-based economy. In order to enhance people's potential and capacity for national development and competitiveness in the international arena, reforms of vocational education and training and of higher education have been initiated.

(a) Vocational education and training reform

Section 20 of the National Education Act states that vocational education and training will be provided in education institutions belonging to the State, the private sector and enterprises in accordance with the Vocational Education Act and relevant law. This provision will lead to a special law for vocational education and training (VET) in the near future.

Research for preparation of the Vocational Education Act was conducted by ONEC and looked at vocational education and training in 12 countries. The research report provided the principles and guidelines for the reform of vocational education and training in Thailand.

Based on the research results, the Vocational Education Bill was drafted by ONEC and Department of Vocational Education (DOVE). The drafted Bill provides for the reform of vocational education and training in Thailand as summarized:

Principles for vocational education and training:

- Provide opportunities for anyone interested in and capable of learning in vocational education.
- Develop appropriate knowledge, attitude and skills by instilling vocational education at the basic education level.
- Give priority to students' needs and allow an individual to progress to an advanced degree level.
- Develop a system of vocational qualifications to bridge education and work so that an individual can enter the workforce but return to continue education and training at any time.

Objectives of the administrative system:

- Develop unity in policy guidelines and variety in management.
- Encourage networking among education institutions, i.e. public institutions, private institutions and industry.
- Establish two levels of vocational education administration –
 - 1) a national level with a Committee on Technological and Vocational Education and
 - 2) an institutional level with networking of vocational education institutions.

Teaching and learning:

- The target group for vocational education and training is to cover the school-age population as well as people in the labour force who wish to upgrade their knowledge and skills.
- Teaching and learning must provide a good balance between theory and practice and promote the application of universal knowledge in the Thai context.
- There should be competency standards for students at each level.
- Evaluations should emphasize application of knowledge more than just theory.
- There shall be research and development to promote the transition from vocational education to the world of work.

Cooperation with the community and industry:

- The provision of vocational education and training must draw in community participation at every stage, from planning to implementation.
- Effective incentives are necessary for private participation, such as tax incentives and coupons for vocational education and training.

Quality and standards:

- Require licenses for vocational education teachers.
- Provide continuous and systematic in-service training for vocational teachers.
- Establish funds for vocational teacher development.
- Develop a vocational qualification framework.

Financing and resource mobilization:

- Mobilize resources from public and private sectors.
- Provide financial support for those who do not wish to continue beyond compulsory education to obtain vocational training for at least one year before entering the labour market.

(b) Higher education reform

The key factors driving the reform of higher education in Thailand are:

- 1) an increase in the number of students;
- 2) the demand for pursuing higher education;
- 3) advancement in information technology;
- 4) social expectations of higher education as a critical instrument for capacity development of human resources;
- 5) mismatching of graduate profiles and labour market requirement; and
- 6) budgetary limitations since the economic downturn. The promulgation of the 1999 National Education Act is an important factor contributing to acceleration of higher education reform.

Consequently, a Committee for Preparation of Higher Education Reform Guidelines was established by ONEC in order to steer reforms as required by the National Education Act. Based on studies, research and extensive brainstorming, the complete report was submitted to the National Education Commission and the Executive Committee of the Education Reform Office. The key principles and guidelines of higher education reform are as follows:

- Higher education reform is based on unified policy formulation and diversity of practices/implementations.
- A national body will coordinate policy formulation, planning and education standards, resources mobilization, monitoring and evaluation.
- Higher education institutions will consist of public institutions, private institutions, specialized educational institutions and local institutions.

Higher education administrative-structure reform:

- Maintain unified policy formulation and standards and delegate administrative and management responsibility to educational service areas;
- Administration and management shall be divided into three levels: national, educational service areas and individual institutions.
- Reform higher education administration and management.
- Reform education administration and management.
- Create unity and coherence in policy formulation, planning and higher education standards;
- Promote lifelong and continuous education, improve access and equity, allow transfer of credits among institutions and recognize work experience.
- Develop capability for autonomy management; including the systematic transition of higher education institutions from the civil services to autonomous institutions; develop readiness indices;
- Allocate budget as block grants for autonomous higher education institutions; unit cost formulation; performance auditing;
- Internationalize higher education while retaining and improving indigenous capability and knowledge;
- Institute good governance principles and cultivate enterprising spirit;
- Mobilize extensive resources and cultivate stakeholder culture;
- Encourage networking of higher education institutions among themselves and with other education units, public and private sector bodies;
- Develop academic staff and higher education personnel; and

- Strengthen higher education institution councils;
- Strengthen **academic management and teaching organization**;
- Develop curricula and teaching/learning mechanisms to ensure flexibility, diversification to meet demands of learners, and national requirements;
- Adopt innovation and information technology;
- Develop student-centred learning; promote analytical skills, critical thinking and learning motivation;
- Place importance on research, accumulation of knowledge and technology of development of the nation; and
- Develop evaluation and assessment mechanisms.

