Report No. 18417-TH

# Thailand
# Education Achievements, Issues and Policies

**September 21, 1998**

Education Sector Unit
East Asia and the Pacific Region

## CURRENCY EQUIVALENT

Current Unit = Baht

US$1.0 = Baht 39.6 (as of November 18, 1997)

## GLOSSARY OF ABBREVIATIONS

| | |
|---|---|
| BDC | Book Development Center |
| BMA | Bangkok Metropolitan Area |
| BPHE | Bureau of Private Higher Education |
| CTEEG | Commission on Thailand's Education in the Era of Globalization |
| DCID | Department of Curriculum and Instructional Development |
| DGE | Department of General Education |
| DOVE | Department of Vocational Education |
| ET | Education Technology |
| E&T | Education and Training |
| GPA | Grade Point Average |
| HEI | Higher Education Institution |
| IDF | Institutional Development Fund |
| IPST | Institute for the Promotion of Science Teaching |
| IT | Information Technology |
| MLR | Mortgage Lending Rate |
| MOE | Ministry of Education |
| MUA | Ministry of University Affairs |
| NEC | National Education Commission |
| NEDS | National Education Development Schemes |
| NESDB | National Economic and Social Development Board |
| NFE | Non-formal Education |
| NGO | Non-Government Organization |
| ONPEC | National Primary Education Commission |
| OPEC | Office of the Private Education Commission |
| PEC | Provincial Education Committee |
| RI | Rajabhat Institutes |
| RIT | Rajamangala Institute of Technology |
| S&T | Science and Technology |
| VTE | Vocational and Technical Education |

**Government of Thailand Fiscal Year**

October 1 - September 30

**Academic Year**

April - March

| | |
|---|---|
| Vice President | : Mr. Jean-Michel Severino |
| Country Director | : Mr. J. Shivakumar |
| Education Sector Manager | : Mr. Alan Ruby |
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# THAILAND: EDUCATION ACHIEVEMENTS, ISSUES AND POLICIES[1]

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[1] This report is based on the work of a Task Team comprising Messrs. G. Aylward, K. Kuroda, P. Moock, W. Rees (Leader), M. Turner, V. Selvaratnam; and Mmes. O. Regel and T. Poshyanada. The report was written by Mr. Rees and Ms. Regel from papers prepared by Task Team members,. The Task Team received guidance from a Steering Committee in Bangkok chaired by Mr. Thammarak Karnpisit, Deputy Secretary General, National Economic and Social Development Board. The report has been endorsed by Mr. A. Ruby, Manager, Education Sector Unit, East Asia and Pacific Region, and Mr. J. Shivakumar, Country Director, Thailand.

**Table**



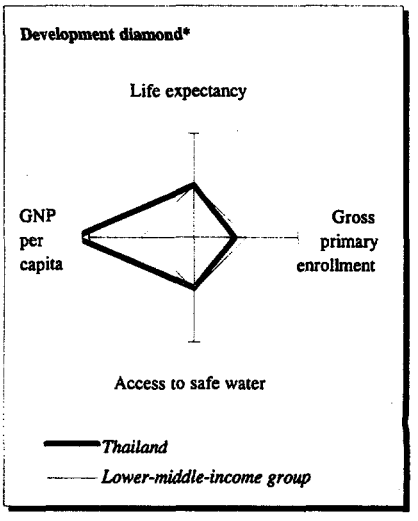
**Boxes:**

**Statistical Annexes:**

# Thailand at a glance

9/8/98

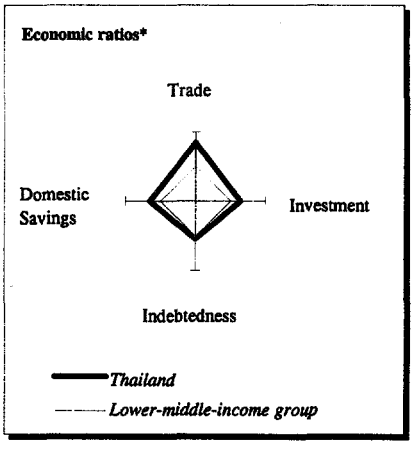
| POVERTY and SOCIAL | Thailand | East Asia & Pacific | Lower-middle-income |
|---|---|---|---|
| **1997** | | | |
| Population, mid-year *(millions)* | 60.6 | 1,753 | 2,285 |
| GNP per capita *(Atlas method, US$)* | 2,800 | 970 | 1,230 |
| GNP *(Atlas method, US$ billions)* | 169.7 | 1,707 | 2,818 |
| **Average annual growth, 1991-97** | | | |
| Population *(%)* | 1.2 | 1.3 | 1.2 |
| Labor force *(%)* | 1.5 | 1.4 | 1.3 |
| **Most recent estimate (latest year available, 1991-97)** | | | |
| Poverty *(% of population below national poverty line)* | 13 | .. | .. |
| Urban population *(% of total population)* | 21 | 32 | 42 |
| Life expectancy at birth *(years)* | 69 | 69 | 69 |
| Infant mortality *(per 1,000 live births)* | 33 | 38 | 36 |
| Child malnutrition *(% of children under 5)* | .. | 16 | .. |
| Access to safe water *(% of population)* | 81 | 84 | 84 |
| Illiteracy *(% of population age 15+)* | 6 | 17 | 19 |
| Gross primary enrollment *(% of school-age population)* | 87 | 115 | 111 |
| Male | .. | 118 | 116 |
| Female | .. | 116 | 113 |




**KEY ECONOMIC RATIOS and LONG-TERM TRENDS**

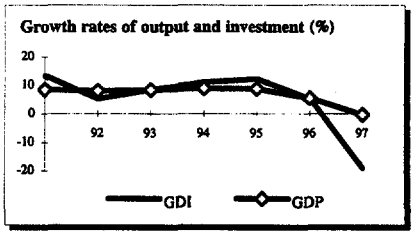
| | 1976 | 1986 | 1996 | 1997 |
|---|---|---|---|---|
| GDP *(US$ billions)* | 17.0 | 43.1 | 181.4 | 153.9 |
| Gross domestic investment/GDP | 24.0 | 25.9 | 41.7 | 35.0 |
| Exports of goods and services/GDP | 20.2 | 25.6 | 39.3 | 47.0 |
| Gross domestic savings/GDP | 21.5 | 27.9 | 35.9 | 35.7 |
| Gross national savings/GDP | 21.2 | 25.9 | 33.2 | 32.6 |
| Current account balance/GDP | -2.6 | 0.6 | -7.9 | -2.0 |
| Interest payments/GDP | 0.6 | 2.4 | 1.2 | 2.0 |
| Total debt/GDP | 13.7 | 42.9 | 50.1 | .. |
| Total debt service/exports | 10.4 | 30.1 | 11.4 | .. |
| Present value of debt/GDP | .. | .. | 50.1 | .. |
| Present value of debt/exports | .. | .. | 120.0 | .. |

| | 1976-86 | 1987-97 | 1996 | 1997 | 1998-02 |
|---|---|---|---|---|---|
| *(average annual growth)* | | | | | |
| GDP | 6.0 | 8.7 | 5.5 | -0.4 | .. |
| GNP per capita | 3.7 | 7.2 | 4.0 | -2.1 | .. |
| Exports of goods and services | 8.9 | 13.5 | -1.8 | 6.6 | .. |

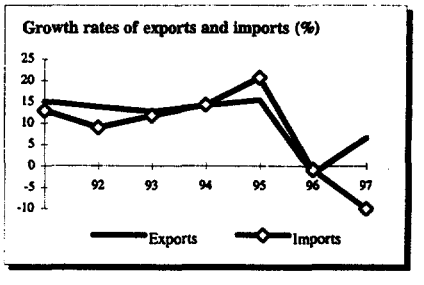



**STRUCTURE of the ECONOMY**

| | 1976 | 1986 | 1996 | 1997 |
|---|---|---|---|---|
| *(% of GDP)* | | | | |
| Agriculture | 26.7 | 15.7 | 11.0 | 11.2 |
| Industry | 27.6 | 33.1 | 39.5 | 39.8 |
| Manufacturing | 19.7 | 23.9 | 28.4 | 28.8 |
| Services | 45.7 | 51.3 | 49.5 | 48.9 |
| Private consumption | 67.5 | 59.3 | 53.9 | 54.1 |
| General government consumption | 11.0 | 12.8 | 10.2 | 10.3 |
| Imports of goods and services | 22.7 | 23.6 | 45.1 | 46.4 |




| | 1976-86 | 1987-97 | 1996 | 1997 |
|---|---|---|---|---|
| *(average annual growth)* | | | | |
| Agriculture | 3.8 | 3.4 | 3.8 | 1.2 |
| Industry | 7.1 | 11.2 | 7.0 | -0.1 |
| Manufacturing | 6.2 | 11.3 | 6.9 | 0.2 |
| Services | 6.3 | 8.2 | 4.6 | -1.1 |
| Private consumption | 4.7 | 7.6 | 5.2 | 0.0 |
| General government consumption | 7.8 | 5.9 | 9.5 | -0.7 |
| Gross domestic investment | 5.0 | 11.5 | 5.4 | -19.0 |
| Imports of goods and services | 4.7 | 13.7 | -0.9 | -10.0 |
| Gross national product | 5.8 | 8.5 | 5.0 | -1.1 |

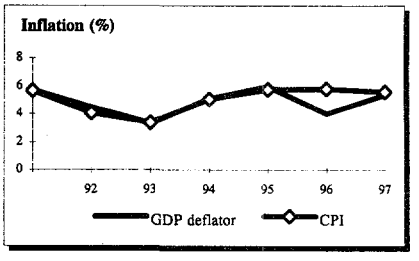



Note: 1997 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

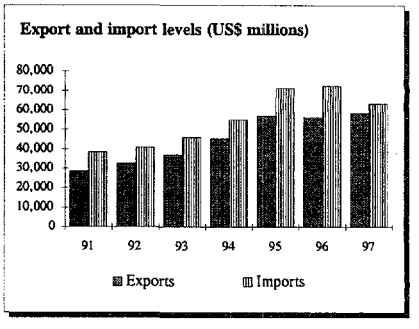
**PRICES and GOVERNMENT FINANCE**

| | 1976 | 1986 | 1996 | 1997 |
|---|---|---|---|---|
| ***Domestic prices*** | | | | |
| *(% change)* | | | | |
| Consumer prices | 4.1 | 1.8 | 5.8 | 5.6 |
| Implicit GDP deflator | 4.5 | 1.7 | 4.0 | 5.4 |
| ***Government finance*** | | | | |
| *(% of GDP, includes current grants)* | | | | |
| Current revenue | 12.4 | 15.0 | 18.9 | .. |
| Current budget balance | 0.7 | -0.5 | 8.5 | .. |
| Overall surplus/deficit | -3.6 | -4.5 | 2.2 | .. |



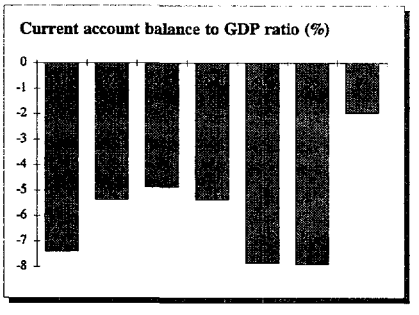

**TRADE**

| | 1976 | 1986 | 1996 | 1997 |
|---|---|---|---|---|
| *(US$ millions)* | | | | |
| Total exports (fob) | 2,980 | 8,872 | 56,001 | 58,431 |
| Rice | 422 | 775 | 2,012 | 2,080 |
| Rubber | 260 | 577 | 2,513 | 1,900 |
| Manufactures | .. | 4,649 | 45,646 | 48,182 |
| Total imports (cif) | .. | 9,448 | 72,768 | 63,286 |
| Food | .. | .. | 1,660 | 1,366 |
| Fuel and energy | .. | 1,225 | 6,248 | 5,536 |
| Capital goods | .. | .. | 34,222 | 31,367 |
| Export price index *(1995=100)* | .. | 62 | 99 | .. |
| Import price index *(1995=100)* | .. | 50 | 99 | .. |
| Terms of trade *(1995=100)* | .. | 124 | 100 | .. |



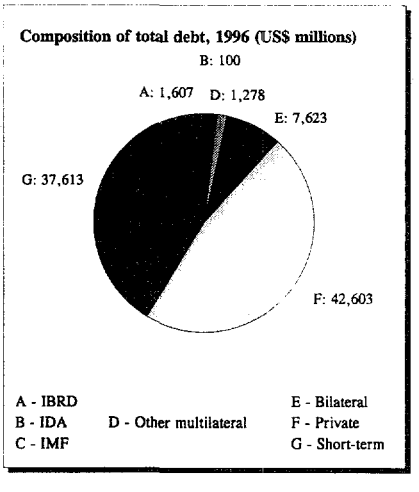

**BALANCE of PAYMENTS**

| | 1976 | 1986 | 1996 | 1997 |
|---|---|---|---|---|
| *(US$ millions)* | | | | |
| Exports of goods and services | 3,467 | 11,105 | 71,687 | 72,740 |
| Imports of goods and services | 3,900 | 10,219 | 83,422 | 72,673 |
| Resource balance | -433 | 887 | -11,735 | 67 |
| Net income | -54 | -864 | -3,386 | -3,576 |
| Net current transfers | 47 | 225 | 761 | 446 |
| Current account balance | -440 | 247 | -14,360 | -3,063 |
| Financing items (net) | 521 | 436 | 16,529 | 13,712 |
| Changes in net reserves | -81 | -684 | -2,169 | -10,649 |
| ***Memo:*** | | | | |
| Reserves including gold *(US$ millions)* | 1,893 | 3,776 | 38,645 | 26,893 |
| Conversion rate *(DEC, local/US$)* | 20.4 | 26.3 | 25.3 | 31.4 |




**EXTERNAL DEBT and RESOURCE FLOWS**

| | 1976 | 1986 | 1996 | 1997 |
|---|---|---|---|---|
| *(US$ millions)* | | | | |
| Total debt outstanding and disbursed | 2,326 | 18,505 | 90,824 | .. |
| IBRD | 298 | 2,781 | 1,607 | 1,715 |
| IDA | 11 | 109 | 100 | 98 |
| Total debt service | 378 | 3,655 | 8,652 | .. |
| IBRD | 36 | 358 | 318 | 257 |
| IDA | 0 | 1 | 3 | 3 |
| Composition of net resource flows | | | | |
| Official grants | 84 | 152 | 96 | .. |
| Official creditors | 109 | 294 | 634 | .. |
| Private creditors | 139 | -505 | 9,630 | .. |
| Foreign direct investment | 79 | 263 | 2,336 | .. |
| Portfolio equity | 0 | 31 | 1,551 | .. |
| World Bank program | | | | |
| Commitments | 158 | 93 | 250 | 767 |
| Disbursements | 50 | 206 | 138 | 443 |
| Principal repayments | 15 | 129 | 198 | 155 |
| Net flows | 35 | 77 | -60 | 288 |
| Interest payments | 22 | 230 | 122 | 105 |
| Net transfers | 13 | -154 | -183 | 184 |



## EXECUTIVE SUMMARY

1. Thailand has enjoyed enormous success in its development over the last three decades. But at present it is facing a marked change of fortune with a deteriorating macroeconomic situation and a seriously troubled financial sector. Major improvements are needed in economic and financial management and these are expected to be achieved under the recently introduced economic adjustment program. There is good reason to believe that the program will put the Thai economy on a firmer foundation and the high growth path will be regained. However, looking to the long term and Thailand's ability to sustain high growth rates, it is clear that the country must move away from the low skill, low technology products that have been the engine of growth in the past and move up the technology chain to higher value added, technology intensive production. Achieving this transformation successfully will depend crucially on the development of Thailand's human resources through education and training.

2. **Education Policies and Achievements.** For nearly four decades, education policy has been closely integrated with national planning efforts. National Education Development Schemes have encompassed the five-year national development plans and this has provided the framework for policy and planning in the education sector. The takeoff of the Thai economy in the 1960s and early 1970s led to priority being given to developing the skills of the workforce and to expanding basic education. The more difficult economic conditions of the 1970s, accompanied by political instability, resulted in greater focus on the quality of education while concerns about a widening income gap, rural poverty and inequality moved policies towards greater emphasis on expanding educational opportunities and reform of curricula and the structure of the school system. Over the last decade of rapid economic growth, education policies have continued to focus on raising quality and improving equity. At the same time, concerns about the ability of the education system to support national development has led to expansion and improvement of skills development at all levels and expansion of secondary education to raise general education levels. The need to strengthen management of the education sector has been recognized as crucial to improving its ability to produce efficiently the trained and educated people necessary to sustain national development.

3. Within this policy framework achievements have been substantial, especially in terms of expanding opportunities for education. The value of proper preparation for formal schooling is widely recognized and enrollments in pre-primary education have expanded rapidly, reaching 78% of the age group by 1996. Primary education is near universal with about 94% of the age group enrolled. The remainder represents a hard-to-reach group which requires special measures to ensure enrollment. Secondary education, which was neglected through the 1980s, is recognized as the key to producing a more skilled and educated workforce. In response to policies aimed specifically at raising secondary enrollments, transition rates from primary to lower secondary are nearing 100% and transition to upper secondary is almost as high. Twelve years of basic education for all is now the declared policy. Vocational and technical education has

expanded in response to the high level of demand for skills in the labor market. Nevertheless, widespread skill shortages exist which are driving up wages in excess of productivity gains. Non-formal education is providing a second chance to 3.5 million adults and out-of-school youth to raise formal education levels and upgrade skills. In higher education, the regional network of Rajabhat Institutes (RIs - formerly teachers' colleges) is broadening its range of professional and vocational programs, thus expanding higher education opportunities to people outside Bangkok. University enrollments are continuing to grow in response to strong social and labor market demand for high level skills. Expansion has been particularly strong among private institutions which are responding to government incentives to encourage private investment in education. Against this background, the present economic downturn will constrain budgets for a time and education development may slow. But this expected to be only a temporary problem.

4. **Issues in Education.** There is widespread recognition that if the impressive quantitative gains in education are to be consolidated, a number of issues must be addressed. In short, *while much has been achieved in education, much remains to be done.* Quality needs to be raised at all levels to lift the present low standards of student achievement; disadvantaged groups need to be brought into the education system; management of the system needs to be strengthened and more responsibility devolved to communities; the role of the private sector needs to be strengthened, including the role of industry in skill training; the public universities need to resolve management, cost recovery and quality issues; and, in the light of the present budgetary constraints, whether adequate funding can be sustained for the education sector.

5. The issue of **quality** is a common theme running through all levels and types of education in Thailand. The fundamentals of quality are relevant curricula, effectively taught. At the heart of raising quality is *teacher performance*. Teaching as a profession does not enjoy high social prestige or economic status and therefore, the better quality high school graduates are not attracted to teacher education programs. Nevertheless, there are many dedicated individuals studying to be teachers and presently serving as teachers in the school system. Training is a crucial factor in improving teacher performance. Preservice training in the RIs does not devote enough time to the major subjects that graduates will ultimately teach and thus they enter the classroom with insufficient mastery of their subjects. The teaching staff of the RIs also needs to be strengthened. Too many are underqualified and greater efforts must be made for staff to upgrade their qualifications. Ample fellowships are available for graduate study but the take-up rate is inadequate, especially for overseas study which requires more rigorous entry standards and lengthy "bonded" service. Inservice training is widely available through the RIs and through school supervisors and master teachers. The main weakness in the inservice program lies in the sciences which reflects weaknesses in these areas in the RIs, which are the main local providers of inservice training.

6. Although *curricula* at all levels must be approved by the Ministry of Education (MOE), there is scope for schools to vary their offerings according to the needs of the

students and local communities. School curricula include periods of practical work experience, especially in the first nine grades. This reflects the need to keep students in touch with the environment in which they will be working on leaving school. However, with the rapid transition to a twelve year basic education cycle, students will not be leaving at intermediate levels (traditionally after grades 6 or 9) and therefore the practical work sessions are becoming less relevant. The time could be used more effectively on strengthening key academic subjects (math, science and languages) which are vital for the preparation of students for further study and to work in an increasingly globalized economy. How curricula are taught and student achievement assessed are key issues. Thailand has an examination dominated education system which has entrenched a rote learning tradition in the classrooms. Teachers teach to the exams and emphasize the memorization of facts to be regurgitated during the exams. This approach needs to be changed to bring about the development of analytical skills and problem solving capabilities in students, if education is to serve effectively Thailand's technological modernization.

7. *Educational technology* is a key determinant of quality improvement. While there is widespread recognition of this in Thailand, no coherent policy exists to guide the procurement and utilization of appropriate hardware and software in the schools. Computers are to be found in many classrooms but they are often dated models and are used only for basic applications. Not enough attention is being given to the integration of computers into teaching and learning situations. The production of *textbooks and learning materials* is at present dominated by the Ministry of Education in core curricular areas. Private publishers are active in lower priority subjects and are seeking an expanded role. Such a role is justified by the greater competition it would bring to the textbook market. In the long run, textbook production should be fully privatized, with MOE assuming a quality assurance role. A competitive private market would lead to higher quality and lower prices.