Higher education standards and quality

- Set up of internal and external quality assurance mechanisms as stipulated by the National Education Act;
- Set up of common standards and procedures for accreditation;
- Promote professional organizations' roles in setting higher education standards and quality assurance; and
- Develop higher education information systems, databases and quality indicators.

Following the reform of vocational education and training as well as higher education, students will be allowed to progress through the educational system from basic education to higher education as they wish. In order to meet the various needs of students, three programmes of higher education will be offered as follows:

- Academic Programme is organized for general secondary education graduates to further their studies at Bachelor's degree, Master's degree and Doctorate levels focusing on the production of middle and higher academics and researchers, e.g. the Bachelor of Science and Bachelor of Liberal Arts programmes in various universities.
- Professional Programme, which emphasizes the creation of specialists, is provided to general secondary school graduates to study at the Bachelor's degree level. The study at higher-than-Bachelor's degree level in this programme is the specialized Graduate Diploma in different areas, such as Medical Science, Health Science, Public Health

Science, etc. A technology programme is organized for both general and vocational secondary school graduates to study at the diploma or Bachelor's degree level, aiming at producing technicians or professional technicians and technologists.

4. LEARNING TECHNOLOGIES IN THAILAND

4.1 Status of and access to ICT for education

Surveys reveal that the ratio of computers to students is 1:120 in the primary grades, one computer for every 54 students at the secondary level, and one computer for every 23 students in the vocational training system. Findings also indicate those educational institutions and offices are not using computers in teaching and educational administration to full capacity.

With regard to the infrastructure for ICT, electric power covers about 97 percent of the villages throughout the country; telephone service is now available in about 75 percent of villages. At the same time, 1,119 schools (approximately 2.61 percent of the total) still do not have electricity. And 455 secondary schools (17.05 percent) and 21,136 primary schools (69.6 percent) remain without telephone service.

4.2 The ICT network for education

The National Electronics and Computer Technology Center (NECTEC) initiated the SchoolNet Project in 1996 to enable secondary schools throughout the country to have access to information technology for the benefit of education and learning. The project expanded to incorporate vocational schools and some primary schools, with a target of 5,000 schools by 2002. Each member school is eligible to have up to 5 Internet accounts with a maximum of 80 hours of use per month (a total of 400 hours per school) and 19MB of space per school for Web sites.

There are currently 4,751 schools in the SchoolNet network (SchoolNet@1509) with 20 POP nodes around the country. There are 1,650 access numbers with a gateway upspeed of 512 Kbps (10 circuits) and 1 Mbps

(10 circuits) with international connections upspeed being increased from 1.5 Mbps to 4 Mbps. The SchoolNet Web site (<http://www.school.net.th>) serves as the information centre for teachers and students and is the portal for school Web sites in all regions. Some 1,289 schools participate in the activities of the Web site.

The Ministry of University Affairs is the lead organization in the development of an Inter-University Network (Uninet) in accordance with a Cabinet Resolution 8 October 1997. Its mission is to develop a high-speed information highway and establish a distant learning network for the university system. Thirty institutions are currently joined together through the UniNet fiber-optic network. The project has four elements:

- 1) Join all universities and colleges in the network;
- 2) Develop self-access learning centres within universities, including the establishment of electronic library facilities in Campus Networks;
- 3) Develop courseware for joint use by university members as well as information databases and instruction via video conferencing; and
- 4) Capacity building and personnel development to enable research, management and application of new learning technologies.

UniNet is composed of two major networks: the Bangkok Backbone and the Regional Backbone. These two networks will be joined to integrate the inter- and intra-university systems throughout the country;

On 18 September 2001, the Cabinet approved the creation of a National Education Network Project, or EdNet, which merged the UniNet and SchoolNet networks into a National Education Network, with the Ministry of University Affairs charged with the development and management of the infrastructure for the network at all levels and the Ministry of Education responsible for installation of equipment and computers in the schools and learning centres in each province.

The EdNet is a major project being undertaken from 2002 to 2005. The project contains five plans: IT Infrastructure development; development of e-library and e-learning centres; production of electronic media for teaching and learning; development of human resources for ICT and research; and development in international connectivity.

A committee has been appointed to review the design of the ICT system and plan the expansion of the network to include educational institutions from the basic through the tertiary levels.

4.3 The use of ICT for teaching and learning

Studies of the use of computers in primary and secondary schools are consistent in their findings that in the majority of schools, programme packages are used and technology is not integrated into the teaching of subjects in the curriculum. Computers are used to teach computer skills rather than as tools for learning other subjects.

There is some production of computer-based media for use in the schools, more by government agencies than by the private sector. Existing materials are mainly for the teaching of English. Measures to encourage the production of content and software for education are lacking.

Other problems include the lack of appropriate maintenance and repair personnel as well as a lack of understanding of basic computer technology, along with language constraints and the lack of information and manuals on the use of software, which has led to the ineffective use of existing equipment. This situation is compounded by insufficient volume of equipment, lack of training and most importantly, a lack of policy direction and effective management.

At the tertiary level in both public and private institutions, computers and Internet use are more widely encouraged for students and teaching personnel, not only on campus but at home. The most common uses are in the registration process, the checking of grades and library resources.

4.4 Human resources in ICT for education

Plans are being implemented to develop the capacity of teachers and education personnel. Various agencies organize training programmes on the use of technology in the preparation of teaching materials. A number of educational institutions offer programs on the use of information technology as a tool for research and information gathering.

Of the 505,120 teachers and administrative personnel under the Ministry of Education, 108,671, or 21.5%, have undergone training in ICT. Public and private universities and colleges are producing an increasing number of graduates in this field, but the available personnel is still too limited to meet the needs.

4.5 e-learning

Information technology has brought about new approaches to learning, opening opportunities not only in the traditional formal education system, but in the informal and non-formal education streams as well.

Thai universities are increasingly involved in developing e-learning activities. The Kasetsart University Learning Network is one example, where e-meetings are being held to move toward the “e-university” concept. Other examples include “Chula Online” of the Continuing Education Centre of Chulalongkorn University; Sukhothai Thammathiraj Open University, Ramkhamhaeng University and Thammasat University (Higher Education Innovation Centre); as well as other universities that are developing e-classroom activities – for example, the University of the Thai Chamber of Commerce aims to have 100 electronic classrooms by the year 2005.

Other organizations are also developing online programs; for example, the NSTDA Online Learning Project (NOLP) of the National Science and Technology Development Agency, operates as a commercial enterprise that aims to become self-sufficient while maintaining product quality. It is attempting to develop a Virtual Institution concept in the management and implementation of the learning process, taking a student-centred focus with lessons developed using a “competency-based learning” approach. ICT skills will be the initial emphasis, particularly in the area of development and use of software and modern information technology.

4.6 The national e-learning centre

Approved by the Cabinet on 19 March 2002, the Ministry of University Affairs, the Ministry of Education and the Office of the National Economic and Social Development Board have created an institute to offer joint training in the concept of e-learning; to undertake training through e-training concepts and to organize exhibitions and competitions to encourage e-learning in accordance with the government policy for educational reform and social development toward a learning society.

5. DEVELOPMENT OF ICT FOR EDUCATION POLICIES AND MASTER PLAN

Major policies regarding ICT for education are developed as follows:

5.1 The National IT Policy (2001-2010)

This policy specifies that in developing e-education, the objective is to develop and strengthen people capital in all levels to enable the country to be a knowledge-based society. The five following goals must be achieved:

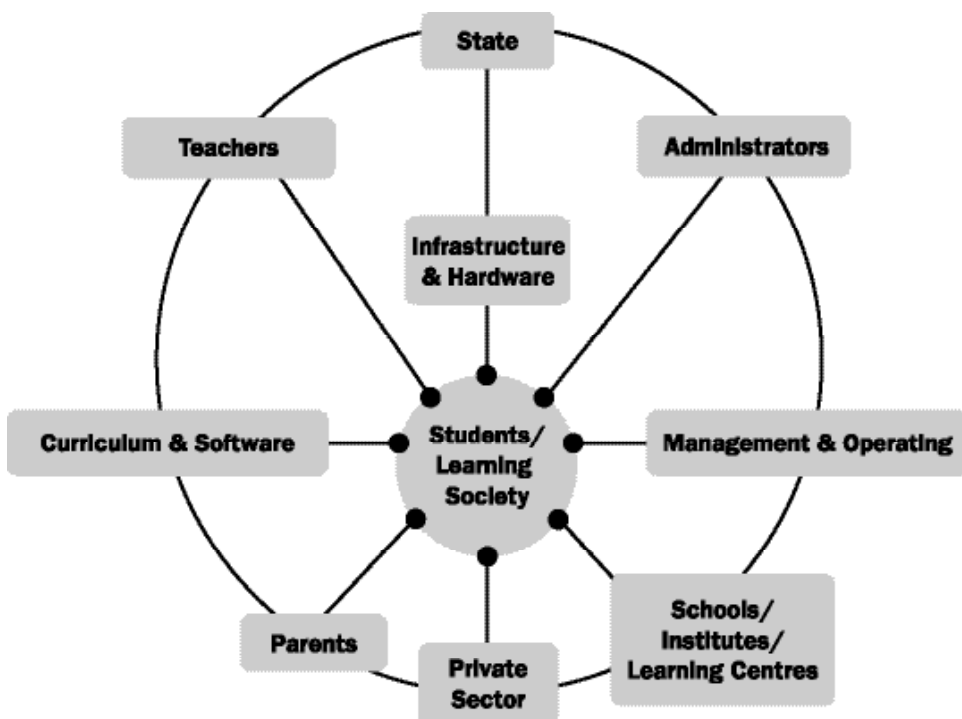
- 1) By 2010, all schools should have access to a computer-based network and be able to equally and effectively make full use of the network for educational purposes.
- 2) By 2006, at least 10 percent of instructions conducted in educational institutions should be assisted by computers and/or any other information technology.
- 3) Educational institutions should supply the industry with adequate human capital including computer/software/telecommunications/IT scientist, engineers and researchers. The institutions should also be a resource for technological and industrial innovations.
- 4) Innovation for education itself should be prompted to ensure quality and compatibility between education and industry requirements. In addition, IT curricula should be developed in a way that will stimulate application development and technological transfer to the industry.