8. Expanding **equitable access** to education has been a priority of the Government for the last four decades. This has led to notable achievements such as near universal primary education, high female enrollment rates, effective nonformal education programs, etc. Yet there are still gaps to be filled in access to education and this bears mainly on the rural poor. The Government has responded with a range of policies. On the *supply side*, the main focus has been on expanding rural access to lower secondary education. Surplus facilities and teachers in primary schools, resulting from the declining primary age population, are being utilized to provide places for grades 7-9. In order to provide a second chance for those who missed the opportunity to enter school, nonformal programs have been expanded and a comprehensive network of 830 centers services the out-of-school population. The private sector has also been encouraged to invest in education through tax advantages and subsidized loans for facilities development. Private investment is seen as a means to expanding educational opportunities at a relatively low public cost.

9. Equitable access to education has also been improved through sustained *demand-side* interventions aimed at raising the household demand for education. Enrollments in secondary education lagged for many years in Thailand and the principal cause of this was found to be the high cost of schooling. In response, subsidies were introduced in 1987 covering free text books and school uniforms, low cost dormitories, health/nutrition programs and school fee exemption. Entry to lower secondary education represents the point which separates the educational haves from the have-nots in Thailand. Thus in addition to subsidies, special outreach programs have been introduced which are targeted at disadvantaged groups. These cover special language programs for ethnic communities using vernacular languages, special access to education for hill tribes, school lunches for poor students, basic skills development in agriculture and construction, etc. An education loan scheme was introduced in 1996 with a heavily subsidized interest rate to assist families with an annual income of B300,000 or less in financing upper secondary and higher education. Additional efforts are being made by the Government in response to the economic downturn, to ensure that vulnerable groups are not forced to abandon their education by the deteriorating financial circumstances of their families.

10. Access to *higher education* is expanding but in general remains elitist, and in the public sector, highly subsidized. The most prestigious institutions are the closed admission public universities. Admission to these institutions is gained through a highly competitive entrance examination and this favors the best prepared students from the better public and private high schools. Fees are low, covering only about 10% of unit recurrent costs. The two public open universities offer a much cheaper alternative but provide a lower quality education. Private universities are expensive with fees covering about 100% of costs. The Government is committed to ensuring equality of opportunity in higher education and several measures have been introduced to support this objective. Regional universities have introduced quotas of up to 50% for local residents who do not have to sit the national university entrance exam. However, the main area of opportunity for regional students to gain access to higher education is through the Rajabhat Institutes, which have broadened their offerings into fields other than education. Programs are in place to raise the quality of education in the RIs through upgrading teaching staff and modernizing facilities. The RIs were given the authority in 1995 to award graduate degrees and this assures their future development into regional universities.

11. While there is general recognition that education services have expanded successfully under the present system of **education management**, there is doubt about the ability of the system to improve the quality of education and provide for the needs of the country's development in the next century. Education in Thailand is often said to be "over-managed" because it involves two ministries (Education, University Affairs) and the National Education Commission (NEC). Calls for reform are made regularly but in the particular tradition of Thailand, which favors a strong and diverse bureaucracy, major reforms are unlikely. *The key requirement therefore is to make the present system work better.* In the first instance, there needs to be better *coordination* between the bodies involved in managing education. The diffusion of responsibilities between two ministries and numerous powerful units within the ministries requires a strong coordinating

capability. This is the role of the NEC. At present the NEC carries out many useful activities but it needs considerable strengthening if it is to play its proper role in policy development, planning, research, monitoring and evaluation. This must be complemented by better coordination within the ministries of education (especially MOE).

12. The leading issue in the debate on reforming the administration of education is *decentralization.* This has received prominence in recent education plans and aims to delegate administrative authority to local agencies and educational institutions, and to support local participation in the education process. This would result in making education more relevant to local needs and more responsive to changing educational requirements in the community. There seems to be a strong consensus, both in the bureaucracy and in the community, in favor of decentralization but a comprehensive strategy to achieve decentralization goals, appears to be lacking at this stage. The policy at present calls for the deconcentration of responsibilities from central units to the staff of these units serving at lower levels. This is a useful start but real decentralization will require giving the central role in local administration to the Provincial Education Councils (PECs). These bodies will need to be given real authority over resource allocation and be supported by competent staff capable of handling such functions as budgeting, planning and staffing. Strong PECs would make the present regional organization of MOE redundant and its abolition would remove one layer of administration.

13. The **role of industry and formal institutions in training** needs to be strengthened. In Thailand, a number of (larger) firms invest in specialized training for their employees but in general, training in industry is not widespread. A well established formal (public and private) training sector exists which industry has relied upon to provide skilled manpower. Although there are reservations about the quality and relevance of training, a rapidly growing economy has quickly absorbed trained workers without too much regard for the quality of training. These labor market conditions will not be sustained indefinitely (there are already signs of market softening) and if the skill needs of industry are to be met, with quality and relevance guaranteed, industry will need to play a much greater role in skill development. Firms are best placed to provide training in the specific skills needed in the workplace. The more general vocational skills, and the educational background necessary to develop these skills, is the responsibility of the formal training institutions. It is difficult for these institutions to define the specific needs of industry or to provide the state-of-the-art training needed by industry. The relevance of formal training can be improved by moving to a "sandwich" approach which combines classroom training with industrial experience. The role of industry needs to be expanded through the application of appropriate incentives.

14. The **role of private institutions in education** also needs to be strengthened. Thailand has a substantial private education sector that has been encouraged by the Government as a way to expand educational opportunities, with relatively little impact on the public budget. Private institutions account for about 18% of total enrollment or 2.4

million students. The Government's main interface with the private sector is through quality assurance activities. This is particularly important *vis-à-vis* the universities. The accreditation process for private universities is rigorous but affords a reasonable opportunity for the introduction of quality programs. Since quality assurance in the public universities is more of an internal matter, the private universities complain that being subject to more extensive monitoring gives them an "inferior" status. In recognition of the latter, the Ministry of University Affairs intends to move towards establishing a single quality assurance mechanism covering both public and private universities. The size and complexity of the private school system makes centralized quality assurance difficult. MOE's main function is therefore to administer the Government's subsidy program rather than play a meaningful role in quality assurance.

15. The **universities** are playing a central role in Thailand's development and this is becoming more important as the country is being forced to compete in a globalized economy. To meet this challenge successfully, the universities must become efficient, cost-effective, high quality institutions which have the flexibility to adjust to changing technology and labor market needs. Greater institutional *autonomy* is one of the keys to strengthening public higher education. This would give them the flexibility in budgeting, planning, staffing and recruitment to manage resources more efficiently, establish new programs, and recruit and retain highly qualified staff in competition with the private industry. Autonomy has been offered to the universities but has not been taken up due largely to the reluctance by many staff to lose their civil service status. There is also considerable scope for *raising fees* in the public universities. The argument for this is based in part on improving resource mobilization in the universities through applying the user pays principle. The private returns to a university degree are substantial and the fees very low (they cover only about 10% of recurrent costs) and therefore students are receiving a significant public subsidy. Since enrollments in the public (excluding open) universities are dominated by students from higher income families, there is a compelling equity argument in favor of raising fees well beyond current levels.

16. The quality of teaching staff in the universities is a crucial determinant of the overall quality of university education. While the grant of autonomy to the public universities would permit recruitment of higher quality staff, two further requirements are essential to raising quality. *First*, incentives are needed to encourage staff to do research. Thailand's universities do not have a strong research tradition and incentives are needed beyond the present requirements of research needed to secure promotion. These incentives should be both positive (adequate funding, provision of advanced equipment, more graduate programs, etc.) and negative (performance evaluations that include measures of research productivity.) *Second*, there is considerable scope for strengthening the teaching staff through graduate study overseas. At present only about 22% of teaching staff have doctorates. While there are ample fellowships available, the take up rate is relatively low. This seems to be due mainly to the price of overseas study being too high. Recipients must work for the Government for two years for every year spent studying and the "buy-out" rate is three times the value of the fellowship. This price is too high. The Government should not be concerned about brain drain to the private

sector as long as the public cost of overseas study is recovered. The benefits of such study accrue to the country in any case.

17. The Government aims to ensure that the universities play their proper role in providing the scientific and technological (S&T) manpower to underpin the country's drive towards technology intensive industrialization. This will require an adjustment to the enrollment structure encompassing a shift to S&T programs. It is aimed to have 50% of total enrollments in such programs by 2000. To provide the necessary student places, facilities are being expanded in existing S&T faculties and in new ones. Regulations are being eased for private universities to offer engineering degree programs. To fill these places a higher proportion of high school graduates must be attracted to S&T programs through wider dissemination of information, S&T scholarships targeted on talented students (irrespective of means) and priority for subsidized loans to students enrolling in S&T programs. There is also a quality problem to be faced. The standards of math and science among high school graduates is relatively low, according to the universities. This problem starts in the primary schools and is transmitted upwards to higher levels. There is clearly a need to strengthen school science and math programs in order to improve the quality of university degrees.

18. **Resource mobilization** for education has not been a problem in recent years. The priority given to education, in recognition of its key role in Thailand's development, has been translated into substantial annual increases in the education budget. However, the situation has suddenly changed as the country faces a major economic crisis. Under the present tight fiscal policy the national budget for FY98 has been reduced by 6%. The two ministries of education have been given a degree of preferential treatment with reductions of around 4%, but looking ahead, it seems likely that the education sector will face a period of relative austerity over the next few years. This calls for several responses. *First*, the Government needs to get control of costs - unit recurrent costs of education have been accelerating at all levels during the 1990s. Since education is a labor intensive activity, salaries and allowances represent a major proportion of recurrent costs. Thailand's student:teacher ratios are relatively generous compared with regional norms and raising them would lead to significant cost savings, without reducing student achievement. *Second*, pressure on the public budget can be reduced by expanding the provision of private education. Government policies are encouraging this expansion. *Third*, the low fees charged by the closed admission public universities provide ample scope for a substantial increase. It is important that increased fees be accompanied by effective implementation of the student loan scheme to protect the entry of lower income students to university education. To offset the expense of programs being introduced to protect access to education in the face of the economic downturn, some opportunities exist to postpone capital expenditures and to reallocate resources to support the recurrent budget.

19. **Key Policy Actions.** In Thailand, education is a topic of widespread concern in the community and, as such, is widely debated. Many interest groups are involved and this impacts on issues such as the location of institutions, the financing of education and

its cost burden, the distribution and quality of teachers and physical facilities. There is a strong recognition in Thailand that education provides the major means for social and economic advancement and this ensures that policies are continuously under scrutiny. This makes for a complex policy making and planning environment. *Even so, a number of sound policies, bearing mainly on improving the quality of education, are being implemented.* These are contained in the Eighth Plan and in the recently introduced education reform program. In formulating the policy proposals that follow, full recognition was given to ongoing actions. The proposals focus on areas of priority to which special attention needs to be given if problems are to be resolved. They are not new in the sense that they have just been discovered. They have in fact been under consideration for some time and are included in policy and planning documents. They are presented here as topics, which experience has shown, are difficult to handle (for political, administrative or pedagogical reasons) and need special impetus to be resolved. They are:

20. *Achieving and maintaining full access to schooling.* The school system continues to expand but there are still significant numbers of children who are not enrolled. They represent in large part groups which are difficult to service (mainly at the primary level) and the rural poor (at the secondary level). The special programs now in place together with the new initiatives being taken to protect groups made vulnerable by the economic downturn, should be expanded to cover all schools and evaluated to ensure their effectiveness. The several parts of the nonformal education system should be integrated into a single system to provide lifetime learning opportunities to those who have missed out on formal education and for those seeking to improve their education and skills.

21. R*aising the status of the teaching profession.* The quality of the teacher lies at the heart of policies to improve the quality of education. The teaching profession in Thailand does not enjoy high social and economic status. The starting point to strengthen the profession is the recruitment of high quality secondary school graduates into teacher education programs, through the award of attractive scholarships. This must be complemented by higher salaries and high quality professional qualifications. The proposed Royal Academy of Teachers has the potential to play an important role in raising the status of the teaching profession and should be established without delay.

22. *Changing the teaching/learning environment.* Education in Thailand is dominated by classroom practice which is teacher dominated and strongly emphasizes rote learning. This needs to be transformed into a more participatory approach where the emphasis is on developing analytical skills and problem solving capabilities. This will require a major change of attitudes on the part of teachers, students and parents. The key to this change lies in teacher preparation and appropriate changes should be made in preservice and inservice programs. In addition, the influence of exams needs to reduced. Teachers tend to teach to exams and this reinforces the rote learning tradition. Following the declaration of the 12 year basic education cycle for all, exams for promotion between levels should be abolished and replaced by continuous assessment. The influence of the final university entrance exam score should be reduced through the introduction of

broader selection criteria - upper secondary grade point averages together with special characteristics or aptitudes to be determined by individual universities.

23. *Streamlining administration.* Decentralization aims to shift significant responsibility for schooling to local authorities thereby increasing its relevance to local needs. To transfer meaningful responsibility, the Provincial Education Council should be built up as the key authority. This will require a careful balance between the technical expertise of officials and the guidance of community representatives. The PEC must be supported by adequate administrative and technical expertise both to operate the local school system and to plan for future development. Although curricula are developed by the center, flexibility exists for local authorities to vary content to suit local needs. The PEC must therefore have the capacity to adjust curricula to local needs.

24. *Skill training.* The priorities in skill training are: (a) to encourage industry to carry out training to the greatest extent possible; and (b) to ensure that the formal VTE institutions (both public and private) are relevant to industry's needs. To encourage the expansion of training in industry, targeted deductions from corporate taxes should be made available to firms. Firms which do not undertake training should be subject to a targeted tax, the proceeds of which would be given to formal training institutions to provide the training. Such training would be clearly defined by industry and its quality assessed on the basis of the on-the job performance of graduates. In order to increase the relevance and usefulness of skills learned in formal training institutions, the focus should be shifted from pre-service training programs to in-service, "sandwich" training courses. The "Dual System," modeled on Germany's system of formal vocational training, and now being introduced on a pilot basis in Thailand, should be evaluated and expanded as appropriate. If the program can be successfully implanted in the vocational training system, its expansion should progressively replace a substantial proportion of the full time institutional pre-service courses, which now predominate in the formal training institutions. The sandwich approach would also be effective in retraining workers made redundant by structural changes in the labor market

25. *The role of the private sector.* The private sector has been encouraged as a means to expanding educational opportunities with relatively little burden on public expenditures. Policies are in place, or are under consideration, to promote continued expansion. The intention to abolish the ceiling on fees should be implemented, thereby removing a key impediment to entry of investors to the private education sector. Market forces will ensure that fees will not rise to unsustainable levels. The role of subsidies is being reviewed. These are available only to private schools established before 1974. If fee ceilings are abolished, schools will become more financially viable and reduce the need for subsidies. The student loan scheme covers students in private (as well as public) schools and provides heavily subsidized loans to eligible students. On the assumption that deregulating fees would result in some fee increase, greater availability of loans would be necessary to offset the rise. Thus it is important for the Government to review the size of the loan program and the effectiveness of its implementation. Accessibility to loans should also be kept under review. Following the recent rise in the family income

eligibility limit for loans, pressure will undoubtedly arise for the limit to be raised again to include more affluent families. This should be resisted. Loans carrying an interest rate of 1% represent a very large subsidy and should be available only to genuinely poor families. The Institutional Development Fund (IDF), which assists in the development of facilities in private educational institutions, needs to review loan criteria and selection procedures. The revolving fund for staff development (which will receive no funding in FY98), should be capitalized at B100 million per year.

26. *The universities.* Autonomy has been offered to the universities since 1991 but to date, only two institutions have taken the option. The Government needs to take a firm approach (as in Malaysia) and specify a timetable for the universities to become fully autonomous. There is a strong equity argument in favor of a substantial increase in student fees in the closed admission public universities, where the student body is drawn disproportionately from higher income groups. The Government should aim to reach its stated goal of fees covering 50% of unit recurrent cost by 2002 (coverage is about 10% at present), while expanding student loans, and scholarships on a means tested basis. The present eligibility requirements for student loans may adversely affect low income students and this should be corrected. The alternative of an income-contingent loan should be made available. In order to raise the level of enrollments in S&T programs, the Government should consider (in addition to the measures currently in place), targeted scholarships and priority for subsidized student loans (para. 17). This should be complemented by measures to strengthen the research capacity of the universities through incentives for academic staff to undertake research - finance, facilities, requirements for promotion, etc. The availability of attractive teaching assistantships in S&T should be expanded.

27. **Implementing Policy Change.** In Thailand, the quality of education is often questioned but there is no doubt that in a quantitative sense, the system is able to deliver a wide range of educational services to a large number of people. In reality, large-scale programs are being implemented successfully. At the policy level, implementation is less smooth. In Thailand there is widespread understanding of the problems in the education system and the policy prescriptions necessary to resolve them. The difficulty lies in implementing the required policies. At present, an effective mechanism is lacking which would lead to a thorough review of the issues, followed by appropriate decisions to resolve them and the timely implementation of these decisions. Such a mechanism would combine good communications and strong leadership and require the following actions: (a) determine a leadership strategy i.e. decide who will take the lead role in presenting the policy to the public; (b) formulate a clear statement of the objectives of the policy, which would indicate what was to be done and why it was being done; (c) identify stakeholders; (d) analyze costs and benefits and indicate how these will affect particular stakeholders; and (e) identify the implementing agency and indicate the time span and key implementation indicators. A framework along the lines of the above would bring a degree of rigor to the policy implementation process. It would clarify what is to be done, why it is to be done and who is going to do it.

28. The issue of leadership cannot be separated from the need for good communications. The Minister of Education must lead in articulating education policies. Senior officials, led by the Permanent Secretary, would bring their professional expertise to bear in amplifying the details of stated policies. While there is no firm line between the political and the bureaucratic functions, there needs to be some understanding of the respective roles of politician and bureaucrat. When these roles get mixed up, controversy and confusion can result. It seems most appropriate for politicians to focus on articulating policies in their generality, getting the message through to the community and providing leadership in politically sensitive policy areas. This provides the context within which the professionals can elaborate on policy statements. As decentralization progresses, there will be similar scope for policy articulation and bureaucratic support for its implementation at the provincial level. Here, the Provincial Education Committee would play a similar role to that of the Minister at the national level. That is, the PEC would be responsible for articulating policies and getting community acceptance for them at the local level. Care should be taken to ensure that officials responsible for implementing policies at the local level reflect the views of the PEC rather than those of the central agencies in Bangkok, from which the officials are drawn.

# I. INTRODUCTION

1. Thailand's development over several decades has been an emerging success story and in the last decade this success has been consolidated. Generally sound macroeconomic management and outward looking policies, which have promoted exports and attracted a sustained flow of foreign direct investment, have been accompanied by a substantial reduction of poverty.[1] In the past year, the situation has changed dramatically. Growth of GDP, which for years averaged around 8% per annum, has been cut by more than half; export growth has fallen to near zero; the financial sector is in crisis and the stock market has suffered a major decline; the baht has been floated and devalued. To regain the high growth path, major improvements are needed in economic and financial management. These are likely to be achieved under the IMF-led economic adjustment program introduced in August 1997 and the consensus in Bangkok is that the economy, while experiencing lower then planned growth rates, will be back on track in 2-3 years.[2] Even so, the major strategic question for Thailand is: how can the country sustain its growth over the long term as it loses its comparative advantage in the low wage, low skill, low technology production that has been the engine of growth in the past? Clearly, to maintain its competitiveness, Thailand must move up the technology chain towards higher value added, technology intensive production. To achieve this successfully, more than sound macro economic management and continued capital inflows will be needed. Apart from such basics as a coherent R&D policy and an effective intellectual property regime, education is the key. Growth will surely founder if the education system does not produce the skilled and educated people needed to run industry and commerce, carry out research, and in a broader sense, strengthen Thai culture and prepare students to become responsible citizens in a democratic state.

2. If the development of education in Thailand could be summed up in a single apposite phrase it would be "*much has been achieved but much remains to be done*". Over 13.5 million students are enrolled in schools and colleges which makes education Thailand's largest "enterprise". Much pride can be taken that primary education is nearly universal and enrollments are expanding at all other levels from preprimary to the universities. As shown in Box 1 and Annex 1, Thailand's performance in education is generally satisfactory in comparison with its East Asian neighbors. But many questions have been raised which bear on the quality of education. There is concern that students' achievement at all levels is inadequate and the very basis of the learning process is being questioned; curricula do not serve adequately the needs of diverse groups; teachers, whose performance lies at the heart of education quality, are inadequately trained and insufficiently motivated; management of the school system is rigid and centralized with

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[1] For a discussion of the simultaneous decline in poverty levels and the increasing inequality of income distribution see: World Bank, Thailand: Growth, Poverty and Income Distribution, Report No. 15689-TH, 1996.

[2] The National Economic and Social Development Board has revised the average growth rate of GDP during the Eighth Plan (1997-2001) downwards from 8% to 4.9%.

too little responsibility devolving to the schools and communities where educational outcomes are determined. These (and other) issues are subject to widespread debate in parliament, the press and in the community at large. Taken together, they provide an agenda for change which must be implemented if education is to serve its proper role in support of Thailand's emergence as a technologically advanced democracy in the 21st century.