- 5) By 2010, 50 percent of the workforce should receive some type of professional skills training through an IT network.

5.1 National ICT for Education Master Plan (2002-2005)

There is a national vision and objectives for ICT in education in the National ICT for Education Master Plan. The focus is on the development and use of ICT as a tool of learning reform in which the student is a participant in forming the vision, objectives and targets. In order to achieve the vision, it is proposed that many partners will share in the effort, such as teachers, administrators, schools, institutes, learning centres, learning resources, partners, the State and the private sector. The content of the plan covers infrastructure and hardware, curriculum and software, management and operating costs, as shown in Figure 5.1.

Figure 5.1: National ICT Education Master Plan



The Master Plan states that Thai society could be transformed into a learning society if Thais have an opportunity to access lifelong learning and keep up with the changing world of new knowledge and information technology. They must learn how to gain knowledge for themselves. ICT will enable people to access useful information and ICT for education will harness ICT as a tool for learning, in which every person has the right and opportunity to access knowledge at any time, any place.

The existing Master Plan puts students at the centre, surrounded by agencies that could develop and achieve the desired outcome. Teachers, administrators, parents, schools, learning centres and learning resources, the state and private sector need to collaborate and share a common vision, objectives and targets for ICT in education.

Vision and Policy of ICT for Education as stated in the National ICT Education Master Plan:

Vision

By 2005, every student should have opportunity to access ICT for learning at reasonable cost and adequate quality.

Information Technology for Education Development Policy

Recognizing that IT for education policy will probably be ineffective unless clarity and continuity is kept in perspective, a holistic and realistic approach taking into account the impact of globalization and proactive long-term impact to education development as a whole is key to success. In this connection, three sets of policy are proposed for Thailand:

1) Value-Added Policy

There is an urgent need to add value to the computer and network systems already invested. There is, however, a strong indication that this equipment is severely underutilized. Coupled with the nature of this hi-tech hardware, which is relatively short-lived, and the need for "soft" systemware such as software, humanware as well as useful content and knowledge in order to yield practical benefits, the "value-added" policy proposes the following actions:

- Urgently provide useful software, content and necessary supporting IT curriculum via searching, localizing and producing as deemed appropriate to make better use of existing hardware in schools.
- Train teachers for literacy in computer and Internet use.
- Maintain the existing hardware.
- Enhance the capabilities of organizations that can provide support and services to schools by forming a network of agencies.
- Continuously monitor and evaluate the use of technology for education and collect data for planning purposes.

2) Equity Policy

Even though there have been huge investments in IT the at school level, statistics show that such investments are not evenly distributed. In fact, a relatively large number of schools and communities are left behind. In dealing with this “digital divide”, the following “equity policy” attempts to remedy the situation taking into consideration the financial difficulties the country is facing:

- Provide a set of minimum required equipment and facilities to needy schools including electricity, 3 telephone lines, 5 computer sets, 1 printer, 3 sets of televisions, 5 sets of radio, 3 Internet accounts @100 hours per month via EdNet program.
- Provide a “Digital Learning Centre” (DLC) to the community
- Train teachers and trainers in IT and Internet literacy.