**Box 1: Thailand and Its Neighbors**

The East Asia region is characterized by a number of diversities - geographical, technological, socio-economic, cultural and developmental. Countries achieving high economic growth have proceeded along different developmental paths but they all have in common a heavy investment in education and training over several decades. Initially, reaching universal ***primary education*** was the main priority. Thailand, together with many of its neighboring countries, has done well in achieving universal or close to universal primary education. Another priority has been to enhance literacy which is an essential feature for individual and national development. Thailand has also successfully achieved this goal, having only 6.2% of its adult population ***illiterate*** in 1995 as compared with 16.2% in Indonesia and 16.5% in Malaysia. Its ***pre-primary education gross enrollment rate*** also compares well - 50% versus 12% in the Philippines, 21% in Singapore and 36% in Malaysia. Only, Korea and Hong Kong ranked higher at 65% and 81%, respectively. At the ***secondary*** level, the ***enrollment rate*** was 32% in 1992, which was well behind its neighbors - Indonesia (43%), China (54%), Malaysia (60%), Singapore (68%), Philippines (77%), Korea (91%) and Japan (96%). However, policies aimed at accelerating secondary enrollments are beginning to show results and Thailand's enrollment rate had reached 49% by 1994.

S***tudent-teacher ratios*** (STR) in Thailand are relatively generous. At the primary level, Thailand's ratio is 17:1 compared with 20:1 for Malaysia, 23:1 for Indonesia, 33:1 for Korea and 36:1 for Vietnam. At the secondary level, Thailand has a ratio of 18:1 compared with Indonesia, (14:1), Malaysia (19:1), Vietnam (21:1) and Philippines (33:1). Since the STR is a factor influencing unit costs, the relatively generous STRs in Thailand could be raised thereby reducing recurrent expenditures on teachers salaries without adversely affecting student performance. With the emergence of budgetary constraints, such cost saving possibilities are important.

The share of GDP allocated to public expenditure on education in the countries of the region is relatively low compared with many parts of the world. One reason for this is that many Asian countries are more dependent upon private finance for education, especially at the secondary level. At the ***primary level***, the 1992 data show that the share of ***private enrollment*** in Thailand was 10% as compared to 17% in Indonesia and 24% in Singapore. At the ***secondary level***, the private share remained at 10% for Thailand while countries such as Japan, Singapore, the Philippines, Korea and Indonesia had larger shares of private enrollment ranging from 16% to 44%.

In most instances, the past decade has seen a slight rise in the proportion of all ***government expenditures allocated to education*** in the Asian region. In 1992 education's share of the national budget was highest in Thailand (19.6%) while the other countries ranged between 9.4% to 18.1% (Indonesia - 9.4%, Philippines - 10.5%, China - 12.2%, Japan - 16.6%, Malaysia - 16.9% and Hong Kong - 18.1%.)

*Source:* UNESCO. World Education Report, Oxford 1995.
*Note:* Detailed comparisons are presented in Annex 1.

3. The study aims to review past achievements in education in Thailand and also to look at what is being achieved under present policies. It then reviews some of the major policy issues being faced in the education system and identifies some key policy actions for the future. *These proposals are not exhaustive in that they cover all policy areas. Rather they are selective. As shown later in the study, a number of sound policies bearing mainly on quality improvement are being implemented at present and the focus is therefore on policy areas which have a broader impact on the education system, or for various reasons, are difficult to resolve.* Finally, the study suggests a strategy to achieve policy change over the long term. It is hoped that the study will help to guide policy makers in making decisions on a range of education issues and contribute to the ongoing public dialogue on education.

4. The study is being prepared as the economic crisis is beginning to show its effects broadly across the nation. Although, as noted above, Thailand is expected to get back to its high growth path in 2-3 years, the interim will be a period of austerity for the country, with budget cuts already in force for FY98. Within this environment, a major issue facing educational authorities will be the protection of vulnerable groups from reductions in funding and to ensure that they do not have to abandon their education as their families face rising unemployment and falling incomes. Another consequence of the present economic crisis will be seen in the weakening labor market. A decade of high growth in the economy has produced a tight labor market where strong demand for workers with all types and levels of skills and education has been the norm. Graduates from the education system have quickly found employment and this has tended to obscure some of the qualitative deficiencies in education and training. The next few years will demonstrate how the education system performs under more adverse conditions.

## II. POLICIES AND ACHIEVEMENTS PAST AND PRESENT

### A. Education Objectives and Policies

5. Since 1960, education policy in Thailand has evolved as an integral part of the national economic planning system. During the early years, the main objectives of the policy were directly linked to economic development and focused on providing medium- and high-level manpower needed for the rapidly growing economy. By the mid-1970s to mid-1980s, the policy agenda began to widen its scope to cover equity and distributional issues. Explicit policies were introduced to increase rural access to schooling, improve the administrative system, and strengthen curricula and the learning process. Education was no longer focused primarily on the attainment of manpower targets. Priority was also given to issues of quality in education. The change of emphasis resulted in a major education reform during this period.

6. The integration of education policy with national planning was achieved through the National Education Development Schemes (NEDS) which covered a series of national Five-Year Plans. Since 1960, there have been three NEDS which served as the

long-term policy framework for the education sector in Thailand. The first NEDS was launched in 1960 and was in effect for 16 years. In 1977, the second NEDS was introduced and functioned until 1992 when it was replaced by the third NEDS, which represents the current policy framework.

7. **The First National Education Development Scheme (1960-1976)** encompassed three five-year education plans. During this cycle, the country went through a period of rapid economic development. The promotion of import-substitution industries was one of the major strategies that Government pursued in order to reduce the deficit in the balance of trade and to boost the self-sufficiency of the Thai economy. At that time it was crucial to develop basic infrastructure to support the growing economy. These development strategies resulted in an increasing demand for labor.

8. The major objective of the first education plan was to develop the labor force to accommodate the expansion of the economy. Although every child could enroll in primary school at the time, the dropout rate was as high as 60% and secondary enrollment was only 2% of the age group. Therefore, the first NEDS emphasized the importance of providing educational opportunity to the population in general and developing a better qualified labor force in support of industrial development. These policies resulted in an extensive expansion of primary, secondary, and vocational education in the central and other regions, thus improving rural access to schooling; the opening of new faculties at university level; and the establishment of new universities in regional areas. (The Universities of Chiangmai and Konkaen and the National Institute of Development Administration were established during the first plan).

9. **The Second National Education Development Scheme (1977-1991).** During the 1970s, the Thai economy had begun to face difficulties due to a sluggish world economy, oil crises, political turmoil in Indochina and, in October 1974, political upheaval in the country. National security became the top concern. The income gap widened and unemployment increased. Therefore, it was important to address poverty and inequality issues as well as promoting democracy under the constitutional monarchy, while restoring national security. A major change in the structure of the education system took place under this Scheme, non-formal education was emphasized and the role of private education was encouraged.

10. Three five-year education plans were formulated under the Second NEDS - the Fourth, the Fifth and the Sixth Education Plans. The Fourth Plan (1977-1981) shifted the focus towards improving the administrative system, reforming the curriculum, and encouraging equality of educational opportunity across the country. As a result, the structure of the education system was changed in 1978. An integrated six-year primary course was introduced to replace the dual cycle primary system, the upper secondary cycle was extended from two to three years and curricula became more diversified. The system changed from 4:3:3:2 to 6:3:3. The present structure of the education system is shown in Annex 1.

11. The Fifth Plan (1981-1986) was a period of macroeconomic difficulties with a sluggish economy and an increasing unemployment rate. Faced with a soft labor market, the Plan placed less emphasis on the manpower producing aspects of the education system and focused more on enhancing the quality of education through strengthening educational management, increasing educational opportunity and addressing equity problems. Non-formal education was strengthened and expanded, particularly in the poorest 38 provinces. The objectives of the Sixth Plan (1987-1991) did not change significantly from the previous one. The Plan continued to focus on equity, quality, management and administration. In addition, science, technology, research and the cultural aspects of education were strongly emphasized.

12. **The Third National Education Development Scheme (1992- ).** The third NEDS encompasses the Seventh and Eighth National Plans. As a result of rapid economic growth from the mid-1980s, Thailand is facing a new set of problems, namely, environmental degradation, rising rural-urban migration, unfavorable environmental outcomes of rapid urbanization, and other effects of modernization which have caused concern over development sustainability and the direction in which modernization and Westernization will lead the country.

13. The objective of the Seventh Plan (1992-1996) was to facilitate a smooth socio-economic transition within prevailing resource constraints, and the needs of individuals, communities and society. The Plan called for an education system that could provide equilibrium between development in its economic, social and cultural aspects. It should also facilitate linkages between these aspects as well as creating harmony and mutual benefit between urban and rural sectors.

14. The Eighth Plan (1997-2001) continues to look into the broader aspect of human resource development including its linkages with economic and social development. Education is considered a factor in multidimensional development of which the individual is both the end and the instrument. The Government should provide equal opportunity to its citizens and ensure that all citizens can develop to their greatest potential. The plan strongly emphasizes that the Thai education system should facilitate the country's development process towards self-reliance, sustainability and enhance global competitiveness. Within the framework of the above objectives, education policy aims to:

* expand and accelerate the level of basic education while improving quality and equity;
* reform the teaching and learning process;
* reform teacher training and development;
* improve quality and skills of the labor force, particularly for medium and high skilled labor;
* reform education management and administration; and
* promote decentralization of authority and decision-making and encourage participation from families and communities

15. In pursuing education policies during the 1960s to the early 1980s, Thailand had to consider policy trade-offs between quality and access. Policy-makers often had to make choices between expanding the availability of education and providing high-quality education within a limited budget.[3] The initial efforts in educational development during the 1960s were directed toward expanding enrollment rather than changing the character of education. Education planning, carried out mainly at the central government level, lent itself more easily to quantitative expansion. It was not until the late 1970s that education policies began to place more importance on qualitative objectives, particularly social equity, the development of science teaching, improving the relevance of education to national needs, the building of a national capacity for management and research in education, and raising the internal and external efficiency of the school system.

16. While these objectives continue to be major challenges, another dimension of education policy has evolved. Economic success since the mid-1980s has brought Thailand to a higher level of development where there is strong international competition. The era of globalization, opened up by major advances in telecommunications and computer technology, is having an impact on Thailand's developmental process. In order to compete successfully in the globalized economy, the whole concept of education needs to be changed. Education needs to move from the more narrow role of providing people with general and vocational skills in response to manpower demand, to the concept of providing learning skills and creative minds which can deal effectively with rapid technological change in the future. The implication for the classroom is that the traditional rote learning approach must give way to the development of analytical skills and problem solving capabilities in students.

17. **The Reform Program of 1996.** A sense that major changes are needed in education is reflected in the recently introduced "reform program". It is built around four major improvements:

* improving the physical state of schools
* upgrading the quality of teachers
* reforming learning and teaching methods
* streamlining administration

18. Efforts to ***improve the physical state of schools*** will include school mapping for each province to ensure an optimal distribution of school facilities and to facilitate equity of access to schooling. Optimal school sizes will be defined to ensure the most efficient utilization of educational resources, including the merging of smaller schools to achieve economies of scale. A model school would be developed to be replicated in new school

[3] It is now better understood that there is not an inevitable tradeoff between increasing access to education and improving its quality. Research has shown that investments in quality often more than pay for themselves and therefore do not detract from increasing access. See for example Harbison, R. and Hanushek, E., Educational Performance of the Poor : Lessons from Northeast Brazil, World Bank/OUP, 1992, pp. 194-5.

construction and designed according to specific standards for the environment, physical facilities and teaching/learning activities.

19. ***Upgrading the quality of teachers*** lies at the heart of efforts to improve the quality of education. To this end, the selection procedures for admission to teacher education programs will be strengthened, with scholarships available to attract higher caliber high school graduates. Preservice teacher education will be strengthened in the Rajabhat Institutes (RIs) through upgrading lecturing staff and improving the curriculum, instructional methods and research facilities. In-service training will be provided continuously and comprehensively to keep teachers abreast of social and educational changes. Teacher evaluation will emphasize performance efficiency and learning outcomes. The teacher career ladder will be separated from that of administrators. The structure of teachers' salaries and benefits will be improved, including special allowances for teachers in remote and underserved areas.

20. Efforts aimed at ***reforming learning and teaching methods*** will place the main emphasis on the development of analytical skills and problem solving capabilities to replace the rote learning approach which is prevalent in classrooms today. Teachers will be trained to handle this adjustment. The testing system will also be adjusted to focus on learning outcomes and these will be measured with more emphasis on continuous assessment rather than periodic examinations. Curricula will focus on core subjects, namely, Thai, math, the sciences and foreign languages (especially English) will be taught from grade one. Beyond the core subjects, curricula will be flexible and allow communities to concentrate on local needs, including the development of practical skills. Teaching will have a strong focus on the local environment.

21. The policy of ***streamlining administration*** calls for administrative decisions to be decentralized to agencies at the provincial level. The agencies involved are those of MOE headquartered in Bangkok and responsible for the provision of various types and levels of education. The policy is thus one of deconcentrating responsibilities to the agencies of the central administration operating at the provincial level. For these agencies the functions, catchment areas, budget, personnel, areas of responsibility and organization of services in all public and private institutions will be clearly defined and allocated. Thus at the provincial level, agencies will be able to determine their own educational policies and allocate staff and budget according to local needs. The involvement of the family and community in educational decisions will be promoted. Private education will also be promoted under the guidance of Office of the Private Education Commission (OPEC) and through the use of low interest loans for institutional development.

22. This program of policy changes bears close resemblance to the objectives of the Eighth Plan and bears the title "reform" seemingly to give it a sense of urgency. Even so, the program provides a sound framework within which educational improvements can be made. The agenda for change is sound in both its objectives and its component parts. The key issue lies in its implementation. In part, this must follow a broad approach under

which continuous improvements are made across the full range of components. That is, each year a tranche of schools is physically upgraded, inservice training is provided to a designated group of teachers, some decentralization takes place to selected provinces, etc. But there are a number of areas which are not affected by the annual operations of the education system. In these areas, policy decisions are needed which would have a broader impact on the education system in general. Identifying these policy areas and making timely decisions to resolve them would contribute to strengthening the education system. They are outlined in Part III of this paper.

## B. Education Achievements

23. Under the objectives and polices outlined above there have been considerable achievements at all levels of education in Thailand. At the same time, such achievements have to be balanced against an unfinished agenda of improvements, which must be accomplished if qualitative gains are to match quantitative expansion.

### Pre-Primary Education

24. Although pre-primary education had been introduced by the Government in 1940, serious expansion at this level did not take place until the Fourth Plan (1977-81). During this period there was increasing recognition that success at higher levels of education must be built on a strong early foundation. Although enrollments more than doubled to 250,000 during the Plan period, this represented only about 9% of the age group. The Government's role was to provide the regulatory framework for the private sector to expand pre-primary enrollments while limiting its own expansion. However, this did not produce the desired results. During the 1980s, Government became increasingly concerned about equity, especially the rising gap in access to education between urban (especially the Bangkok Metropolitan Area - BMA) and rural areas. A Government-led takeoff in pre-primary enrollments occurred during the 1980s, with the result that the proportion of the 3-5 years age group in pre-schooling increased from 9% to 36% over the decade. The expansion is continuing with the enrollment rate reaching 78% by 1996 and with plans for it to achieve 90% by the end of the Eighth Plan in 2001. The dominant role of the Government in pre-primary education is reflected in its increasing share of enrollments. In 1980 the public:private share of enrollments was 44:56 but by 1994 this had increased to 71:29.

25. Regarding the quality of pre-primary education, the major issues are the competence of teachers, and the adequacy of the curriculum and of teaching methods. Most teachers are not trained in early childhood development, and it is therefore questionable whether the majority are competent to handle the mental and social transformation that takes place in the early years of childhood. The curriculum tends to be rigid and applied in the classroom without adjustments to the local environment. There is a particular need to differentiate between urban and rural cultures and to reach the appropriate balance in teaching modern and traditional values in order to strengthen the Thai national character. There is a natural tendency for teaching methods to

emphasize reading and writing in pre-primary education. This reflects an early start to the rote learning tradition of Thai education and is encouraged by parents who are influenced by the need for their children to climb over the many hurdles in the education system. While some attention should be given to formal instruction in reading and writing, the major emphasis in pre-primary education should be on developing creativity and imagination and in securing the child's mental, emotional and social development. This is consistent with recent research on student achievement.[4] Using the 60th percentile as the passing level, research revealed that the majority of students did very well in physical development, about half of the students did satisfactorily on emotional and social development but only 30% did well on mental or intellectual development.

**Primary Education**

26. Thailand showed an early commitment to the education of its people with the introduction of four years of compulsory primary education in 1936. The present primary cycle is six years, and 94% of the age group was enrolled in 1994.[5] While this is an admirable achievement, there are nevertheless about 400,000 children who are not in school. These are mainly children who live in remote areas, who are handicapped or who migrate frequently. This is a hard-core group which has proved difficult to reach, and it will be a challenge to the Government to draw them into the formal education system, thereby achieving universal primary education. Retaining full enrollment for mainstream students should not be a problem since the 6-11 years age group population peaked in the early 1980s and has declined by an average of about 1.8% annually since then. This is taking pressure off the system. The internal efficiency of primary education is quite high with annual dropout and repetition rates averaging 1.5% and 3.3% respectively during 1989-94. In this period also, the retention rates for students improved from 80% in 1987 to 85% in 1994.

27. The quality of primary education, as reflected in student achievement levels, is widely regarded as being low in Thailand and not improving. In 1981, it was evident that grade 6 students' achievement level was unacceptably low in every learning area. Average scores ranged between 40-55% on tests for which 50% was considered the minimum standard. Mathematics achievement was the lowest of all with only 11% of the students having scores higher than 50%. A more recent assessment in the early 1990s confirmed that students scored unsatisfactorily in mathematics and science with the average score for mathematics declining from 58.9% in 1990 to 54.3% in 1992. On the other hand, a recent international study of 13 year olds' performance in math and science, Thailand ranked 20th and 21st respectively, which was ahead of many wealthier countries. Thailand's averages were 520 and 525 compared with the international average of 500.[6] It could be concluded

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[4] The Eighth Education Plan, NEC, 1996.

[5] See Annex 3, Table 1 for enrollment rates by education level.

[6] Third International Maths and Science Study, quoted in The Economist, March 29, 1997, p.21.

that perhaps the quality of education is not as low as some critics have assumed - but there is plenty of room for improvement.

**Secondary Education**

28. The expansion of lower secondary education, which has been attempted over the past three decades, had met with only moderate success up to the late 1980s but began to accelerate during the early 1990s. Major obstacles have been poverty and the high direct cost of education. Although near universal primary education was achieved in the early 1960s, schools were not built to extend secondary education to rural areas. Public resources were channeled towards improving the quality of primary education and expanding public higher education. The lack of investment at the secondary level during the 1980s resulted in a stagnant gross enrollment rate of around 30%, with almost half of all children finishing primary education dropping out of the school system. Furthermore, the lack of investment at this level led to an undereducated workforce so that by 1990, 83% of workers had only primary education or less.

29. Economic growth and structural change in the Thai economy, led by the private sector, has been rapid and extensive. Thai parents are fully aware that primary education is no longer sufficient for their children to secure gainful employment in today's competitive labor market. Lower secondary education has now become the minimum requirement.[7] The Government has responded to this demand by extending the basic education cycle from 6 to 9 years and focusing on raising the transition rate between grades 6 and 7. The expansion of enrollments has been accelerated through the introduction of financial incentives to reduce the cost burden on families and the use of excess physical facilities and teachers in primary schools, resulting from the declining school-age population. Rising household incomes resulting from economic growth have also lessened the pressure for children to earn income, thereby leading to increased demand for education. As a result, the enrollment rates for lower secondary education almost doubled from 34% to 63% between 1989 and 1994. The transition rate for lower secondary education increased from 47% to 85% during the same period and is expected to approach 100% in 1998. Similarly, the transition rate at the upper secondary level also increased considerably, from 80% in 1989 to 96% in 1994. As a result, the overall secondary enrollment rate also increased significantly, from 29% to 49% during the same period. An important outcome of these achievements has been a sizable decline in the child labor force participation rate, from 37% in 1990 to 20% in 1993.[8]

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[7] Sopchokchai, O. 1991, Three More Years in School: Parents' Opinion and Problems. Thailand Development Research Institute, November 1991.

[8] World Bank, 1996.

**Vocational and Technical Education**

30. Thailand has a large vocational and technical education (VTE) system with a complex structure covering a multiplicity of institutions, which offer programs at the secondary certificate, post-secondary diploma and bachelor's degree levels. There are also institutions which offer non-formal programs. Under the Ministry of Education (MOE), the Department of Vocational Education (DOVE) is the largest public provider of VTE. DOVE provides places for half of the total number of students enrolled in vocational schools in certificate and diploma programs. The Rajamangala Institute of Technology (RIT) offers certificate, diploma and B.Tech degree programs. RIT and DOVE together enroll about 55% of all VTE students with most of the remaining 45% enrolled in private institutions. The system has high internal efficiency and good completion rates (85-95%) with acceptable student/teacher ratios. The placement rates have been high in recent years, reflecting the robust demand for skilled workers.

31. The VTE system has shown flexibility in adjusting to labor market demand for skilled workers. This is reflected in enrollments in certificate programs which declined during the 1980s as the economy became sluggish and started to expand again as the economy picked up later in the decade. Enrollments declined from 434,400 in 1982 to 334,800 in 1988 but had risen again to 582,700 by 1995. Placement rates, which were as low as 50% in the mid-1980s, had climbed to nearly 90% by 1995. By the mid-1980s the oversupply problem was fully recognized and the Sixth Plan called for reduced enrollments in the fields of excess supply and expansion in areas of high demand. The Plan also called for the development of labor market information systems at every level from institutional, provincial, regional and national levels. Quality improvement was strongly emphasized. The need to improve the transferability of the non-formal and formal programs was stressed. However, during the early period of the Sixth Plan, the economy began to recover from the recession and the economic growth rate began to rise sharply. This resulted in an increasing demand for vocational graduates.

32. The quality of VTE and student achievement has been challenged. A recent study[9] found that certificate graduates lacked sufficient technical skills and self-discipline. They also had low writing and reading abilities. At the diploma level, graduates had some technical knowledge relevant to their work but lacked foreign language skills (English), and writing ability. At this level, too much emphasis was given to the theoretical part of the curriculum at the expense of the practical part. Curricula are not sufficiently diversified or flexible enough to respond effectively to local employment demand. Shortages of technical teachers, facilities, and equipment are the main constraints to improving quality and efficiency. Special teacher training courses for vocational certificate holders have been developed to ease the problem. However, better incentives need to be developed to ensure that the VTE system can retain these trained teachers. Evidence of inadequate quality

[9] Kitti Lamaskul et al, in Sumalee Pitayanonda, Human Resources Economics: Education and Training in Thailand, 1996.

parallels high employment rates for VTE graduates. This is a reflection of high growth rates over the last decade when a tight labor market would quickly absorb anyone with skill training, irrespective of its quality. This situation will not last indefinitely and urgent attention needs to be given to the quality of training so that skills will be adequate to support long term growth and will continue to be in demand even in a softer labor market.[10]

**Non-Formal Education**

33. Thailand has built up a solid reputation in non-formal education (NFE) starting with the first national literacy campaign in 1938 (when the adult literacy rate was only about 31%). With the literacy rate currently around 95%, NFE has now become a diversified further education program encompassing general and vocational education, which provides opportunities for out-of-school youth and adults to raise their levels of general education and acquire or upgrade skills relevant to the labor market. The success of the NFE system is reflected in the rapid rise in enrollments in recent years - from 986,000 in 1991 to 3,569,000 in 1995. Students are accommodated in a network of 830 NFE centers at the local level supported by provincial and regional centers.

34. Within the rapidly expanding NFE system, the most spectacular area of growth has been distance education where enrollments have increased six times during 1991-95 and now number 2,137,000. Students study to gain primary, lower secondary and upper secondary accreditation through the use of television, radio, textbooks and group meetings. About 60% of distance students are studying to complete lower secondary education and 85% of these are in the 14-35 age group. Thus, NFE is providing a second chance to a large number of individuals who did not go beyond primary schooling in the days when places in lower secondary were limited. At the upper secondary level, enrollments were 511,000 in 1995 which again were concentrated in the 14-35 age group (88%). There is also increasing mobility at this level in terms of numbers of graduates moving on to university studies. Of the 60,100 students completing the upper secondary program in 1995, 10,950 or 18% enrolled in a university. This is more than double the number (4,540) doing so in 1992.

**Higher Education**

35. In the past, the development of Thailand's **universities** has been driven by the need to meet the demand for high level manpower created by an expanding economy and also to satisfy the social demand for higher education among a population increasingly aware of the financial benefits conferred by a university degree. This has led to rapid growth in the establishment of universities, both public and private. With a well established infrastructure in place, policy has shifted to include emphasis on quality, efficiency and equality of opportunity. Within this framework, universities are expected to become more autonomous

[10] There has already been some softening of the labor market. Layoffs in the textile and electronics industries are increasing and the Ministry of Labor has set up a "coordination center" to ease unemployment problems. Bangkok Post, July 10, 1997; The Nation, August 19, 1997.

in their management, quality will be raised through upgrading academic staff and modernizing curricula, cost recovery will be increased and student loans introduced, admissions procedures improved, etc. These policies are being pursued in the Long Range Plan for Higher Education 1990-2004.

36. Enrollment in the public university sector is dominated by the two open/distance universities, which in 1996 accounted for 525,000 students or 72% of total public university enrollments of 731,000. Enrollment in the open universities has remained fairly steady in recent years following a rapid build up in the 1970s, which helped to satisfy unmet demand for higher education. In contrast, enrollment in the closed admission public universities has shown solid growth, expanding from 136,000 in 1984 to nearly 202,000 in 1996. In 1996, about 81% of total university enrollments of 905,000 were in public institutions. However, in the closed universities, private institutions play a much greater role accounting for 46% of enrollments or 173,800 out of 375,800. Private universities have been permitted (under 1969 legislation)[11] as a way to expand higher educational opportunities without imposing an excessive burden on public budgets. Six private institutions existed in 1970 and the number has grown to 35. The university system is largely an undergraduate one with only 54,000 post-graduate students. This represents only 6% of total enrollments (although it represents 22% of enrollments in the closed universities).

37. A second important part of the higher education system is the **Rajabhat Institutes** (RIs), which were formerly teacher training colleges. When the latter started to produce a surplus of teachers in the early 1980s, the Government directed the colleges to diversify their curricula to offer bachelor's degrees in fields other than education.[12] The range of programs would be determined by the needs of the local labor market. In 1995, the RIs were allowed to widen their range of programs without restriction and to offer higher degrees. In 1995, total (including part time) enrollment in the system was 306,600 concentrated in management (39%), education (33%), science and technology (16%), and social sciences (9%). The 36 RIs represent a regional network which offers higher education over a wide geographical area. Entry is easier than to the more selective universities and therefore the RI system makes a major contribution to improving the equity of access to higher education.

[11] The Private College Act of 1969 permitted the establishment of private colleges. This Act was later revised as the Private Higher Education Act of 1979, which allowed private colleges to become universities.

[12] The over-supply of trained teachers in the 1980s led to reductions in enrollments in teacher education programs. However, with the acceleration of enrollments in secondary education in the 1990s, teacher shortages are again becoming a reality, particularly in difficult areas such as science, mathematics and foreign languages (especially English, which is to become compulsory from first grade).

## III. MAIN ISSUES

38. The policy record shows that Thailand has made substantial progress in expanding access to education at all levels. At the same time, there has been strong recognition that expansion must be accompanied by quality improvement. If the ultimate goal is to achieve a cost-effective, well-managed education system relevant to the skill needs of the economy and to the broader needs of the country's overall development, a number of issues must be addressed. These are not new and indeed, in most instances, there are policies in place that are attempting (at least partially) to address them. The main issues are outlined below.

### A. Quality

39. The fundamentals of quality in education are relevant curricula, effectively taught. The expanding literature on quality improvement[13] shows that while there is some variability in research results, there is a general consensus on the inputs necessary to raise education quality. Building quality is a complex process that involves combining a number of elements - flexible curricula supported by appropriate learning materials and educational technology, well-trained teachers and an effective mechanism for evaluating student achievement. From a policy perspective, measures to improve the quality of education must give priority to the inputs that make a difference in the learning process. Therefore, policy interventions must target improvements in: (i) teacher preparation; (ii) curriculum design; (iii) educational technology and instructional materials; and (iv) teaching methods and assessment.

#### Teacher Preparation

40. **Preservice Teacher Education.** Better teaching leads to better learning and, therefore, the single most important input in raising the standard of education is the quality of the teachers. It is generally accepted that Thai teachers are dedicated and loyal to their profession but despite a relatively high level of formal pre-service education, many lack a strong foundation in their subject areas. Teachers' subject knowledge is strongly related to student performance[14] and therefore the role of RIs in improving the

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[13] See for example: Heyneman, S., Improving the Quality of Education in Developing Countries, Finance and Development 20(1), IMF/World Bank, March 1983. Fuller, B., Raising School Quality in Developing Countries: What Investments Boost Learning?, World Bank Discussion Papers, No. 2, November 1986. Verspoor, A., Pathways to Change: Improving the Quality of Education in Development Countries, World Bank Discussion Papers, No. 53, May 1989. Avalos, B., Teacher Training in Developing Countries: Lessons from Research, EDI, 1993; Farrell, J., International Lessons in School Effectiveness: The View from the Developing World, in "Teachers in Developing Countries", EDI, World Bank, March 1993. Ware, S., The Education of Secondary Science Teachers in Developing Countries, PHREE/92/68, World Bank, December 1992.

[14] Lockheed M., Verspoor A., et al, Improving Primary Education in Developing Countries, World Bank, 1991, Chapter 4.

quality of pre-service teacher education is critical. The quality of teacher preparation is an issue within the 36 RIs. There is an urgent need to upgrade both the academic and physical endowments of these institutions. Concerns have been expressed relating to: the quality of graduates, shortage of academic staff, uptake of overseas fellowships and interest in teaching as a career.

41. *Quality of graduates.* The teaching profession in Thailand does not command high prestige and therefore the better quality high school graduates do not seek entry to the RIs. In addition, the existing structure of the RI programs limits the number of credit semester hours devoted to major subjects in the B. Ed. degree and therefore graduates lack full mastery of the subjects they are required to teach. The percentage of the course devoted to the major teaching subjects, which is around 45-50%, is considered low by international standards for pre-service teacher training courses. In many countries, trainees are required to complete a bachelor degree in the arts, economics or science faculties, and then pursue a one year bachelor or diploma course in teacher education, with specialization in at least two subjects. In these programs, at least 75% of the course time is devoted to the major teaching subject and requisite technical subjects. In universities where four year B.Ed. programs are offered, the percentage of course work on teaching subjects is 60-75%. The curriculum for a major not only requires greater depth in the discipline studies, but also needs new inputs integrating knowledge and skills in using databases and information technologies, including the Internet, as part of courses.

42. *Staffing.* Staff qualifications in the RIs are inadequate, with less than 5% of academic staff having doctorates while a further 60% have masters. Many of these degrees are outdated, and therefore upgrading of college staff is vital to quality improvement. The shortage of qualified teaching staff is particularly evident in key subjects such as English, mathematics and the sciences. Teaching staff often have heavy teaching loads - up to 24 hours per week is not uncommon. The effort to upgrade academic staff and address staff shortages through the award of overseas fellowships has not been particularly successful in recent years. Around 160 awards remain available for 1997. In the past, RI fellowships attracted high quality graduates from the leading universities. However, it is increasingly the case that the private sector's job entry offers provide built-in academic or technological upgrading programs, which are more attractive to graduates, especially those in science and engineering. Quality graduates are no longer interested in entering into scholarship contracts which bond them for 6 to 8 years in the relatively low paid teaching profession. Currently, few overseas fellowship awards go to RI graduates because of their low English language proficiency. Efforts should be made to recruit RI graduates for fellowships after a few years of successful classroom teaching. The fellowships should be offered in-country at local universities, with possibly one or two semesters spent overseas through twinning arrangements. Special English language training should also be provided.

43. *Interest in teaching* as a career, although low in general, varies among regions and can be seen from the enrollment patterns in the different faculties of the various RIs. In

regions with rapid industrial growth, market demand for technical graduates attracts freshmen with science and mathematics abilities to the science and technology faculties and away from the science education courses. In the North and Northeast regions where private sector demand for technical manpower is still relatively low, RIs' education faculties can still meet their enrollment quotas. However, signs are growing of a flight away from entering teacher education faculties. Again in the Northeast, associate degree holders now prefer to enroll in business and commerce courses rather than complete their major in education. Local business communities are supporting this move as more RI teaching staff in business courses are drawn from businesses on a part-time basis. With potential job opportunities in the private sector, the prospects of a career in teaching become less attractive.

44. **Inservice Training.** The recent education reform program has given high priority to in-service training (para. 19). This training is delivered by supervisors and master teachers attached to the Office of the National Primary Education Commission (ONPEC) and the Department of General Education (DGE). On average, both ONPEC and DGE have about one supervisor for every 100 teachers but there is a shortage of supervisors in mathematics, physics, chemistry, biology and computer education. ONPEC and DGE use subject-specialist teachers as co-supervisors or master teachers to conduct in-service programs. This policy recognizes outstanding teachers and their availability helps to augment scarce manpower resources. The training of the master teachers is carried out in specialized training workshops. This approach ensures a more efficient and rapid dissemination of new ideas and teaching support materials. However, the process needs careful on-going evaluation and effective consultation between the faculty presenting the training workshops and the master teachers involving follow-up advisory visits during in-service courses conducted by the master teachers.

45. The Rajabhat Institutes provide the bulk of inservice teacher training; and they are well distributed across the country, thus, providing good access to a large number of teachers. However, one weakness in this approach is that half of the RIs do not offer pre-service science education courses in the B.Ed. programs. Their unfamiliarity with the upper secondary science curricula makes them less effective in offering the in-service courses at this level. This is balanced to some extent by the Institute for the Promotion of Science Teaching (IPST), which has become one of the major players in the in-service master teacher training programs for ONPEC and DGE in science and mathematics. The IPST programs are well prepared and designed to stimulate master teachers in their follow-up in-service. IPST has built up a stock of master teachers over the years. Some have been promoted to supervisors, many are used as co-supervisors to support the technical activities of supervisors, and most continue to contribute in the provincial DGE and ONPEC in-service programs. The success of these courses should be based on the classroom evaluation of participants' performance by IPST staff in the follow-up activity to the in-service courses. Experience indicates that the courses which are most successful in producing change in a teacher's classroom performance are those that follow an intensive full-time program with school visits by in-service instructors to discuss any problems and constraints that a teacher encounters in implementing the new ideas.

**Curriculum Design**

46. Although Thai education is highly centralized and the curricula at all levels must be approved by the Department of Curriculum and Instructional Development (DCID), provision exists for schools to develop part of the curriculum and related instructional aids appropriate to the needs of the students and the local communities. This provision is seriously enforced in all the 850 ONPEC district offices. A high proportion of the *primary curriculum* is devoted to practical work experiences and basic knowledge for career preparation as well as knowledge and understanding about social conditions and changes at home and in the community.

47. Flexibility in the curriculum is introduced in grades 5 and 6, where activities based on the student's interests or further studies of any of the other areas may be chosen. The degree to which the flexibility is implemented depends on the abilities of the staff to provide the desired options. Where the grades are restricted to a single class teacher, these options will be limited. The demand for more tailoring of the curriculum to meet the students' needs is a strong argument for more specialist teachers for grades 5 and 6 in primary schools. This need is being met more satisfactorily in the ONPEC extension schools where the grade 7 to 9 subject area teachers are able to meet the demand for the extra courses.

48. With the transition rate from primary to lower secondary approaching 100%, students leaving school after completing the primary cycle are a rapidly diminishing group. Thus the period of one and a half hours per day devoted to work-oriented experience is becoming redundant and more teaching time should be given to strengthening the basic educational skills needed for further education. To the extent that there are still some primary school leavers, most employers would prefer to recruit them with strong numeracy and literacy skills than with work experience that is unlikely to be related to actual job requirements. Urgent attention is needed to update the basic areas of learning in the primary curriculum with greater emphasis on the environmental social, cultural and subject grouping.

49. The *lower secondary curriculum* also encourages local development and inputs. The curriculum distinguishes Thai language and social studies from the other compulsory core subjects by making a pass in these subjects a requirement for the award of the lower secondary certificate. Compulsory science is taught in 3 periods per week for the 3 grades, but mathematics is compulsory for 3 periods per week only for grades 7 and 8. The elective options can be taken in any one of the five areas of study, one of which is foreign language. At this level, mathematics can be dropped at the end of grade 8. This is too early when compared with other countries where mathematics is terminated only at the end of grade 9, which is considered to be the minimum level for job-entry of early school leavers.

50. The compulsory two periods per week of work-oriented education for 3 years is again open to question. With a transition rate from lower to upper secondary of nearly

100%, there are few students who would benefit from this course, particularly when 10 to 13 periods per week of vocational subjects are also offered in each grade as options. These two periods of work-oriented education could be used more productively to strengthen the compulsory core subjects of Thai language, mathematics and science.

51. The *upper secondary curriculum* provides reasonable coverage of vocational studies and adequate flexibility for local authorities to adjust curricula to local needs. In the three year upper secondary school, vocationally-oriented education is one of the compulsory electives which are offered 2 periods per week over the 3 years of the program, and vocational education is one of the five free electives from which 15 periods per week must be chosen. The extent to which the free electives are offered by a school will depend on the school's academic emphasis, the availability of specialist teachers, and in some cases, on-the-job opportunities and the support of local industries.

52. **Curriculum Reform.** Curricular changes in centralized education systems as large as ONPEC or DGE are expensive as they involve major rewrites of textbooks and support materials as well as large in-service training programs. Nevertheless, the present curricula, which were revised in 1990, were developed in 1978 and reflect the teaching emphases and approaches of the mid-seventies. The real needs for revision of the 1990 curricula arise from the need to introduce more variety in teaching and learning methods and the need to incorporate the new methods of accessing information through the rapid development of educational technology. Pre-service and in-service teacher education should precede school curricular change, so that the process of changing the curricula becomes the major experiential tool in the teacher training. If this is to occur then the key stages for the introduction of information technology into the curricula from grade 1 to 12 must be agreed upon as soon as possible to provide the framework for the development of teacher education.

**Educational Technology**

53. While education authorities in Thailand recognize the role of information technology (IT) and education technology (ET) in raising the quality of education, no coherent policy currently exists in these areas. Hardware procurement and distribution and software development and selection are inter-related, and if they proceed without well defined objectives, budgetary resources are sure to be wasted. The national policy should define minimum standards of technology provision for schools and specify the implementation policy necessary to achieve these standards. The introduction of educational technology is expensive and mistakes are likely to be costly. Box 2 outlines some strategies for cost reduction. Monitoring and assessment mechanisms should be established to assess the impact of technology on education and, in the interest of equity, to ensure that all schools meet the required standards.

**Box 2: Strategies for Reducing the Cost of Education Technology**

There are a number of ways that countries or school systems can improve the benefits and reduce the costs of education technology. The main strategy for reducing costs involves efforts to reduce the main cost elements: hardware, software, and teacher training.

***Hardware and Software.*** Given the large costs of facilities, equipment and software, it is clear that effective deployment, procurement practices, and payment arrangements are very important for cost reduction. Trade restrictions and other practices that prevent buyers from obtaining the best international prices are counterproductive. Buyers should also attempt to exploit any tax exemptions that are available. Even pilot projects should attempt to negotiate 'best' prices with vendors, on the argument that more sales will be likely in the future.

***Computer Deployment in Schools.*** For most countries initiating information technology in education, the preferred option for deploying computers and related hardware has been to place them in computer labs or teaching resource centers. With the exception of Chile, which has many small rural schools with only a few computers each, schools in other countries have some 15-20 computers in each lab. The lab option has two strong arguments in favor of it. The first is that computers in labs usually provide greater access to students at more affordable prices than do computers in classrooms. Second, schools can more easily protect computers from theft and vandalism. Despite the almost exclusive preference for deploying computers in labs, this may not be most effective in all cases. The deployment of inexpensive and communication-ready portable computers in classrooms could prove to be a more effective and educationally advantageous option. The portability of laptop/notebook computers allows their collection at night in secure rooms, and their use should, therefore, be investigated.

***Market Knowledge.*** Superior market knowledge will have an important role in cost reduction, especially as the computer market becomes more differentiated. The ability to use low-end hardware will also depend on the development of the software market. The recent explosion of educational software for low-end machines will support the continued use of low-price software on cheaper low-end machines. The key issues for buyers will be to gain market knowledge of the opportunities in the more differentiated market. Retaining a high-priced international consultant may result in greater savings in this market than relying on vendor information. The consultant's specialized knowledge might include knowledge of computers that did not require air conditioning and special protection against dust, resulting in facilities saving; a sound understanding of cost-effective software options, could result in software savings.

***Effective Procurement Procedures.*** Effective procurement practices are very important for cost reduction. The world market for computer technology and software is highly competitive and offers countries and school districts opportunities for obtaining benefits from competition. Computer manufacturers wishing to penetrate markets for longer-term sales prospects are often willing to offer lower prices. For this reason, international competitive bidding procedures, will provide better prices than more limited local competition or direct purchasing. Likewise, procurement of equipment and services in bulk will produce economies of scale and consequent price benefits.

***Leasing vs. Purchase.*** National governments and local school districts can obtain help from some of the large computer manufacturers in putting together suitable packages for leasing or purchasing computer hardware and software. This often results in cost reductions when all maintenance, insurance, technical assistance and training costs are considered. Negotiating a lease is sometimes complicated by the fact that governments have to commit in advance annual contributions from their recurrent budgets to pay the leases, and that is difficult for governments to arrange. On the other hand, leases have the distinct advantage that the companies retain ownership of the computers, which obligates them to obtain insurance on their computers and to make repairs in the event of breakdown. Secondly, upon termination of the lease, the government is free to buy the equipment or return it to the seller and obtain upgrades. In an

industry where there is constant improvement in technology, being able to return equipment to the manufacturer has its distinct advantages.