3) Quantum-Jump Policy

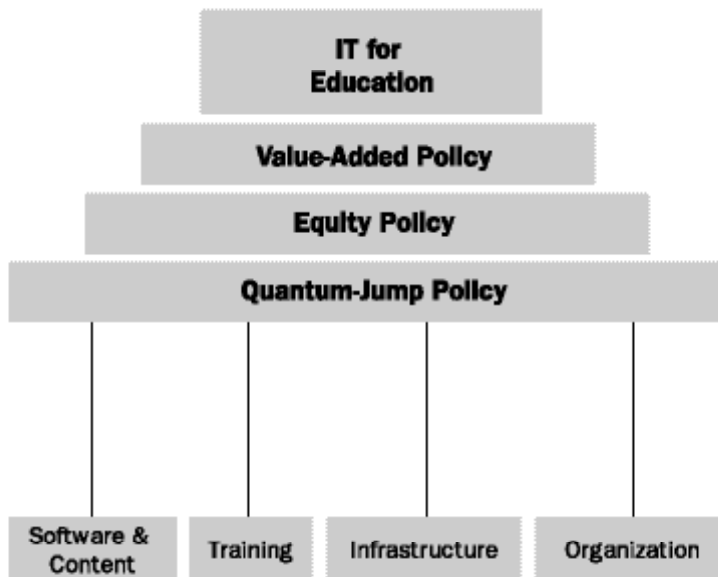
Information and communications technologies and the Internet in particular provide vast opportunities for a country like Thailand to not only solve its existing problems in education but leap-frog or attempt to make a quantum-jump via ICT. These measures include:

- Set a target for all teachers and students to be IT and Internet-literate by 2005.
- Centrally produce 250 titles of academic software and contents annually and provide funding worth 500 million baht per annum to various communities for content development as well as provide budget for localizing 2,000 titles of useful foreign content.

- Set PC-density targets by 2006 as follows:
 - 1 PC:20 students at the secondary school level
 - 1 PC:40 students at the primary school level
 - LAN and standardized administrative software in every school
- Invest in the production of IT and network equipment for use in the education sector, including software and multimedia.
- Provide IT for education and professional development to the underprivileged, people with disabilities and people who look for life-long learning.
- Provide adequate radio frequencies for the education sector.
- Invest no less than 400 million baht per year in research and development in IT for education.
- Establish monitoring and evaluating procedures and protocols and establish a National Institute of Technology for Education.

The policies and pillars of development are illustrated below.

Figure 5.2: Pillars of IT for Education Development



1) Students

Vision

- Students are able to use ICT as a tool for learning throughout their lives.

Objectives

- Enable students to acquire technology literacy and information literacy at a fundamental level in order to access and make use of ICT to investigate, collect and process data from various sources, as well as to create new knowledge.
- Integrate technological knowledge and information management skills to develop the ability to analyze, think creatively, solve problems and work in teams.
- Encourage students to develop positive values, attitudes and ethics as well as accountability for using ICT, which will be useful to lifelong learning and analytical thinking processes.
- Increase students' opportunity for using ICT for learning.
- Enable schools to support students as the centre of the learning process in ICT-based learning. Schools must adjust their use of technology as well as curricula to suit the integration of ICT.
- Provide students with opportunities to apply and develop ICT literacy in every course taken.
- Ensure that the learning process is not confined to the classroom. Students should have the opportunity to view the wide world through an ICT network.
- Enable students to use ICT through provision of computers and equipment adequate to their needs, as well as increasing efficiency of available computers and equipment.

Targets

- a) Requirement of computer to student ratio:
Elementary level 1:40
Secondary level 1:20
- b) Increase students' opportunity to use ICT for education in various forms.

- c) Develop requirements for students' ICT standards and skills at various stages, indicating what ICT competency students should possess after graduating from grades 6, 9 and 12. A handbook should be developed concerning ICT standards implementation in the classroom in various subjects. Ongoing evaluation should be provided to ensure the quality of teaching necessary for students to achieve the required competency.

2) Teachers

Vision

- Teachers should have a high level of ICT knowledge and skills, including an understanding of the development of learning and teaching media for instruction.

Objectives

- Competency in ICT will enable teachers to have a wide range of knowledge and to be able to guide students.
- Computers will be a principal tool for teachers to access learning resources, prepare teaching plans, assign homework and communicate with the students' parents, other teachers and the administration.
- Teachers should be trained in using ICT and integrating ICT into classroom activities in order to promote analytical and creative thinking skills. Teachers should undergo ongoing professional development to catch up with the advancement of ICT.

Curriculum development for teachers should be classified into three levels:

- i) Foundation level: This would be a requirement for all teachers. It includes basic ICT knowledge, including computer and Internet usage.
- ii) Intermediate level: This is an additional course for teachers who seek more knowledge in ICT. These courses should enable teachers to construct teaching media using higher levels of ICT knowledge and skills. For example, teachers should be able to:
 - Construct a simple Web page using a presentation program;
 - Transform a presentation program on the Internet to Hypertext Markup Languages; and
 - Construct a simple Web page using ready-made modules.
- iii) Advanced level: This course is for teachers who seek specialization in areas such as:

- Maintenance of computers
- Setting up networks
- Setting up Internet servers, Web servers or Mail servers
- Development of Internet and support for teachers via networks
- The reform of teacher education, requiring graduates from teacher training institutes to be able to integrate ICT into classroom teaching.

Targets

By 2004

- 80 percent of secondary school teachers will attain ICT skills at the foundation level. Of them, 50 percent will attain ICT skills at the intermediate level.
- 50 percent of elementary school teachers will attain ICT skills at the foundation level. Of them, 30 percent will attain ICT skills at the intermediate level.

By 2007

- All teachers will have opportunity to access ICT for education at their schools.
- All new teachers will possess skills in applying ICT to teaching and learning.
- ICT standards will be developed for teachers, appropriately including basic ICT skills and knowledge to support learning.
- Evaluation instruments will be developed for measuring ICT standards for teachers, to be used in certification and licensing teachers.

3) Administrators

Vision

- Administrators must have a vision regarding management and innovation in using ICT for teaching and learning, both in and out of schools.

Objectives

- Develop leadership qualities and vision of education and school administrators. They are people who make use of technology, resource managers, leaders of people and education agents of change.

- Develop Internet and support to establish administrator/teacher networks so that they can share knowledge, experiences and create school projects. Additionally, there should be support for the training of master teachers, mentors and other teachers to create leader-school projects to be an example for others.
- Increase professional development opportunities in an ongoing basis to support the application of technology in the learning process and in routine work.
- Promote the application of ICT in administration, including support for in-school information administrators. School staff should be able access knowledge resources from their desks in various forms at any time.

Targets

- By 2004, education administrations and school administrators should have sufficient skills and confidence to integrate ICT into school administration and to support teachers to integrate ICT into classroom teaching.
- School administrations must lead and develop a strategy to enable teachers and stakeholders to adopt and adapt innovations and to maximize benefits from using ICT for education.
- Administrators must be provided opportunities for professional development at appropriate times. These professional development projects must respond to various professional development and learning needs.

4 Schools/Institutes/Learning Centres

Vision

The infrastructure enables students to connect and access ICT for education conveniently in schools, institutes and learning centres.

Objectives

- That there are enough computers for teachers, students and administrators to do their work.
- All schools have LANs and are connected to the Internet.
- School Web sites should have material for sharing.

- School is open to the community. The community has access to schools' technology and equipment. Parents and the community in general should learn about ICT and be able to understand the benefits of ICT.
- Develop new partnerships between schools and the community and between schools and the business sector in which schools become the centre of the learning network.

Target

- By 2003, all secondary schools should be able to access high-speed networks at reasonable cost for ICT for education application.
- By 2005, all elementary schools will also achieve this target.
- Schools/institutes/learning centres are connected to a national network for accessing information relevant to a variety of interests and requirements.

5) Parents

Vision

That parents support their children's engagement with ICT for learning.

Objectives

- Communicate and enable parents to understand the goals of the school in applying ICT as a tool for education to access various knowledge resources and improving student outcomes.
- Facilitate parent's participation in the planning and implementation of ICT in school.

Target

Parents understand and see the benefit of ICT for education with some parents acting as leaders in the application of ICT for education.

6) State Agencies

Vision

All students have access to ICT for learning at appropriate periods of time and for a reasonable cost.

Objectives

- Establish an organization to formulate policy and plans and to monitor standards in ICT in education. The organization will coordinate related agencies to provide services and assistance to schools, institutes and learning centres.
- Encourage application of ICT to develop opportunities for quality education and learning as well as developing information systems for supporting change.
- Emphasize the linkage between education, ICT, training, working and lifelong learning.
- Support and encourage policy and ICT for Education National Master Plan. Provide resources and create various pilot projects, research and development production.
- Support private organizations to participate or share in production and development on an ongoing basis.

Target

- Encourage research to develop content of each subject to be taught through ICT, including formal education, non-formal education and informal education.
- Provide incentives, such as tax reduction, to motivate the private sector to participate in the development of ICT for education.
- Pass new laws and amend old laws, rules and regulations in order to support the development of ICT for education.

7) Private Sector

Vision

Participate in the development of the ICT industry within the country and set up private organizations to support various ICT development activities.

Objectives

- Participate as volunteers or donate cash/equipment to support ICT for education.
- Coordinate with the Government to encourage and support application of ICT for education in development of infrastructure, production of cheap hardware and software for education.

- Establish organizations and consortia to support various activities, such as collecting used computers for poor schools.

8) Curriculum and software

Vision

Develop curriculum content and software suitable for the diverse range of education institutions in Thailand.

Objectives

i) Curricula

- Curricula that integrate ICT application in learning in all subject areas.
- ICT is a course in the curricula.
- A curriculum for lifelong learning and independent study is developed.

ii) Software

- Develop computer media to study Thai languages, which is user friendly, applicable to various subjects, up to date and at a reasonable cost.
- Develop online curricula, which have students at the centre as knowledge constructors.
- Encourage cooperation to develop investment in developing information and content.
- Improve content of online curricula on an ongoing basis.
- Provide and develop legal software.
- Encourage and support teachers and educators to produce software for learning.
- Support computer assisted learning programmes in school.
- Develop a standard data-collecting system.