***Efficient Usage of Equipment.*** Saving resources on the cost of hardware and software is only half the battle. Reducing the cost per student contact hour by maximizing usage is the other half. This will mean careful attention to efficient scheduling by school principals and ministry officials, so that computers are continuously in use by children during and, in many cases, outside school hours.

***Training and Teacher Support.*** It has been shown that schools in which exemplary computer-using teachers work provide a strong network linking colleagues in the sharing of computer knowledge. The network requires not only effective school leadership but also an allocation of time when teachers can interact with each other outside the classroom. Doing so uses significant resources, but rather than viewing training and support activities as a source of savings, the approach may be to use savings on hardware, software and personnel to augment teacher training.

***Interaction of Training with Cost Reduction Opportunities.*** It will also be necessary to have effectively trained teachers in order to obtain the savings in these cost categories. Having trained teachers will help to maximize the utilization of the hardware. Effective and committed teachers will be even more essential in maximizing the educational effectiveness and the cost-effectiveness of technology applications.

***Piloting Innovations***. One useful strategy for identifying cost reduction possibilities as well as efficiencies, is to undertake pilot programs before launching large-scale initiatives. However, education policy makers and administrators are often reluctant to undertake pilot projects because they may prove difficult to replicate on a larger scale. Nonetheless, Chile has demonstrated the value of pilot projects in planning its national computer network project, Enlaces. During the past three years, Enlaces gained valuable experience, growing from an initial 14 schools to over 200 primary and secondary schools nationwide. The pilot phase has helped to define hardware and software requirements, cost effective training solutions, and overall operating expenses of the network. While Enlaces is now a program of national scope, it continues to pilot different approaches such as the use of the Internet and the World Wide Web in selected schools.

Source: Potashnik and Adkins. Experience from Developing Countries. World Bank, 1996 Cost Analysis of Information Technology Projects in Education:

54. In spite of the absence of a national policy on IT and ET, large-scale programs to provide computers and accessories such as digital video and CD ROM to primary and secondary schools are underway. A direct land line will connect regional stations in a *national network.* Land-lines link three regional stations to the Internet through the Bangkok hub. The network is designed to provide each center station with an Intranet access to the provincial and district offices, and the schools. Funding for the national hub, the land line connections and the regional stations' hardware was allocated in the 1996/97 budget, and the regional Intranet hook-up and hardware is planned to be completed in 1997/98.

55. For almost ten years, secondary schools have conducted computer literacy programs as optional curricular electives. There are 8 courses available - introductory courses in lower secondary schools and more advanced ones at the upper secondary level. The existing curricula were developed and master teachers trained by IPST. Many schools have been able to procure computers and build computer laboratories. DCID and

DGE have ensured that curricula were in place for the major distribution of computers to the schools, but these curricula focused more on computer literacy than on computer assisted learning or information technology. Most computers are out-dated and not adaptable to IT software or CD-ROM players. However, they are still useful for basic computer literacy courses such as word processing, spread-sheet, principles of data base and key-board skills.

56. The spread of computer technology in the classroom raises the question of how computers will be used by students. Computer use in the classroom in different countries reflects the quality of the curriculum and the ability of the teachers to provide computer-based instruction which require high order thinking. It is essential that a computer education specialist be appointed to each school in which a computer room exists or is to be established. At present, many schools with computer rooms have teachers in charge of computer activities. Some inservice training is available but many teachers are self-taught. In most cases it is difficult for teachers to keep up with changing technology. Training should be formalized and special programs developed, possibly in IPST. Regular inservice training will be necessary to keep the computer specialists abreast of changes in hardware and software. Other teachers who will be expected to use the computer room must receive intensive training in computer class teaching and management and in subject specific applications of IT and computers. The computer specialist should be made responsible for the management, operation and maintenance of the computers and should provide technical assistance to other teachers when IT tools are specified for use in the curriculum.

**Instructional Materials**

57. DCID has institutionalized textbook production within the MOE in its Book Development Center (BDC). The BDC exercises a monopoly over the development and publishing of textbooks and support materials for primary and secondary schools. It is also involved in the development of instructional materials for teachers and educators. At the primary level, all textbooks, except for English language and some learning materials, are produced by the BDC. At the lower and upper secondary levels, the BDC monopoly is retained for core subjects. Private publishers are permitted, with MOE's approval, to provide textbooks, teachers' guides and other learning materials for the elective subjects and nine foreign languages, including English. MOE currently has an effective review mechanism for textbooks and other teaching and learning materials, both for the BDC and private publishers. A sample review of recent publications from both sources found them to be satisfactory in terms of print and paper quality, art work, use of multicolor formats and attention to learner motivation. There is growing pressure from private publishers for the BDC to relax more of its restrictions on private textbook production. As long as MOE has effective quality assurance procedures in place, privatization of the textbook and materials market should proceed without delay. Competition within the private market should also be encouraged to ensure higher quality and lower prices in the long term.

58. Textbooks and access to well stocked libraries are key determinants of effective learning. In the secondary schools it is important for students to have personal copies of textbooks and ready access to a well stocked school library. Many schools meet this requirement. But many schools also are limited to a textbook loan system in which the textbook is shared between two students and normally kept in the school, although limited overnight borrowing might be possible. This problem is often exacerbated by inadequate school libraries. These circumstances do not encourage self learning and make it difficult for teachers to develop a student centered learning approach in the classroom.

**Teaching Methods and Assessment**

59. It is widely recognized in Thailand that classroom teaching is dominated by an examination culture. Traditionally, exams pose a series of hurdles for students as they make their way through the education system. The need to pass exams reinforces a tradition of rote learning. The development of analytical skills and problem solving capabilities have lost out to memorization of facts.[15] This has been particularly true in science subjects. The practical activities involving investigative and problem solving exercises that were introduced in the mid-1970s have largely disappeared from upper secondary schools in recent years, despite twenty years of IPST teacher training effort in which laboratory manuals and suitable science equipment were designed and supplied to schools for hands-on student-based learning. This change has not taken place because teachers have not directed the learning of science knowledge and skills through laboratory based exercises, but rather from the university entrance examination system, which encourages students to memorize work. Since students are tested on the basis of how much they memorize, most ignore the practical work.[16] As a result, no emphasis is being placed on scientific thinking, independent experimentation and activities outside the classroom because these factors are not assessed in the entrance examination.

60. However there are prospects for change. As transition rates from primary to lower secondary and lower to upper secondary reach 100%, the grade 6 and grade 9 exams, which are used to select students for the higher grades, will become redundant - everyone moves up and continuous assessment takes the place of exams. However in practice, the policy of abolishing promotional exams, especially those for entering secondary schools has proved contentious. From 1996, entrants to grade 7 were to be drawn from the secondary schools' neighborhoods. This drew opposition from affluent parents of high performing students who wanted to ensure the continued entry of their children to high prestige secondary schools. After much debate, a compromise has been introduced which offers several options combining exams, neighborhood/district

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[15] The tradition of rote learning has its roots in the temple schools where the monk was teacher and authority figure and learning comprised the mastery of religious texts, which students were required to learn by heart.

[16] Academics give low marks for classroom science, Bangkok Post, November 20, 1995.

residence, and quotas for gifted and other special groups.[17] This compromise reflects current political realties but only delays the desirable outcome when students will be drawn entirely from schools' neighborhoods or "districts" (as in the United States).

61. But at the apex of the system, the university entrance exam still retains its hold on how and what students are taught in the classroom. School quality and the reputation of individual schools are determined by the number of students gaining university entrance each year. Success in the entrance examination is of such importance to a student's future that parents often insist that the teachers do not deviate from the examination curriculum. There is a need for the Ministry of University Affairs (MUA), which controls the university entrance examination, to move away for this type of selection mechanism. MUA should work with MOE to introduce into the criteria for university entrance a measure of the qualities desired in their freshmen students.[18] It has succeeded in other places, notably the United States, where a range of academic, social and personal attributes are used in the university selection process. The broadening of selection criteria is also being achieved in Germany, Scotland, England, Singapore and Australia.

62. Some progress is also being made in Thailand. A debate is underway on acceptance by the universities of the DCID's student grade point average (GPA) as a component to combine with the entrance examination raw mark to obtain a composite university entrance score; this would take some account of the student's school record for grades 10 to 12. The universities' concerns relate to both the percentage of the composite for the GPA and the validity and reliability of the DCID's standardization of the quality of teaching and evaluation methods. One problem is that DCID intends to introduce only multiple choice questions in the national tests to determine the GPA. There are some reservations as to the effect of this testing, and its impact on teaching and learning, as there are many learning outcomes that cannot be measured satisfactorily such as scientific skills, stepwise logical argument and scientific and language literacy.

## B. Access and Equity

### Primary and Secondary Education

63. Expanding access to education has been a major goal of the Thai Government for the past four decades, reflecting the broad recognition of education's contribution to economic development and social advancement. This strong commitment to equity has led to notable achievements such as near universal access to primary education, high female enrollment rates, acceptable student/teacher ratios at all levels, increasing private

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[17] The Nation, January 28, 1997

[18] It is reasonable to assume that the university entrance exam will remain a key component of university selection. Since the exam has a powerful influence on how and what students are taught in the classroom, a restructuring of the exam to test analytical abilities rather than fact regurgitation will reinforce change in a similar direction in the classroom.

educational provision, innovative outreach programs and effective nonformal education programs. Yet, for children from poor rural families, the chance of progressing up the educational ladder is still lower than for their urban counterparts. Enrollment trends at different levels of education show that despite the impressive achievements recorded to date, major challenges lie ahead if the less privileged are to gain equal benefit from the educational system.

64. **The Challenges.** The gross enrollment rate at the *pre-primary* level increased slowly from 4% to 8% during the 1970s. During the 1980s, the Government became increasingly concerned about the rising gap in access to education between urban and rural areas. This concern led to greater public provision of pre-primary education which increased the enrollment rate from to 35% in 1989 to 78% in 1996. Continuous commitment from the Government is expected to bring the enrollment rate at this level to 90% by the end of the Eighth Plan in 2001. Despite these efforts, *1.2 million children age 3-5 still have no access to pre-primary education.*

65. At the *primary level*, the enrollment rate declined between 1982 and 1994 from almost 100% to 94%. This trend reflects the declining number of over-age students enrolled and a higher number of repeaters. The overall primary retention rate increased progressively from 80% in 1987 to 85% in 1994. For the 400,000 primary school age children who are not in school, many are working and the remainder either live in remote areas, are handicapped, migrate frequently or belong to minority groups. The key issue here is to stop the declining enrollment rate and get the 400,000 children into school. The success of this effort, however, may be restrained by quality variation among primary schools. This variation in turn has an impact on retention, continuation rates and success in secondary schools.

66. It is at the *secondary* level where the issue of access and equity is most pronounced and where significant public attention and resources are required to increase coverage and promote equity. As noted previously (para. 28), expansion of secondary education was slow through the 1980s but had started to respond vigorously by the end of the decade as incentives to raise the demand for education started to take effect. In addition two other effects helped to raise secondary enrollments. ***First,*** rising household incomes resulting from economic growth have lessened the pressure for children to earn income and increased educational demand, thus raising secondary enrollment rates. This demand can also be seen as an important factor contributing to migration to Bangkok where schools are of higher quality. A recent survey has shown that 47% of those who had migrated indicated that the better quality of education found in Bangkok strongly influenced their decision to move.[19] ***Second***, successful family planning policies which led to a corresponding decline in fertility have brought about a fall in primary school

[19] Chareonwongsak, Kriengsak, Suksit of 21st Century: View on Thai Education Reform, 1996.

enrollment.[20] Between 1989-1995, primary enrollment declined by about 10%, allowing many existing primary school facilities to be converted to lower secondary classes to accommodate the 70% enrollment increase at this level. This approach increases rural access to lower secondary education in a cost effective way.

67. *Gender disparities* are not considered to be an issue in Thailand - females participate equally at all levels of education. However, *regional disparities* in school enrollment rates exist at all levels. In 1985, children in urban areas were three times more likely to attend *pre-primary* schools than those in rural areas. By 1992, the situation had improved but the enrollment rates for the Central region were still higher than those of the Northeast, 56% versus 38%.[21] At the *primary level*, the issue of disparities relates more to regional differences in the quality of primary schools. Quality differences among individual schools are, however, much greater than regional differences because the regional results take into account the averages of students in all schools within the region. The issue of accessibility and equity is more pronounced at the *secondary level.* Enrollment rates are higher in Bangkok than in other parts of the country, higher in urban areas than in rural, and lower in those districts where ethnic groups account for a higher percentage of the population. One of the most important determinants of school enrollment at this level is the proximity to schools. Since secondary schools are readily accessible in urban areas, urban children are more likely to attend than rural children. The transition from grade 6 to grade 7 is also critical and differences still exist across regions. But as the overall transition rate approaches 100%, regional differences will disappear in due course. The challenge for the future will be to ensure that the retention rates in the poorer provinces do not fall below those in the richer ones and that uniformity of quality is achieved and sustained in all provinces.

68. **The On-going Efforts.** The Government has made concerted efforts to address the equity issue not merely from the educational perspective but also for the longer term contribution that expanded enrollment will make to improving income distribution. Government agencies and the NGOs, non-educational agencies, and local communities have contributed and cooperation among these groups has led to the success of many innovative outreach programs and accelerated the participation of the poor in education. Much of the provision is reaching out successfully to target groups nationwide, but there remain pockets of poverty which continue to demand attention.

69. ***Supply-side*** interventions, which include expanded access through classroom construction, better transport infrastructure and accelerated teacher training, have benefited the rural poor. With primary education available on a near universal scale, the issue of accessibility and equity is more pronounced at the secondary level. One of the

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[20] During the 1980s, the growth rate of the school-age population was low in most East Asian countries, particularly in Korea, Singapore and Thailand. The rate was so low in these three countries that the absolute number of school children declined.

[21] NEC data.

most important determinants of school enrollment at this level is the proximity to schools and this favors urban children. To increase access, more schools were constructed in the provinces during the *Fourth Plan* (1977-1981), and on average there were 18 public secondary schools in every province by the end of the Plan. The *Sixth Plan* (1987-1991) brought about a concerted Government effort to increase the coverage of lower secondary education and to encourage rural children to remain in school. In 1987, DGE initiated a project to establish 718 schools in 38 economically disadvantaged provinces and selected rural areas.

70. DGE's effort was further supported by ONPEC's lower secondary expansion program during the *Seventh Plan* (1992-96) which provides the three-year lower secondary education cycle in existing rural primary schools. The ONPEC extension schools follow the DGE curriculum but also place special emphasis on vocational and technical skills to prepare students for local employment. In 1996, there were 5,321 such schools, enrolling 718,335 students. An evaluation of the pilot project[22] by the National Education Commission (NEC) reported that the project was successful in increasing lower secondary coverage, and by having schools within walking distance, educational costs for families were reduced because they no longer had to provide sizable amounts of financial support to send children to secondary schools in the cities.

71. Cutting across primary, secondary and vocational education is the rapid expansion of places in the non-formal education system. There are now over 3.5 million students studying to upgrade their levels of general education or to acquire vocational skills for the labor market. NFE is providing many opportunities for those who had to cut short their education and since they are likely to be drawn predominantly from lower income groups, NFE has an important equity dimension. Equity could be improved through efforts to get more of the older population enrolled in NFE. Of the 2.5 million people enrolled in general education courses, only 15% are in the over 36 years age bracket.

72. Another important approach to expanding the supply of educational places is through the encouragement of private institutions. The private sector has been encouraged to compete with public educational institutions at all levels, and the outcome has been particularly successful in the colleges and universities, and in vocational and technical education. This encouragement has fluctuated. In the 1930s, the expansion of private schools was supported by the Government as a means to share the burden of providing education, thus alleviating the growth of Government expenditure on education. It enabled the Government to release public educational resources from urban areas for use in rural areas, thus increasing equity. But the Government's priority for achieving universal primary education by the 1960s, thrust the public sector forward at the expense of private institutions. In secondary education, fees were controlled in

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[22] A series of interviews and workshops (consisting of 116 villagers, 90 % of whom are farmers) were conducted in small villages of the Northeast. In half of these villages, the ONPEC lower secondary extension program was underway.

private institutions as a means to ensure that private education was affordable to middle class students in areas where there was inadequate provision of public secondary education. Fee control reduced the financial viability of private schools and their share of the market declined.

73. The potential of the private sector was again recognized with the passage of the Private College Act in 1969 and the Private Higher Education Act in 1979 to encourage the growth of private higher education. The *Eighth Plan* also calls for stronger private sector involvement in educational provision. This potentially promotes competition between and among private and public schools, thus providing greater consumer choice. It is anticipated that as more private schools are established in the urban areas, more public resources would be available to expand schooling access to rural children in the form of targeted subsidies and improving the quality of rural primary and secondary schools.

74. Various subsidy schemes have been initiated to encourage greater private participation in educational provision. Private individuals who open educational institutions, are permitted to withdraw 30% of the profits from the operation each year *on a tax-free basis*.[23] For those who do not take out profits, the benefits may consist of other perquisites such as preferential access to salaried or honorific positions in the institution, which they can fill personally or channel to relatives and friends. A revolving fund (capitalized at B500 million with an interest rate of 4%), is available for the development of physical facilities in *existing* institutions. In addition, the Government initiated a financial package in 1995, which made available B26.5 billion for human resources development and opening new schooling opportunities for the poor. Under this package, a private company is able apply for financial support from the B20 billion Institutional Development Fund (IDF) [24] which finances construction of *new* secondary and higher level facilities in the provinces outside of the BMA. A qualified company is required to provide half of the total investment cost and scholarships to at least five percent of the total students. Foreign teaching staff and students may join but eighty percent of the enrolled students must be Thai. Assistance for facilities development is complemented by a revolving fund for staff development which provides loans at 8% to institutions to finance scholarships for academic staff to undertake graduate studies overseas.

75. Equity can also be improved by applying sustained ***demand-side*** interventions through financing and other specific measures to raise the household demand for education. During the *Fifth Plan*, it was found that the principal cause of low secondary

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[23] The remaining 70% of profits must be re-invested in the institution. In higher education, profits not taken out are allocated among three types of endowment funds: (1) construction; (2) research; and (3)"benefits," i.e., scholarships for students and fringe benefits for staff.

[24] An amount of B10 billion is for construction of facilities to teach fields where there are shortages, B7 billion for general fields, and B3 billion as working capital. Loans to develop physical facilities are subject to a subsidized floating interest rate, currently 8% per annum.

enrollment was the high cost of schooling. To address this issue, a number of direct subsidies were introduced in 1987 covering free textbooks and school uniforms, low cost dormitories, health/nutrition programs and school fee exemption. Approximately 50% of all rural secondary students benefited from these subsidy programs. However, the cost of schooling continued to be a constraint. A survey in 1992 among the 12-14 years and 15-19 years age groups showed that economic factors (lack of finance/need to earn money) was the reason for 83% of respondents not being enrolled in lower secondary school and for 70% being out of upper secondary (Annex 3, Table 6). A later study of selected rural areas confirmed that poverty was a major constraint on continued school enrollment.[25]

76. To complement the various subsidies and to provide further assistance (but at lower public cost), an education loan scheme was established in 1996 with the Government allocating B3 billion to assist students from low income families. From the total amount, B1.8 billion was allocated to MOE and the remaining B1.2 billion went to MUA. Needy students with family income of B120,000 or below and attending either general and vocational upper secondary schools or higher education institutions were eligible to apply. The interest rate is 1% and the repayment period is 15 years including 2 years of grace. In 1997, the total loan allocation was increased to B10 billion. Because of the initial low family income eligibility ceiling of B120,000, many students from slightly higher family income groups were not eligible. Recognizing this limitation, the Ministry of Finance has recently increased the annual family income ceiling to B300,000. This adjustment is expected to increase the number of applicants during the 1997 academic year. The loan scheme is now in its second year of operation. Despite implementation delays experienced during the first year due to a lack of understanding among school administrators, parents and the assigned commercial bank, MOE made loans to 127,106 needy students in the amount of B2.5 million. It would be useful, even at this early stage to review implementation of the scheme. For example, there seems to be room for improvement in the area of loan disbursements to provide students with greater access to funds in the commercial bank. There are instances where the assigned commercial banks are located too far from the villages and students have to travel for hours to withdraw money. There seems to be scope for making the scheme more user friendly.

77. The 1% interest rate on the loans represents a large subsidy over market rates. It is worth noting that international experience suggests that student loans in general, and subsidized loans in particular, are not cost-effective sources of funding when compared to scholarship grants. The cumulative costs of administration, defaults and subsidies make

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[25] Williams, L., Kritaya, A., and Napaporn, H., Which Children Will Go to Secondary School? Factors Affecting Parents' Decisions in Rural Thailand, Rural Sociology, 62(2), 1997, p. 258.

loans more expensive than a system of scholarship grants would be.[26] A combination of loans and scholarships is desirable provided that loans are administered effectively and defaults kept to a minimum ( e.g. through an income contingent approach - para. 157 and Box 6) and scholarships are targeted to the neediest students. Loans can be subsidized at different rates depending on family income with loans equaling full market interest rates for those from wealthy families. For students who qualify for public subsidies, the choice of attending either private or public institutions should be made available. This would strengthen private sector involvement in educational provision and further relieve the pressure on public funding. This type of policy would at the same time increase competition in the supply of education.