9) Infrastructure and Hardware

Vision

A high-speed telecommunication network connecting education institutes at appropriate cost with related equipment at an economic price.

Objectives

- Develop cooperation at the school and national level to collect data on the state of ICT application, quantity of equipment, capacity for network

linkage and other infrastructure to analyze the effect of infrastructure on students' learning.

- Provide access to a high-speed network at a reasonable cost. The infrastructure must be reliable, flexible and support learning. The network must access content both within and outside the school.
- Establish benchmarks for planning of infrastructure in the future, including achieving PC density as well as the implementation of ICT for school and learning plans.
- Support Intranet within the school system and develop Intranet linkages within the country to support learning.

Both the National IT Policy and the National ICT for Education Master Plan serve as a framework for responsible agencies in formulating policy and development plans concerning technologies for education. Meanwhile, the ICT Master Plan for the newly established MOE has been drafted by responsible agencies including MOE, MUA and ONEC. It is expected that MOE's ICT Master Plan will be finalized in 2003.

6. ASSESSMENT OF THE THAI EDUCATIONAL SYSTEM: ITS STRENGTHS AND WEAKNESSES

6.1 Thailand's situation in the world competitiveness leadership

During recent years, the Institute for Management Development (IMD) in Switzerland has assessed Thailand on both overall competitiveness and other more specialized indicators, including economic performance, government efficiency, business efficiency and infrastructure. For 2002, Thailand ranked 38th out of 49 other countries and was last among other countries in Asia included in the scoreboard (see Table 6.1). As for academic competitiveness, Thailand ranked 41 out of 49 countries.

Table 6.1: Thailand's Competitiveness Ranking Compared with Selected Asian Countries in 2002

Indicator/ Country	Singapore	Taiwan	Korea	Malaysia	Thailand
Economic performance	15	40	24	26	34
Government efficiency	1	21	25	25	32
Business efficiency	11	18	27	19	27
Infrastructure	7	20	28	25	38
Overall competitiveness	5	24	27	26	

Source: ONEC, Thai Education Diary 2003, p.78

6.2 Inefficiency in educational investment

Since 1998, the annual government budget for education has constantly been increasing. In 2002, the allocation represented 22.1 percent of the total national expenditure, or 4 percent of the GDP. In Asia, Thailand has the second-highest ranking budget on education, after Malaysia.

In scrutinizing the educational expenditure, it has been found that 90 percent of funds go to construction, salaries and other remittals while 5 percent is spent on administrative costs and only 2.3 percent goes toward educational development and quality enhancement (see Table 6.2).

Table 6.2: Educational Opportunities of the Thai People – Student Enrolment Ratio

Education level	Age Group	unit: %				
		1998	1999	2000	2001	2002
Pre-School	3-5	94.5	96.8	95.8	93.1	96.5
Primary School	6-11	102.5	102.4	103.2	103.8	104.1
Secondary School	12-17	66.8	68.7	69.7	70.6	72.3
• Lower Secondary School	12-14	83.4	83.5	82.8	82.2	84.6
• Upper Secondary School	15-17	51.9	55.3	57.3	59.3	60.1
- General Education	15-17	29.8	33.2	36.6	38.9	39.3
- Vocational School	15-17	22.1	22.1	20.7	20.4	20.2
Higher Education	18-21	21.5	22.7	24.9	26.1	26.5
Total	3-21	65.0	72.4	73.5	74.1	75.7

Source: Thai Education Diary 2003, p.76

From Table 4, it can be seen that during 1998-2002 the student/population ratio increased from 65 percent in 1998 to 75.7 percent in 2002. The ratio for upper secondary level (general stream) has been on a constant increase, while the vocational stream has been on the decrease. This reflects preference among Thai students to proceed to university education rather than to vocational schools.

In 2002, 96 percent of those aged three to five years had access to education. It is expected that these children will be better prepared for primary education. At the completion of compulsory education (lower secondary level), 60.1 percent proceeded to upper secondary level, with 39.3 percent of those aged 15-17 went on beyond the upper secondary level (general stream, while those entering the vocational stream have been on the constant decrease (22.1 percent in 1998 reduced to 20.2 percent in 2002).

Regarding higher education, the student/population ratio has been on a constant increase. In 2002, however, only 25 percent of those aged 18-21 were able to receive formal education.

Opportunities for the disadvantaged, the physically handicapped and the gifted

During the past two years, the Ministry of Education has placed emphasis on education for the disadvantaged and the physically disabled of all categories. In 2001, the MOE reported that 128,945 people with physical handicaps were integrated into education programmes with no disabled students. A large number of physically disabled students, however, are still deprived of educational access. A more succinct policy on education for people with disabilities is called for from the MOE. It is evident that readiness preparation in all aspects is imperative. At present, many schools are not willing to admit disabled students on the grounds of not being sufficiently prepared. The Government needs to find solutions to various practical problems, including the need to carry out a census on the disadvantaged and the physically disabled.

During the past year, more efforts have been developed to research work in order to provide the public with information on gifted and talented children. The main obstacle in so doing is the lack of reliable statistics on the children in these categories due to the absence of systematic implementation.

Research results of the Office the National Educational Commission (ONEC) confirm that education for the gifted must be in accord with their potential and serve their individual needs. The courses provided for their benefit can be adjusted through increases in experience, curricula expansion, reducing learning time slots and advice and supervision of specialists.

6.3 Quality of Thai education – problems for which urgent solutions are needed

In terms of cost effectiveness, the quality of Thai education at all levels leaves much to the desired.

Pre-school level: So far, there has been no concrete figure on the competency of early childhood education. There is, however, evidence of the lack of knowledge on proper child rearing on the part of teachers and parents, inequality in educational achievement and standards and lack of qualifications among teachers and childcare givers.

Primary level: The 1998 evaluation of educational achievement carried out by the Department of Curriculum and Instruction Development (DCID) reveals that the subjects for which the students score more than 50 percent are Thai language, general English and basic work and career, while those for which students receive less than 50 percent are mathematics, science and English writing.

Lower secondary level: DCID's evaluation shows that most students do not succeed in English writing and mathematics for which corrective measures are urgently needed. Satisfactory achievement in science and general English are, however, reported.

Upper secondary level: The 1999 evaluation conducted by the DCID reveals that the subjects for which the higher than 50 percent scores are reported include Thai language and basic work and career, while those with less than 50 percent include general English, biology, physical and biological sciences, social studies, physics, chemistry, mathematics and English writing.

Quality of teacher and technologies for education

ONEC's research has shown that the majority of teachers are not keen on acquiring knowledge for self-improvement; nor does the teaching profession attract highly knowledgeable and competent persons. The lack of teachers is also another acute problem.

Most people are convinced that ICT is an essential tool for both teachers and students to access knowledge and information. Thailand, however, is still not well prepared in various aspects, starting with access to knowledge and ability to utilize ICT for cost effectiveness.

Quality of higher Education

In 1999, ONEC analyzed the methodology and process of the ranking of Asian universities that was conducted by the Asia Week magazine. The average scores obtained by Thai universities were lower than those of the other countries in practically all aspects.

The study on "English competency of Thai graduates" based on TOEFL scores during the past four years has shown that graduates with higher than 500 scores include those from Malaysia, Indonesia, Myanmar, Vietnam and Cambodia, while those from Thailand and the Lao People's Democratic Republic receive less than 500 TOEFL scores.

Regarding the quality of education, several private universities have shown potential for greater achievement than their counterparts under supervision of the State.

The above outcomes prove that Thailand urgently needs to reform the entire system of education on a sustained basis. It is indeed opportune that all high-level administrators are dedicated to the reform effort, which include the performance-based budgetary allocation and utilization; curricula development and improvement, enhancement of teaching and learning

activities, improvement of teachers' qualifications so as to ameliorate achievements both at the national and international levels and improvement of education administration. With the passage of many laws leading to effectiveness of the system efforts and with the provisions of the National Education Act of 1999 and the National Scheme of Education (2002-2016) as the road map, the reform of education will undoubtedly lead to an unqualified success.

REFERENCES

- Bureau of the Budget**, *Thailand's Budget in Brief Fiscal Year 2003*.
Bangkok: P.A. Living Company Limited, 2002.
- Education Reform Office**, *5 Priorities in Educational reform: Guide to Practice*.
Bangkok: Pimdee Com. Ltd, 2002.
- Ministry of Education**, *Ministerial Announcement: Policy in Production, Development and Usage of Technologies for Education as based on the 2002 Core Curricula for Basic Education, 2002. Anniversary Annual Report*.
- Ministry of University Affairs**. *30th Anniversary Annual Report*.
Bangkok: Amarin Printing and Publishing Public Co. Ltd, 2002.
- ONEC. *Education in Thailand 1999*. Bangkok: Kurusapa Ladprao Publishing, 1999.
- ONEC. *Education in Thailand 2001/2002*. Bangkok: Kurusapa Ladprao Publishing, 2001.
- ONEC. *National Education Act B.E. 2542 (1999)*. Bangkok: Prig Wan Graphic Co. Ltd, 2001.
- ONEC. *The Amended National Education Act 2002*. Bangkok: Prig Wan Graphic Co. Ltd, 2001.
- ONEC. *ICT for Education Master Plan*. Bangkok: Office of the National Education Commission, 2000.