78. For equity reasons, the most critical educational level at which to target assistance is lower secondary. This is the level which unambiguously separates the haves and the have-nots in Thailand. It is at this level that families are faced with an expensive economic choice about whether their children will continue in school. To reinforce financial assistance and to ensure that hard-to-reach groups are accommodated, many special programs have been established. These include the *Sae Ma Life Development Project* which deters young girls from entering the sex industry, the *Dual Vocational Training Program* aimed at providing vocational training to poor students, the *Mobile Training and Sensitization Program* which targets children living in the construction sector in Bangkok, and the *School Lunch Program* which provides free lunches to all primary school students from low income families. The *Concentrated Language Encounter Program* promotes an effective teaching technique using the vernacular languages in ethnic communities. *The Teacher-on-Horseback Project* provides educational access to children in isolated hill tribes, the *Self-Reliant School Project* provides boarding facilities for disadvantaged children in remote areas, the *Education for Rural Development Project* provides basic vocational and technical skills for students, enabling them to earn extra income to support their families, and the *Agricultural Education Reform for Better Life Project* provides educational opportunities to youth from poor agricultural families. These are some of the outreach programs among many that are being implemented. It is necessary to systematically evaluate all programs so that those which are ineffective can be discontinued while more promising initiatives are expanded and funded more generously.

**Higher Education**

79. An expanding higher education system has led to increased access for traditionally less privileged populations, such as those from the rural areas. However, higher education is still very elitist and, in the public sector, highly subsidized. A principal reason that attendance at tertiary institutions, especially the closed admission

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[26] Albrecht, D., and Ziderman, A., Financing Universities in Developing Countries, Washington D.C. and London, Palmer Press, 1995; Deferred Cost Recovery for Higher Education: The Experience with Student Loan Programs in Developing Countries. World Bank Discussion Paper No. 137, Washington, D.C., 1991.

public universities with good reputations, remains heavily biased in favor of students from higher income families is that children from poorer families have limited access to high quality primary and secondary education, which in turn limits their chances of scoring well in the highly competitive university entrance examination. The majority of secondary graduates were traditionally from the urban areas. About 37% of students in higher education are from Bangkok, 18% from the North, 17% from the South and 14% from the Northeast. When examining parent's occupation, only 11% were farmers/agriculturists and almost 50% were merchants or businessmen, despite the fact that only 9% of the total population were in the latter group. [27] This is consistent with an earlier study conducted by the NEC which showed that the 12.8% of the population in the "Professional and Civil Servant" and "Business and Trading" categories represented 73% of students in public closed admission universities and 77% of those in private institutions, while the 66% of the population in agriculture represented only 1.4% and 0.7%, respectively. [28]

80. Conventional closed public universities are characterized by relatively small enrollments (206,250 in 1996), and similarly the private universities (173,760 in 1996). For those who fail to qualify for public universities, private institutions or the open/distance systems provide two alternatives. The former are preferred for quality reasons, but access is limited to those who can afford the high fees. Most of the operating costs of private institutions are financed through student fees. For most, non-admission to a traditional public university leaves only open/distance universities as options for pursuing a university education. The open/distance universities together enrolled the largest number of students, about 525,000 in 1996. Here, students from lower income backgrounds are better represented, although the private returns are found to be lower.[29] Thus, besides not benefiting from the heavily subsidized public universities, students in the open systems are also at a disadvantage in terms of earning potential. As a result, the social disparities in the access to higher education have an adverse impact on income distribution. Nevertheless, it is a notable characteristic of Thailand's education system that open/distance universities account for 58% of total enrollments

81. The Government is committed to improving equality of opportunity and the equity issue in higher education features prominently in the Eighth Plan. Measures to address the issues of social and regional equity have been established. These include the education loan scheme, expansion of the regional quota in regional universities and, importantly, the changing role of the Rajabhat Institutes (para. 37). The RIs play an important role in providing regional access to higher education for those who have not gained entry to a university. The RIs have evolved from teacher training colleges into

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[27] The Eighth Higher Education Plan, Ministry of University Affairs, 1996.

[28] National Education Commission. 1989. Cost and Contribution of Higher Education in Thailand Bangkok: Education Research Division, NEC, 1989.

[29] Ibid, p.169. The private rate of return to open university graduates was only 73% of that for graduates of the closed universities.

broader-based community colleges as they have diversified their programs to include, in addition to teacher education, a range of vocationally-oriented programs, such as applied science and technology, management, social development, agriculture, arts and journalism. In 1995, RIs were authorized to offer graduate degrees. With this authority, the eventual growth of many RIs into regional universities is assured.

**Protecting Access**

82 The economic crisis is resulting in rising unemployment, falling incomes and reductions in the education budget. This is raising difficulties in financing children's education which are no longer restricted to poor families but are becoming increasingly prevalent among higher income groups. In response, the Government has taken action to assist students and parents through several measures to reinforce existing financial assistance programs and to protect educational opportunities for vulnerable groups. At the school level, these measures include encouraging private schools to extend tuition payment deadlines; allowing parents to pay tuition fees in installments; providing free textbooks, lunch, uniforms, transportation and scholarships; and helping students find part-time employment. The Office of the Private Education Commission (OPEC) has prohibited all schools under its jurisdiction from raising tuition fees in the next academic year. Schools violating this ban can be closed down. OPEC has also proposed that school administrators cut teachers' salaries and give them no pay increase this academic year to prevent lay-offs and to lower the operating costs. International schools are encouraged to accommodate students returning from overseas as parents find it increasingly difficult to finance schooling abroad. Permission from the OPEC is needed before these schools can increase their tuition fees. Consideration is being given to expanding the education loan program, with special emphasis on the needs of unemployed parents. For public secondary schools, DGE is allowing schools to consider waiving tuition fees on a case-by-case basis.

83 At the tertiary level, private institutions are allowing more time for students to pay tuition fees, freezing tuition fees during the second semester and, in the next academic year, granting more scholarships to needy students. Institutions are also holding off firing teachers and giving priority to Thai nationals teaching specialized fields such as foreign languages and computer science. MUA has instructed both public and private universities to allow delays in the payment of tuition fees and is encouraging institutions to refrain from expelling students who cannot pay. In addition, MUA will ask universities to increase the number of scholarships and seek loans for students whose parents have become unemployed.

## C. Management

84. While it is acknowledged that Thailand has been generally successful in expanding educational services, there is considerable concern in government, business and society about equity and quality in education, and about engineering the necessary educational changes that will facilitate further economic development in Thailand. The

system of educational administration has been identified as an obstacle to the achievement of educational policies and programs as set out in the Eighth Plan (1997-2001). A consensus has emerged among politicians, academics, business and other groups in civil society that administrative reforms are essential for producing the educational outcomes that are needed for sustained socioeconomic development (Box 3).

85. Several interrelated issues dominate the debate on educational management. First, the management system is seen as unnecessarily complex with too many organizations involved in the delivery of educational services. Among other things this results in a lack of coherence in educational policy-making and planning. Second, the administration of education is perceived as too centralized, resulting in slowness in decision-making and responsiveness and lack of flexibility in dealing with changing contemporary demands. Third, the management processes in the ministries are classified as "outdated", being too bureaucratic and involving excessive rules and regulations. In short, there is too much red tape. Fourth, there is not enough facilitation of private sector participation in education. The private sector is regulated rather than encouraged. Fifth, there is thought to be insufficient community involvement in education. Representatives of the community should be incorporated into decision-making about education and assume some responsibility for planning, implementing and evaluating educational practice at the local level.

86. It is widely recognized that reform of education management is not in itself sufficient to bring about the range of desired improvements to Thailand's education system. Management reform must be part of a coordinated package of reforms whose overall objectives are to improve quality, access and relevance of education. However, radical management reforms are unlikely to succeed in the Thai context of a deeply embedded tradition of public sector management which is highly bureaucratic in character. Public sector organizations and their leaders have exerted considerable power in 20th century Thailand leading to its characterization as a "bureaucratic polity". While democratization and the development of an active civil society have advanced steadily in recent years, the essential conservatism and power of the public service should be recognized. This does not mean that reform is impossible. Indeed, many officials in MOE, MUA and the NEC appreciate the need for change and are actively searching for strategies to accomplish such change. Politically acceptable and implementable changes are incremental in character, but several well chosen increments can represent quite significant change. Also, it should be remembered that educational administrators are members of the wider Thai public service which is governed by numerous rules, regulations and official practices. Thus, some proposed changes in educational management may be contingent upon changes affecting the entire public sector. For example, moves to decentralize educational management should be made in concert with other proposals and actions relating to the territorial decentralization of authority and power - especially by the Ministry of the Interior.

**Box 3: The Consensus on the Need for Reform of Educational Management**

Rafting through the turbulent waters of bureaucratic nightmare and alleged widespread corruption in his ministry, Education Minister Sukavich Rangsitphol has come up with four major education reform strategies. Last but not least is administration. Ironically what the Education Ministry lacks most are skillful administrators. (*The Nation*, 19 June 1996).

'The problems concerning efficiency of the system are 1) the excessive centralization and complexity of administrative structure, 2) lack of flexibility and adaptability to respond to the demand of individuals, community and the development of the country (Chongsatityoo 1996).

The reform of management is an essential condition in national educational reform without which other reform effort could become a failure (The Commission on Thailand's Education in the Era of Globalization 1996).

Due to the centralized system of present day Thai educational administration and management structures and lack of full involvement of all sectors of society in decision-making, education has been inefficient and often irrelevant to the real needs of individuals and communities (Office of the National Education Commission 1996).

The majority of respondents to a nationwide survey agreed that it was time to push for educational reform...Out of 45,860 people surveyed 52.2 per cent said they believed that time for educational reform was ripe while 33 per cent said the current system needed some improvements (*The Nation*, 17 April 1996).

'I think the Ministry of University Affairs should be reassigned to the Ministry of Education' (Tawil Praiont, Minister of University Affairs as quoted in *The Nation,* 21 March 1995).

Prof. Prawase said the success of a comprehensive educational management system lies in cooperation from people from all walks of life. It should not be the sole obligation of the Education Ministry. (*The Bangkok Post*, 16 March 1996).

## The Over-Management Issue

87. The public education system in Thailand is managed and coordinated by MOE and MUA, while the NEC is responsible for planning and coordination. In addition, the National Economic and Social Development Board (NESDB) and the Bureau of the Budget have important roles in setting policy and financing education. Other ministries, most notably the Ministry of the Interior, run their own schools. In contrast, many countries (e.g. Korea, Malaysia) manage their education systems successfully with a single ministry of education. Although it is widely claimed that there are too many administrative organizations involved in managing Thailand's education system, there are few if any serious proposals to reduce the number of organizations.[30] While there has

[30] Periodically, there are calls for the abolition of MUA including a recent one by the then Minister of University Affairs. See The Nation, March 21, 1995.

been a zero growth policy in employee numbers since 1992, Thai government organizations have not been under pressure to downsize, as has been the case in many other countries, both developed and developing. An environment of sustained economic growth has ensured that adequate budgetary resources were available for government agencies. There has been budgetary restraint but not the budgetary cutbacks that have characterized many other nations.[31] Also, leading bureaucrats retain considerable power in the Thai politics, and they have not been convinced that radical reform initiatives are necessary.

88. Thailand's bureaucratic culture is one which diffuses administrative responsibility to numerous ministries and many powerful units within ministries. This culture is strongly embedded in the civil service and makes major administrative reform difficult and potentially disruptive. In education, the system has been successful in expanding enrollments at all levels but the bureaucracy is being seen increasingly as an obstacle to identifying and carrying out the reforms needed to build a flexible education system capable of handling the changes necessary to sustain Thailand's development in the next century. It would be naive to think that, in the prevailing political and bureaucratic culture, it would be possible to tear the present system down and replace it with a new structure. *The challenge is to make the present system work better.* This would include improved coordination between education agencies and the decentralization of education services to the local level. Rationalizing the number of ministries involved in education is possible to some degree. For example, a case could be made for transferring the school system controlled by the Ministry of the Interior (300,000 students, 13,000 teachers and 700 schools) to MOE.[32]

**Coordination**

89. The major issue in educational management may not be the excessive number of organizations involved but the degree of coordination among them. The main question therefore is how to promote greater coordination of activities. The principal coordinating agency in the Thai educational system is the NEC.[33] While the NEC might, at first sight,

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[31] This situation is changing with the economic downturn leading to cuts in the FY98 budget. While education has been treated relatively generously compared with many sectors, the education ministries have suffered cuts of around 4% in their FY98 budgets.

[32] But there is opposition to this transfer based on the view that the MOI schools provide better quality than MOE schools. This perhaps demonstrates the difficulty of achieving education reform in a society which has strong views on education.

[33] The NEC is composed of 18 members chaired by the Deputy Prime Minister and including the Ministers and Permanent Secretaries of MOE and MUA, several other Permanent Secretaries, private sector representatives and distinguished scholars. The major responsibilities of the NEC are: to oversee formulation of the National Scheme of Education and the National Education Development Plan; to monitor the progress of implementation of these plans; to propose policy guidelines and initiatives on education to Cabinet; and to advise cabinet on educational matters. The Office of the NEC acts as

seem to duplicate activities performed in other ministries and to add to the bureaucratic complexity of educational administration in Thailand, the NEC does perform an important coordinating role. It is precisely because of the fragmented responsibility for education in Thailand that the NEC is potentially such an important institution. It is the place where an overall picture of Thai education can be gained, where development in the whole education system can be seen and evaluated, where recommendations for change can be made and where an overall strategy for the sector can be formulated. Although it does not have direct authority over other ministries, the role of the NEC in coordination, research, monitoring and evaluation, and most importantly, in making education policy recommendations to Cabinet means that it can exert influence on the direction and specific content of education policy and planning in Thailand. It does not act independently of the education ministries but is in dialogue with them in order to fulfill its coordination function.

90. The official role of the NEC seems to address the problem of coordination created by the fragmentation of educational administration. However, this study concludes that the capacity, strategic orientation and authority of the NEC needs to be strengthened - premising this view on the observation that the NEC could perform its currently prescribed functions more efficiently and effectively; on the possibility that those functions and authority could even be expanded; and on the assumption that significant macro structural change such as the amalgamation or abolition of educational agencies will not occur. The strengthening of the NEC could give greater coherence to educational policy, planning and resource utilization, and the monitoring and evaluation of such activities. The strategy could involve both the building of capacity in the various technical fields and the strengthening of the authority of the NEC. The latter action is recommended to improve inter-organizational linkages rather than simply being a device to secure compliance.

91. While a stronger NEC would improve effectiveness at the sector-wide level, there is considerable scope for improved coordination within the line ministries, especially MOE. This agency operates on the basis of a central secretariat responsible for policy and various directorates, which carry out policy implementation and operational activities. There are 14 directorates in MOE, each under a director general. The directorates tend to operate as independent fiefdoms, and there is often a lack of adequate coordination. This is particularly important in some instances; e.g., DGE (which is in charge of general high schools) should communicate closely with DCID on curricular matters, and with the RI secretariat on matters of teacher training. If policy is to be implemented effectively, the secretariat of MOE, led by the Permanent Secretary, must ensure adequate communication and cooperation among the directors general.

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secretariat to the Commission. For ease of reference, the acronym NEC refers here to both the Commission and the Office.

**Decentralization**

92. The leading issue in the reform of educational administration is decentralization. Everybody appears to support it, but there is some ambiguity in the debate as different people ascribe different meanings to the concept and recommend differing degrees of decentralization. It is not a new topic. It has been under debate for at least five years, and some decentralization initiatives have been or are being implemented. More are demanded. Both the Seventh and Eighth Plans and the National Scheme of Education 1992 advocated the delegation of administrative authority to local agencies and educational institutions in order to promote flexibility in school administration and management and to support the participation of local people and communities in organizing education. The Commission on Thailand's Education in the Era of Globalization (CTEEG) recommends the establishment and empowerment of local commissions to manage education. It appears that the direction has been set, but the details of what is to be done and by whom need to be clearly established.

93. The principal objective of decentralization is the desire to make education both relevant to the needs of the people and responsive to changing requirements, demands and opportunities at the local level. Thus, care must be taken to ensure that decentralization actually fulfills those objectives. This suggests that an incremental policy of decentralization of educational management be pursued. A radical policy is likely to result in inefficiency, implementation difficulties and political resistance. (See Box 4 for Chile's experience in decentralization). It would be inappropriate in Thailand where a strong tradition of bureaucratic centralization prevails. It should be remembered that the current centrally oriented system does work in that it delivers a range of educational services to 13.5 million students. The contribution of decentralization should be to reorganize the system to make it work better, and an incremental approach is likely to achieve that with the least opposition.

**Box 4: Chile's Decentralization Process**

The Chilean government decentralized the educational sector in 1981 as part of a macro government reform based on market economic principles. At that time, the education system was already well developed: the primary enrollment rate was 95%; the average years of adult schooling attainment was 7.8 years, which was among the highest in Latin America; and adult illiteracy rate was 8.9 percent, which was among the lowest in the region. The main arguments for decentralization of the educational sector appeared to have been: a) *efficiency* - to reduce bureaucracy at the central, regional, and provincial levels; b) *financial* - to implement new school resource allocation formulas as alternative to the ever growing historical fiscal budget; and c) *power distribution* - to weaken the teachers union.

The decentralization process consisted of: a) transferring the preschool, primary, and secondary schools to the municipalities; b) transferring a proportion of the vocational secondary schools to private nonprofit organizations created by associations of employers; and c) encouraging private individuals and NGOs to create tuition free schools through a subsidy payment per student. Under this concept, the municipalities became completely autonomous to a) hire, fire and promote teachers; b) set teacher salaries according to prevailing market conditions; c) manage the financial resources secured from the central government through the subsidy formula; and d) manage school installations, including school construction and maintenance. The new system changed the pre-reform scheme, which had awarded funds to schools and universities based on historical allocations for teachers salaries and operating costs, to a new system channeling resources to each municipality and subsidizing private school proprietor based on average monthly student attendance.

The transfer of schools to the municipalities considerably reduced the size of the Ministry of Education (MOE) from about 20,000 employees in 1980 to around 3,000 in 1990, of which 21% are currently located in the central offices in Santiago and the rest in the 13 regional and 40 provincial offices of the MOE throughout the country. After the 1981 reform, enrollment in the private subsidized schools doubled as their primary education student population rose from 14% of total enrollment to 31% during the last decade. This increase came at the expense of enrollment in the municipal schools, whose share decreased from 80% to 62% in the same period. On the other hand, public subsidies for higher education drastically decreased from almost 38% of the total educational budget in 1980 to 19% in 1990.

While the reform process brought a clear division of responsibilities between the municipalities and the MOE in some areas, ambiguously stated responsibilities led to uncertainties in other areas. The MOE kept its legally mandated functions of policy setting, supervision, cognitive standardized evaluation, textbooks distribution, and financial monitoring through its central, regional and provincial offices, largely independent from the responsibilities of the municipalities (outlined above). There are also joint responsibilities between the municipalities and the MOE covering budgeting, accounting controls, and the management of resources to cover deficits (resulting from frequent cases when municipal educational expenditures exceeded the income from per student subsidies).

The decentralization policy triggered further inequities in the delivery and quality of services manifested by regional disparities in: a) preschool coverage; b) child nutritional-status; c) primary school promotion rates; d) cognitive achievement rates; e) deployment of specialized and compensatory education resources; and f) average years of schooling and literacy rates of the adult population. Furthermore, decentralization to the municipalities also resulted in insufficient institutional capability to translate educational policies and strategies effectively into concrete programmatic actions, and target resources to deprived schools. These are problems that the current government is addressing.

*Source:* Espinola, V., Educational Decentralization in Chile. Santiago, Chile, 1991.

94. The incremental approach to decentralization entails extending the authority of local level bodies through a combination of deconcentration and devolution. Deconcentration involves central agencies delegating greater decision-making powers to their officials in the provinces while devolution focuses on empowering communities by facilitating their representation on management bodies at all levels, but especially that of the school. There is also the opportunity for decentralization in the functional sense whereby tasks may be outsourced to private businesses and non-governmental organizations.

95. The essence of decentralization is deciding what functions should be shifted from the center and to what administrative level. MOE, unlike other ministries, is organized on a regional as well as on a provincial basis. There does not seem to be much justification for a regional system of management, and what is now done regionally can be carried out as effectively, or more so, at the provincial level. Thus, one administrative layer could be abolished with little loss of effectiveness. The key organization is the Provincial Education Committee (PEC), which is in charge ostensibly of coordinating the planning and implementation of education activities within each province. In reality, the PEC at present has limited power over resource allocation, and much decision making remains in Bangkok. The central organizations such as DGE and ONPEC retain the real authority for resource allocation in the provinces. To make decentralization work, the PEC must be given real authority over resource allocation and the means to ensure that its decisions are implemented.

96. Below the provincial level, the CTEEG report recommends the creation of local commissions but does not specify at what level.[34] The district seems to be the appropriate level to encourage broad community participation while at the same time providing oversight of activities within individual schools. The commissions would comprise representatives from the community, teachers, parents, school administrators, local officials and community leaders. The commissions would be involved in the formulation and monitoring of local education policy, curriculum development, quality assurance and budget allocations. At the school level, school boards would ensure community representation and provide support to the principal through monitoring school performance and serving as the focus for community inputs to maintain facilities. School clusters, which group adjacent schools for common activities (such as testing and curriculum development), should continue as essentially professional bodies focusing on quality improvement in the classroom.

97. The effectiveness of the sub-provincial structures will depend on their relationships with the PEC, local education officials and teachers, and control over the budget. Regarding the latter, a real measure of independence will require the provision of block grants originating in the center and cascading down to the provinces and to sub-

[34] Thai Education in the Era of Globalization: Vision of a Learning Society, p.26. Provinces are divided into districts (ampur), sub-districts (tambon) and villages (muban).

provincial levels.[35] In support of such a system, local accounting and auditing procedures would need to be strengthened and trained personnel available to implement them. Furthermore, if specialized functions such as education planning and curriculum development are to be decentralized, the relevant expertise will also have to be made available at the local levels.

98. **In summary**, there is widespread consensus that education management needs to be reformed. But in the bureaucratic polity that exists in Thailand, pushing for major reform of the administrative structure is not realistic. The issue is therefore how to *improve* the present system rather than to reform it - a more modest but nevertheless valuable objective. Systemic improvement will require: (a) a strengthened NEC which would have enhanced policy, planning and technical skills to play a stronger role in advising, planning, coordinating and evaluating educational activities; (b) better coordination between the directorates within the line ministries (especially MOE) through stronger leadership by the secretariats; (c) deconcentration of the functions of the central MOE agencies (DGE, ONPEC, etc.) to their officials in the provinces; (d) giving the PECs real responsibility for key functions at the local level (staffing, budgeting, planning, curricular review); and (e) ensuring that the operations of the PEC are supported by adequate financial and human resources.

### D. The Role of Industry and Formal Institutions in Training

99. The costs of education and training (E&T) in Thailand today fall heavily both on *Government* (especially in the public system) and on *students/trainees* (in the private system), but not (in either system) *on private industry*, despite the fact that a central goal of stated policy is to make E&T more relevant and more useful for economic purposes. If industry is to be a principal beneficiary of E&T, would it not make sense to ask industry to share in the costs of producing Thailand's graduates and trained workers demanded by the labor market?

100. The logical areas of training and skills development for industry to support are: (1) for individuals who have completed their general education and will soon enter the labor force; and (2) for those who are already employed but in need of specific training to make them more productive in their jobs. Learning activities can be viewed as a spectrum extending from very *general education* (which will benefit students in any vocation they happen to pursue, as well as in all of the non-vocational aspects of their lives), to highly *specific training* (which has application only in a particular job in a particular firm). The more specific an education or training activity is to the requirements of a particular firm, the more willing the firm should be to underwrite the costs of this learning.

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[35] In the long term, a national policy of granting of significant revenue raising authority to sub-national levels would reduce the need for block grants from the center.

101. Between fully general education and job-specific training, however, there is an extensive intermediate area of E&T. Who should be responsible for providing and financing learning in this area? In principle, the more general (less specific) the subject area, the greater is the need to teach the subject within the *formal education system*, and to finance it through some combination of student fees and government subsidies. The more specific (less general) the subject area, the greater is the scope for *industry* to play a role, both as a training provider and as a source of financing.

102. Many governments, including the Government of Thailand, ignore the justification and underestimate the potential for involving industry in training and, in effect, give businesses a free ride. Of course, to be competitive, private companies must focus on the bottom line. They will gladly let government do whatever government is willing to do for them without passing on any of the costs. Nor are companies much concerned about wasted effort and inefficiency in publicly financed training programs, as they would need to be if they were sharing in the costs of the training.

103. The rationale often given, especially in developing economies, for government's doing more than its share is that firms are too small to offer the necessary on-the-job training. Government can introduce incentives to encourage industry to do more. For example, firms which can demonstrate that they give broad training with industry-wide applications (to workers who may choose to leave and take their skills to other jobs) should be offered tax breaks. Even with incentives in place, some companies will find it difficult to offer cost-effective formal training programs in plant. Special taxes from those firms that are unwilling, or indeed unable, to provide the training that they would like their employees to receive can be levied by government to finance industry-wide training in vocational colleges or industrial training centers.[36] These programs can be organized by government directly, or they can be contracted out to private providers. This should not be a problem in Thailand which has a well-developed formal training infrastructure already in place.

104. If much of the responsibility for specialized training were shifted to industry, this would allow formal education institutions to concentrate on what they, in fact, do best, which is to teach general knowledge and skills. It is difficult for formal institutions, especially in the public sector, to offer cutting-edge skills development. This reflects, in part, the dual role of schools and colleges -- (1) to prepare students for the next level of the E&T system, and (2) to prepare workers for employment. Industrial training centers, on the other hand, and employers who offer training, focus only on the latter function. The expensive equipment needed for many types of industry-specific training is available in the work place, whereas formal institutions, especially public ones, often have neither the budget nor any strong incentive to make sure that their equipment and offerings remain at the cutting edge. Specialized teachers are difficult to attract, especially in

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[36] There are many examples of countries using payroll taxes of the revenue raising and rebate types. See Whalley, J., and Ziderman, A., Payroll Taxes for Financing Training in Developing Countries, World Bank, January 1989.

skills-scarce areas, because workers with such skills are, by definition, in demand in the industrial sector, which can usually out-bid training institutions by offering higher salaries and/or better employment conditions. Moreover, formal institutions, especially public ones whose employees are civil servants, find it difficult, if not impossible, to let teachers go when the market demand for a particular type of training dries up. It is generally true that formal institutions lack the agility to respond adequately to the rapidly changing demands of the marketplace.

105. The lack of agility notwithstanding, the VTE institutions under DOVE do show some sensitivity to labor market conditions (para. 31). Given Thailand's high rate of economic growth over the last decade, the E&T system has not been rigorously tested in recent years. In one sense, Thailand has been a victim of its own success, and E&T institutions have operated under a guarantee of success. Graduates of every description were snapped up by an industrial sector hungry for educated labor. This situation has changed quite suddenly with the onset of the economic crisis. If the experience of the downturn in the mid-1980s is repeated, employment rates for school leavers and other graduates will decline and enrollments in VTE programs will also decline. Although resumption of high growth rates is expected in 2-3 years, Thailand's long-term growth rate will level off eventually, as has that of earlier high-growth economies. Despite the ease with which recent graduates have been able to find jobs, Thailand's E&T system must anticipate a time of relative market saturation. The danger of over-investment in formal training institutions in the long run, in response to current (or recent) market conditions, is real. This danger would be reduced through the expansion of industry's role in the provision of specialized skill training and a clear focus in the formal training institutions on more general, non-specialized training.

106. If it is preferable for formal training institutions to concentrate on imparting more general skills, such skills must continue to have a high degree of usefulness and relevance to industry. This would be greatly enhanced if the focus of the full-time pre-service training programs were to be shifted to in-service, "sandwich" training courses. It is much easier to identify skills gaps after individuals are already employed. Training needs can then be defined by the workers themselves, jointly with their employers. There is the added advantage that the willingness of employers to co-finance training will be greater in the case of those already working for them. The "Dual System," modeled on Germany's system of formal vocational training and now being introduced on a pilot basis in Thailand by DOVE, is consistent with this philosophy.

107. In Thailand's version of the Dual System, students spend two days each week attending classes in the DOVE institutions and three days receiving practical training in actual job settings. This provides the opportunity for trainees to develop hands-on practical skills in plant, and more general education and training within the institution. The pilot program is less than two years old, however, and students enrolled for the Certificate in Vocational Education in Dual Vocational Training make up less than 5 percent of DOVE's total enrollments. Moreover, this approach, while successful in Germany, has been difficult to replicate in other countries. The Government of Thailand

should evaluate the success of this approach locally and, if employers and workers are both satisfied, DOVE should expand enrollments in the Dual Program, gradually, since participating employers need to be identified before new trainees are enrolled.

108. The sandwich approach would also serve well in the face of structural changes in the labor market brought about by declining comparative advantage in traditional low-wage, low-technology industries. Cyclical problems resulting form an economic slowdown tend to displace workers temporarily and their retraining needs are usually modest. But structural changes enlarge the pool of long term unemployed and retraining is an important component of policies to alleviate this situation. It would be done more effectively by the formal training institutions if they worked closely with industry in identifying changing skill needs and in designing programs which would provide the skills needed by industry. Sandwich programs would ensure the close integration of training institution and private firm.

### E. The Role of Private Institutions in Education

109. For almost three decades, the Government has looked to the private sector as a major provider of education and training and has encouraged its expansion through enabling legislation and financial incentives. This has reduced pressure on the public budget as access to education has expanded and helped to keep fees in public institutions (especially the universities) low. In quantitative terms, the policy of encouraging the private sector has been successful. Private sector institutions were responsible for nearly 18% of total enrollments in 1995 or about 2.4 million out of 13.5 million students (Annex 3, Table 10). Private institutions enrolled 13% of all general education students and within this subsection, the private-to-total ratio was highest at the pre-primary level (26%) and lowest in upper secondary (5%). Private enrollments accounted for 45% of the total in VTE, 16% in higher education, and were as high as 46% in the limited admission universities and 76% in non-formal education. Most of these private students paid the full costs of the educational services received. Many of them would not have been accommodated in the absence of a private education sector, or their enrollments would have been in public sector institutions and *at a much higher public cost.*

110. In addition, the existence of private schools provides an element of competition to public schools and widens the choice of educational opportunities. A competitive market for education can also serve to strengthen the performance of public schools. In many countries, including Thailand, there is evidence that private schools perform at least as well as, and often better than, their public counterparts, and at lower cost.[37]

111. On the question of *educational quality*, a normal and proper role for Government *vis-à-vis* private sector institutions is to monitor the services provided, particularly if Government subsidizes some of the costs of these institutions, but even if not, in order to

[37] Lockheed M. and Jimenez E., Public and Private Schools in Developing Countries, HRO Working Paper, World Bank, November 1994.

protect the public interest. Private education in Thailand is monitored, at the tertiary level, by the Bureau of Private Higher Education (BPHE) of MUA and, at lower levels, by the Office of the Private Education Commission of MOE.

112. BPHE runs a serious accreditation process for registering new private higher education institutions (HEIs), as well as any new program proposed by an existing HEI. External examiners from the business community, relevant professional associations and other public and private universities in Thailand are selected by the HEI, from an approved list of examiners submitted by BPHE. These examiners form an accreditation panel that reviews the institution or program over a three year period, assessing its progress against general BPHE criteria and against a plan that BPHE approved at the onset, before any students could be admitted. In the fourth year, the institution or program is accepted fully, accepted provisionally (thereby extending the monitoring period) or rejected. Following accreditation, each institution/program is reviewed again five years later, and thereafter on a five-year cycle. Furthermore, each private HEI must submit a financial balance sheet to BPHE at the end of each year. Finally, any fee increase (which then applies only to new students, i.e., those admitted subsequent to the increase) must be approved by BPHE and justified in relation to a plan for quality improvement.

113. In contrast, public HEIs are established by separate Acts of Parliament, and they are quite independent of MUA with respect to the establishment of programs and setting of fees. In fact, each public HEI has the status of a Department within MUA. To the extent that the public universities are accountable to MUA at all, they really answer only to the Minister and the Permanent Secretary. The quality of programs in public higher education is largely an internal matter, to be decided within each institution itself. There are no external means in place (other than the information collected and published by MUA on the content of programs and employment experience of graduates) to monitor the quality of public university programs.[38] There is a perception among private universities that being subjected to more rigorous and extensive quality assurance mechanisms than public universities is unfair and gives private institutions an "inferior" status. It is probable that these mechanisms have curtailed the freedom of the better private universities to develop innovative and flexible means of organizing teaching and learning and diminished their ability to strengthen their own identities.[39] The problem has been recognized in MUA and the intention is to move to a system whereby MUA will monitor the effectiveness of the quality assurance mechanism itself rather than continue to implement the detailed quality assurance process. Ultimately, the aim is to have one

[38] The internal evaluation system relies mainly on input indicators such as: (a) controlling student intake; (b) staff/student ratios; (c) staff qualifications; (d) norms for physical facilities and equipment; and (e) curriculum review. There appears to be no attempt to tie inputs to outputs.

[39] Selvaratnam, V., Aspects of Higher Education in Thailand, mimeo, World Bank, 1997.

quality assurance mechanism covering both private and public institutions, which would treat all institutions equally.[40]

114. In pre-university education, OPEC has been given responsibility for *all private programs*, whether pre-school, primary or secondary, general, vocational or technical. This is an enormous span of control. Perhaps as a consequence, OPEC spends little time and resources on quality control. The main function of OPEC is to administer the Government's subsidy program in support of costs in participating private institutions. Private schools and colleges that accept this support can charge fees only within a restricted range. Some private institutions choose not to receive subsidies, and they are largely free from government control, except that they must be registered and must adhere to minimal basic regulations and standards of MOE. The subsidy given to participating private institutions is equal to 40% of the notional tuition cost for the particular level and type of E&T, as determined by OPEC. In the case of religious schools that collect no fees from students, the subsidy is set at 100% of the notional tuition cost.

115. In addition to the Government's role of quality assurance in private education, there is the important function of *providing information about quality* to consumers. It is probable that consumers are quite good at distinguishing quality differences (although evidence from other countries suggests that this ability is correlated with the parents' educational attainment and, hence, also with family income). But informed choices require the availability of relevant information. The Government has an important role to play in providing information on the range of programs that exist across E&T institutions (both public and private) and on the employment and earnings experience of graduates. This is useful, not just to students and families as they choose among educational options, but also to institutions as they plan their course offerings.

### F. The Universities

116. Thailand's university system is diverse in its structure, encompassing conventional public and private universities and two open/distance universities, which dominate enrollments (para. 36). The universities are playing a central role in Thailand's development and this is becoming more important as the country is forced to compete in a globalized economy. To meet the challenges facing Thailand in recovering its high growth rate and sustaining it in the future, the universities must become efficient, cost-effective, high-quality institutions which have the flexibility to adjust to changing technology and labor market needs. To achieve this transition, the universities must pursue autonomy in management, become more self-sufficient financially, raise the quality of teaching staff and align enrollments more closely to the needs of an increasingly high technology economy.

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[40] It was announced recently that the NEC would set up the Educational Standards Evaluation and Promotion Institute which would be responsible for evaluating standards in all schools and universities in Thailand. It would become operational in 1999. Bangkok Post, November 5, 1997.

**Autonomy**

117. Greater institutional autonomy is one of the keys to the successful reform of public higher education, especially reform aimed at resource diversification and more efficient use of resources. Experience shows that autonomous institutions are more responsive to incentives for quality improvements and efficiency gain. In France and the Netherlands, the government has granted increased financial autonomy to individual faculties and departments in national universities to stimulate innovation in research and teaching. [41] In Chile and Vietnam, in order to redistribute the costs of higher education, the government has transferred many powers and responsibilities affecting costs to institutions, while establishing a policy structure to guide the development of the system from a distance. [42] In the case of Thailand, the question about institutional autonomy for the public universities has been the subject of a long-standing debate, which has not resolved the issue. The universities are still under government control and are constrained by excessive bureaucratic rules governing financial allocation, planning, staff salaries and conditions of service. With the growth of regional universities and the more visible role of private universities, MUA is finding it increasingly difficult to monitor effectively the performance of these universities. This situation reinforces the case for autonomy.

118. In 1991, the Government invited public universities to submit proposals for legislation to enable them to become autonomous. Of the 19 public institutions existing at that time, 16 responded, despite disagreement between staff and administrators about the desirability of such a change. Proposed legislation did not eventuate.[43] Despite this unsuccessful effort, two new universities (Suranaree and Walailak) were established with a substantial degree of autonomy. For these new universities, the University Council is assigned to serve as the supreme governing and decision-making body and is provided with full authority over university operations. These universities have also been subsidized by the government, through block grants accompanied by a post-auditing system. Personnel management is flexible with the universities offering higher salaries then those in the public sector and, in some cases, high enough to be competitive with the private sector. Recruitment is more systematic and performance evaluation is more effective. In addition, the universities have greater flexibility to introduce new programs,

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[41] Neave, G. and Van Vught, F., eds., Prometheus Bound: The Changing Relationship Between Government and Higher Education in Western Europe, Exeter, Great Britain: Pergamon Press, 1991.

[42] Brunner, J. and Briones, G., Higher Education in Chile: Effects of the 1980 Reform, Education and Social Policy Department, World Bank, Washington, DC, 1992; World Bank, Vietnam Education Financing Sector Study: A Sector Report, Washington, DC, 1996.

[43] The main reasons public universities are reluctant to accept autonomous status seem to be: (a) many teaching staff feel threatened by the loss of job security that would result from leaving the civil service and moving to contract terms; and (b) autonomy will require increasing financial self-sufficiency which in turn will require substantial fee increases. Such increases would be strongly resisted by students and their families.

which enhances their capacity to respond to new labor market demands. Flexibility allows better control of costs through the ability to reduce faculty when student-teacher ratios fall below efficient levels.

119. The key financial issues related to autonomy are the need for greater budgetary self-sufficiency and for a more flexible mechanism for allocating Government support. The majority of public universities depend on the Government for 80-90% of their financial support. The Long Range Plan calls for universities to be more self-reliant and to diversify their sources of income, seeking more funds from the private sector through research grants, consultant services, fees for special courses and other forms of income generation, and through higher student fees. If income diversification is to be pursued effectively, universities must have an incentive to generate and use a financial surplus. They must be permitted to keep the additional resources they raise to finance quality improvement instead of having to transfer them to the Treasury. Several universities have announced fee increases, and many are already charging higher fees for evening classes and special courses.[44] MUA and NEC are currently examining mechanisms for introducing block grants for the public universities which will provide them with flexibility to cross-subsidize programs, start new initiatives, and provide resources to selected academic units to strengthen their programs. Government could give block grants that place greater weight on students studying in science and technology (S&T) programs, particularly postgraduates, and that reward high completion rates. Universities should be free to allocate resources to encourage growth, strengthen S&T departments, and restructure faculties to increase flexibility and to reward excellence.

**Cost Recovery**

120. In general, the financial strength of public higher education can be improved by mobilizing a greater share of expenditures from students themselves. The substantial private benefits that usually accrue to graduates and the high unit costs of higher education, justify the imposition of fees at this level of education. Arguments favoring fees are also based on concern for equity. Typically, entry to higher education favors students from high income families and such students usually constitute a much larger proportion of total enrollments than those from low income groups. It is difficult to justify subsidizing the rich when doing so will reduce the resources available to the poor. It is recognized that students from poor families also attend universities, and it is desirable that the share of this group be increased. Thus, cost recovery policies must take into account the needs of poor students. This implies the need for financial support for poorer students. However, because university degrees enhance lifetime earnings, the poor can finance their studies through loans that can be repaid later.

121. Cost recovery can be pursued by charging tuition fees in public institutions and eliminating subsidies for noninstructional costs such as housing and meals. Increasingly,

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[44] The student loan scheme should enable universities to raise fees without excluding poor students.

developing countries are moving in the direction of cost-recovery. Income from student fees in public universities is 22% of recurrent expenditures in Vietnam, 36% in Chile, 40% in Jordan, and 46% in Korea. The proportion in Thailand (for the closed admission public universities) is only 9%. Singapore, which has increased tuition gradually since 1986 and substantially since 1989, now has a policy of automatic 5-7% annual increases in student fees to keep pace with wage and other cost increases. In Botswana and Ghana, subsidies for student meals have been eliminated and the catering function privatized, resulting in significant cost savings. In Asia, public institutions charge tuition fees that generate, on average, more than 10% of recurrent expenditures in public higher education. [45]

122. In Thailand, the proportion of funding coming from government and non-government sources varies considerably between types of institutions. In 1993, the ratio of government to non-government funding was estimated to be 80:20 for the closed public universities. For the open universities, the ratio was about 49:51, reflecting higher fees and charges for academic services. In the case of the two autonomous universities, the ratio was about 93:7, reflecting their status as new institutions. It is planned that when fully established, they will be more self-financing and will raise a higher proportion of their income from fees, research grants and other forms of income generation activities. When the non-government income is broken down, tuition fees in closed public universities amounted to 17% of all non-government income (the remainder coming mainly from property, land rent and other endowments, as well as various services and donations).[46] The two autonomous universities derived about 37% of their non-government income from tuition fees, while the proportion for the two open universities was 90%,.

123. There is clearly scope for substantial increases in fees in the public sector, especially in the closed universities. While there have been modest increases in fee levels in recent years, the average proportion of total income from student fees is only about 9% for closed admission universities. In contrast, fees in the private universities cover around 100% of costs and the fee level per credit hour is about 10 times the level in the public closed universities. Thus private students pay the full cost of their education and there is, therefore, a strong incentive for the most able high school graduates to enter the low-fee public universities.[47] A public fee increase would also help to provide a more level playing field on which private universities could compete with their public counterparts. The Long Range Plan calls for cost sharing to be no less than 50% in all

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[45] World Bank, Higher Education: The Lessons of Experience, Washington, DC, 1994.

[46] For Chulalongkorn University, student fees accounted for only 7.5% of total non-government income in 1994. However, the university recently announced substantial increases in fees.

[47] In 1994, 56% of candidates for the national entrance examination selected Chulalongkorn as their first choice. Mahidol received 30%, Khon Kaen 22% but no private university received more than 9% first choices. Woodhall M. and Hough J., Higher Education Policy and Finance in Thailand, The Booker Group and CfBT Education Services, June 1995, p.10.

public institutions by 1996. This target has not been met, a failure that reflects strong resistance of students and their families to fee increases. Although it is widely recognized that affluent students are enjoying large subsidies to pursue higher education in the public universities[48] and the degrees they receive will enlarge their lifetime earnings, the Government and the university administrations have not been able to overcome the resistance of this highly influential group.

**Staffing**

124. The granting of autonomy to the public universities will provide the flexibility to make salaries and employment conditions more attractive and bring them into line with the private universities. This is an important requirement for any plan to raise the quality of teaching staff. However, there are two more crucial requirements for quality improvement. ***First***, institutions should put in place more incentives and more opportunities for teaching staff to do research. At present, there is no general expectation that university lecturers should engage in research. Research outputs are required for those who seek to be promoted from assistant professor to associate, or from associate to full, but many staff seem quite content to teach their classes and do little research or further study. Incentives for staff to undertake research should be put in place, both positive incentives (research funds; equipment to do research; more post-graduate programs, in which research and instruction are closely linked; a generally "supportive environment" for research) and negative ones (performance evaluations that include measures of research productivity). These incentives are necessary to make university teaching more attractive for the best teaching staff (many of whom will already be doing research) and, equally important, to make average performing staff better classroom teachers.

125. ***Second***, especially for those teaching in fields where Thailand has not yet developed good post-graduate programs, there should be attractive opportunities for staff to receive advanced training abroad. Although 76% of university lecturers in Thailand now hold more than a bachelor's degree, only 22% of them have completed doctoral degrees. This seems a low percentage for Thailand, in an era of economic globalization. One would expect that university staff would welcome the opportunity to study in good post-graduate programs abroad. Few, however, seem to pursue this option today. This reflects the fact that the price of such study is set too high.

126. Obviously, the cost is high for privately financed students, who must pay the fees charged by the overseas universities, pay the international travel and maintenance costs, and also bear the opportunity costs of the earnings foregone while studying. For teaching staff who cannot afford to finance these high costs, Government offers overseas scholarships, which are generous enough to cover at least the direct costs of overseas

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[48] These subsidies were calculated in 1989 as equivalent to 1.6 times per capita GNP or B50,000 per student annually. World Bank, Thailand's Education Sector at a Crossroads: Selected Issues, February 7, 1991, p. 3.

study. Yet, teaching staff are not taking up these scholarships in large numbers. The reason is that those who accept overseas scholarships are "bonded" when they return home -- they must work *two years* for the Government *for each year* spent out of the country. The "buy out" cost for anyone who leaves government service is *three times* what Government spent to send the individual abroad.

127. This price is too high. Government should not worry about brain drain from government employment to the private sector, so long as the publicly financed costs are at least recovered. To insist on three times the cost is simply punitive. Those who accept overseas scholarships, return home and remain in the civil service as university teachers benefit the country. Those who do not and migrate to the private sector (whether as private university lecturers or as workers in industry) also benefit the country. Government should reduce the buy-out cost, and not be concerned about returnees who leave public sector teaching to pursue more lucrative options. The market should determine the place of employment and reducing the buy-out cost would diminish a significant market distortion. The reduction policy would, of course, make it easier for university teachers to migrate to the private sector. But this would be ameliorated by the public universities opting for autonomy, thereby giving them the capacity to offer competitive salaries and employment conditions.

**Enrollment Structure**

128. The Government is concerned that enrollment in S&T programs in the universities is inadequate to support the country's drive towards technology-intensive industrialization. The widespread shortages of engineering and scientific manpower have led to a tight labor market for high level skills in these fields, characterized by high mobility rates (poaching is rife) and escalating salaries.[49] In response to these problems, current policy calls for the universities to increase S&T enrollments to 60% of the total enrollment (it was around 30% in 1994). Admission to the public universities in the fields of science and engineering will be increased by 15% per year with the aim of increasing the proportion of graduates in science and technology to 50% of total enrollments by 2000. To achieve this, the MUA has: (a) increased student enrollments in the existing faculties of engineering and science in eight public universities; (b) established new faculties of engineering and science in three other existing public universities; and (c) created four new public universities with strong faculties of science and engineering. In the private sector, MUA has eased regulations on private universities, now permitting them to offer engineering degree programs. Fourteen private universities have established faculties of engineering, which admit over 2,000 students to the B.Eng. degree programs annually.

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[49] A sense of the state of the market can be seen in the following quotation: "An executive of a top American high-tech company in Thailand says that engineers are in such demand that they change jobs every three months and get an average 10% increase in salary with each move." Far Eastern Economic Review, June 12, 1997.

129. In order for the expansion policies to succeed however, a higher proportion of secondary school graduates must be attracted to study for science and engineering degrees. There appears to be no lack of raw material, at least quantitatively. In 1994, 57% of upper secondary students were enrolled in the science/math elective (and over half were girls). The private returns to a university degree in science or engineering (especially for those graduating from low cost public universities), are substantial[50] and this should signal to students the financial advantages of enrolling in S&T programs. The response has been mixed, with demand for engineering courses being quite robust while in science the trend has been flat. There is scope for MUA to improve its efforts to ensure that relevant information is widely available, especially the annual review of graduate employment. On the supply side, scholarships can be targeted specifically on S&T programs and priority for subsidized student loans given to students enrolling in S&T programs. These efforts would help to reduce market imperfections and give students the information and support necessary for making rational career choices.

130. There remains the issue of quality. The universities have identified the poor quality of student intake in the area of mathematics and basic science as the main factor inhibiting the expansion of S&T enrollments. The low level of student achievement in these subjects is attributable to weaknesses in the primary and secondary schools. In primary school, teachers are generalists and are less comfortable teaching these subjects, while at the secondary level, the majority of science and mathematics teachers have degrees in education, often with an inadequate knowledge of their basic subject matter. Thus, the lack of a firm foundation in science and math is carried upward through the school system to the universities, where it contributes to a high level of repetition and drop-out from the S&T programs. In order to strengthen math and science teaching, there is a strong case for Thailand to revert to the pattern of teacher education that used to prevail, that is, requiring teachers of these subjects at the upper secondary level to be graduates of math and science, with education as a minor subject.

### G. Resource Mobilization

131. The flow of budgetary resources to education has been substantial for many years. Over the past decade and a half or so, while the allocation to education has remained around 3.5% of GDP and 18-20% of the national budget, rapid growth in these indexes has led to the education budget increasing in nominal terms at an average of 11.7% p.a. during 1982-95 (Annex 3, Table 8). Within this general picture, several trends can be discerned. In primary education enrollments peaked in 1981 at 7.4 million and began a steady decline thereafter, falling to 5.9 million by 1995. The decline of the primary age group took the pressure off the financing of primary education as the growth in the demand for new teachers and classrooms fell. However, by the end of the 1980s, it became evident that more emphasis on improving the quality of primary education was

[50] Most of the available data on private rates of return are out of date. However, a 1994 NEC calculation for the B. Tech. degree gives a private rate of return of 18.8%. (NEC data for 1989 indicate private rates of 17.6% for science graduates and 23.5% for engineering.)

needed together with an expansion of preprimary education to better prepare children for entry to the formal education system. This is reflected in patterns of budgetary expenditures on elementary education. Through the 1980s, expenditure increases averaged about 6% p.a., but this accelerated to over 16% p.a. during 1989-95.

132. In secondary education, relative stagnation resulted in the enrollment ratio remaining at around 30% during the decade of the 1980s. However recognition of the importance of secondary education for sustaining Thailand's long term growth, and in response to rising social demand, secondary enrollments increased rapidly in the 1990s. Again, these trends are reflected in budgetary expenditures. These expenditures increased at 7.8% p.a. during 1982-89 and then jumped dramatically to 27% p.a. during 1989-95. As a result of these efforts, the enrollment ratio in secondary education had risen to 49% by 1994. Higher education has experienced similar trends - a relatively modest enrollment growth in the 1980s followed by a rapid expansion in the 1990s in response to rising social demand for higher education and increasing concern for the widening gap between the demand for higher skills, generated by a rapidly expanding economy, and the lagging supply from the higher education system. Budgetary expenditures on higher education averaged 7.2% during 1982-89, rising rapidly to 24.4% in the period 1989-95.

133. Looking to the future, the pressure on the public education budget will remain strong due to the need to expand post primary education and to improve quality at all levels. Recent growth rates in the education budget reflect a surge of interest in education and the high priority it has been given in national development strategies. Even under normal circumstances, these rates could not be sustained in the longer term. However, with Thailand now facing an economic crisis, a tight fiscal policy is in force and this is likely to extend over the next few years. The widely held conviction that resource availability for education would not be a problem no longer holds as the Government has been forced to cut the FY98 budget. The budget allocation of B200 billion for FY98 is below that of FY97 (B214 billion). Although it represents about the same proportion of the national budget (about 21%), the FY98 allocation is a break with the long past trend of substantial annual increases in the education budget.

134. The emergence of budgetary constraints calls for several responses. ***First***, the Government needs to get control of costs. As shown below, unit costs have been accelerating at all levels in the 1990s, especially in elementary education and in the closed public universities. Since education is a labor intensive activity, salaries and allowances represent a major part of recurrent costs and significant cost savings can be achieved if student:teacher ratios can be raised. There is considerable scope for this in Thailand. In 1994, the ratios were 18:1 in primary, 20:1 in general secondary and 11.7:1 in the closed admission public universities. These are quite generous, especially in the schools where ratios of 30:1 in primary and 25:1 in secondary are closer to regional norms.[51] The case for increasing class size is strengthened substantially by research

[51] In Korea, the student:teacher ratios were 29:1 in primary and 23:1 in secondary education in 1994.

which shows that, within reasonable size ranges (e.g. 15-35 in primary schools), larger classes do not reduce student achievement levels.[52]

**Table 1: Growth in Unit Costs**

| | (Percentage) | |
|---|---|---|
| | 1985-89 | 1992-94 |
| Elementary | 4.4 | 21.2 |
| General Secondary | 6.0 | 7.2 |
| Vocational and Technical | 6.0 | 8.2 |
| Public Universities (Closed) | 2.3 | 13.1 |

* Pre-primary and primary.
Source: 1985-89, World Bank (1991); 1992-94, World Bank estimates.

135. ***Second***, pressure on the public education budget can be reduced through an expanded private provision of education. As noted (para. 108), the private sector in education is significant in pre-primary, vocational and technical, and the closed admission universities. The Government has recognized the importance of private provision and has introduced policies to encourage a larger private role (para. 74). Particular emphasis needs to be given to expanding private schools at the secondary level, where private provision is relatively low. ***Third***, the low fees charged by the closed admission public universities cover only about 10% of unit recurrent costs. There is clearly scope for a substantial increase in fees. The Government's target of 50% coverage of unit recurrent costs should be pursued energetically. It is important that fee increases be accompanied by effective implementation of the loan scheme and scholarship programs to ensure that low income students are able to pursue a university education.

136. The emerging financial constraint in the education sector also encourages the examination of budget allocations between recurrent and capital expenditures with a view to possible adjustments in the capital account. Recurrent expenditures, already under pressure, will be further squeezed by the measures being proposed (paras. 82,83) to ensure that vulnerable groups of students are not forced to abandon their education. Some capital expenditures can be postponed (in the short term) and reallocated to the recurrent budget to provide temporary relief. There appears to be some scope for this. Annex 3, Table 11 indicates that in recent years, annual capital expenditure has been about 19-20% of the education budget and amounted to about B32 billion in 1996. Postponement of part of the investment program and transfer of funds to supplement the recurrent budget should be given serious consideration.

[52] World Bank, 1991, p. 24.

137. In many countries there is scope for improving the allocation of resources between salary and non-salary components of the recurrent budget at the different levels of education. Typically, salaries comprise the preponderant share of recurrent expenditure and non-salary items, especially educational materials, are underfunded.[53] Thailand seems to have achieved a relatively good balance between components as indicated in Annex 3, Table 12. The salary/wages component of recurrent expenditure is 80% for elementary education, 71% for secondary and 58% for tertiary education. This implies an adequate investment in educational materials since Thailand's schools are not loaded with excessive administrative costs, which would consume a high proportion of the non-salary component.

## IV. KEY POLICY ACTIONS FOR THE FUTURE

138. In Thailand, education is a topic of widespread concern in the community. Educational problems are widely debated and many commentators in the media, the academic community, parliament, and various interest groups are critical of the present state of education. Policy-makers are faced with many powerful interest groups - students, teachers, parents, politicians, employers. These groups operate in several dimensions - urban/rural, high/low income, ethnic, religious, etc. This impacts on many issues such as the location of educational institutions, financing of education and its cost burden, appropriate curricula, the distribution and quality of teachers and of physical facilities. The strong recognition in Thailand that education provides the major means for social and economic advancement raises the profile of education and ensures that policies are continuously under scrutiny in the community and in the media. This makes for a complex policy making and planning environment.

139. Even so, *a number of sound policies, bearing mainly on improving the quality of education, are being implemented.* These are contained in the Eighth plan and in the recently introduced education reform program. In formulating the policy proposals that follow, full recognition was given to ongoing actions. The proposals highlight areas of priority to which special attention needs to be given if problems are to be resolved. The proposals are not new. They have in fact been under consideration for some time and are included in policy and planning documents. They are presented here as topics, which experience has shown are difficult to handle (for political, administrative or pedagogical reasons) and need special impetus to be resolved. They are:

[53] One study shows that for 34 lower middle income countries (including Thailand), the median value of teacher emoluments in primary education as a proportion of recurrent expenditures was 91%. Lockheed, Verspoor, et al, 1991, pp. 350-2.

**Achieving and Maintaining Full Access to Schooling**

140. A well-developed school infrastructure exists in Thailand which services near universal primary education and a rapidly expanding secondary system. But there are 400,000 primary age children who are not currently in school, largely comprising groups which are difficult to service. A number of programs are available to support enrollment expansion at the lower secondary level (para. 78), some of which are also available to primary students. The full range of programs should be reviewed and extended to cover primary schools wherever feasible. Furthermore, the policy of closing small rural schools should be reviewed, and in cases where such schools improve access for disadvantaged groups, equity concerns should override economy of scale arguments, and the small schools should be kept open. The special programs being introduced to protect vulnerable groups during the economic downturn should be continuously monitored to assess their impact and adjustments made as appropriate.

141. The second priority is to ensure that facilities to service the rapid expansion of secondary education are available to sustain momentum. The conversion of surplus primary school facilities to accommodate lower secondary enrollments has facilitated rapid enrollment expansion in a cost effective way, and this policy should lead quickly to the absorption of the remaining 1.2 million children into lower secondary schools. But as the rapid build up of enrollments flows through to upper secondary grades, additional facilities must be constructed and primary school extensions will not be available as a convenient low cost remedy. The long term goal of a compulsory twelve year education cycle will require the full enrollment of the primary age group, a 100% transition rate from primary to lower secondary to upper secondary and 100% retention rates throughout the whole system. Provision of the supporting infrastructure will require a major effort from the provincial education authorities. Sound planning, based on school mapping, capacity to implement construction programs and effective budgeting will be needed at the provincial level. To this end, MOE must ensure that competent, well-trained officials are posted to the provinces.

142. The non-formal education system is bringing second chances for upgrading general education levels and vocational skills to over 3.5 million people. NFE, in combination with the open universities and the RIs, provides the essentials of a lifetime education system. At present they are separate, largely uncoordinated entities. The concept of NFE should be expanded to encompass education from primary to degree levels. It should be treated as an integrated system which would allow people to enter at any level for which they are qualified and exit when their educational and skill development needs have been satisfied. Proper attention should be given to quality to ensure that qualifications are recognized as equivalent to those obtained through formal study. Management of a broader NFE system would involve both MOE and MUA and the appropriate inter-ministerial body would need to be set up to handle management, planning and budgeting issues.

**Raising the Status of the Teaching Profession**

143. Any attempt to raise the quality of teachers faces a fundamental constraint, namely, that the teaching profession in Thailand is not a prestigious one and the better quality high school graduates are not attracted to teacher education programs. The policies in the reform program (para. 19) will, if implemented effectively, lead to quality improvements for serving teachers and for teacher trainees. But to attract high quality recruits to the profession, the key long term issue is to raise the professional status of the teacher and strengthen preservice and inservice training. The elements of professional status are several - an adequate salary level, professional qualifications which are recognized as high quality and recognition in the community that a teacher's job is a valuable one.

144. Improving teachers salaries is in some ways the easiest to achieve, although budgetary constraints and the issue of salary relativity with other Government employees should not be underestimated.[54] The main route to high quality professional qualifications is through strengthening the degree programs in the faculties of education and especially in the Rajabhat Institutes. This will require sustained efforts to upgrade lecturing staff and strengthen curricula. The status of the RIs will rise as they start developing graduate programs and as they evolve towards the status of regional universities. This means that every effort must be made to safeguard the quality of teacher education programs as the RIs expand into more prestigious areas. Stronger community recognition of the valuable role of the teacher is something that will grow over time. In part it will be a function of higher quality recruits entering teaching, better professional training for these recruits which in turn would be reflected in well-regarded degrees. The proposed Royal Academy of Teachers has the potential to play an important role in raising the status of the teaching profession and should be established without delay. The Academy will set academic standards for the profession and will have a membership of distinguished teachers recognized by awards from the King. These achievements will be reinforced by increased recognition among parents and students that education is the key to socio-economic advancement for most families and that the teacher plays a crucial role in this process.

**Changing the Teaching/Learning Environment**

145. The teaching/learning environment at all levels of education in Thailand is characterized by classroom practice which is teacher dominated and strongly emphasizes

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[54] Paradoxically, research shows that higher salaries do not result in better teachers. See Fuller (1986) and also Hanushek, E.J., Interpreting Recent Research on Schooling in Developing Countries, World Bank Research Observer, Vol. 10, August 1995. While it may be true that raising salaries for existing teachers would not raise the quality of their performance, the point remains valid that to raise the status of the teaching profession in Thailand, teachers need to be better paid. Relative salaries are low and teaching as a profession cannot compete with other alternatives in the market for high quality secondary school graduates.

rote learning. This needs to be transformed into a more participatory approach where the emphasis is on the development of analytical skills and problem solving capabilities among students. To change the entrenched culture, teacher training, both preservice and inservice, will need to focus on attitudinal changes and offer teachers the necessary instruction and support to effect the change. Students must be encouraged to raise questions and debate issues in class, but they will only be comfortable doing so if they are encouraged by, and have trust in, the teacher. Progress towards this cultural change will be a partnership in the classroom between teachers and students. Evaluation of teacher performance must reward success in changing classroom practice. Box 5 gives an example of the introduction of student-centered learning in Pakistan.

**Box 5: From Rote Learning to Student-Centered Learning: A Successful Case in Pakistan**

In 1984, the Aga Khan Education Service (AKES) took over from the Government of Sind Province in Pakistan, three multi-level school complexes that had been nationalized in the seventies. As AKES began to refurbish the campuses and to hire teachers, a School Improvement Program (SIP) was formulated " to create a self sustaining and self-reliant system of staff and organizational development" that promotes student-centered learning. The impact of SIP on student-centered learning has been significant. In primary schools there are many new student materials in the classrooms. Some classrooms in the early grades have been organized into activity centers and are team-taught. Students' participation and interest are high. Repetitive responses have been limited, and there has been lots of group work by students. It appears that the amount of this kind of teaching and its quality correlates positively with the amount of SIP training teachers have received. The teachers have enthusiastically adopted the new pedagogy. It is estimated that the student-centered approach is the dominant mode of teaching behavior in 40%-70% of the primary classes and in 20%-40% of the secondary classes and that 50% of the primary teachers and 20% of the secondary teachers want to master a student-centered pedagogy.

Changes in teaching have been supported by changes in the management structure. School Management Committees, a Heads' Forum, and an AKES Education Planning and Development Committee have been established, with the School Heads involved in all three groups. At the same time, a career ladder for teachers has been created. Where there used to be only teachers and school heads, there is now a ladder of teachers, subject coordinators/department heads, deputy school heads, school heads, and AKES curriculum advisors which significantly expands career advancement opportunities. In the schools, there are now scheduled times for teachers to work together, by giving free periods together to secondary-level subject area teachers and by not having classes on Saturday in the primary schools. Team teaching occurs and double and triple periods are now scheduled for subjects that need them. Teachers, administrators, and volunteers all have positive attitudes about education, about changing the way children are taught, and about each other. All these accomplishments provide a strong base on which to build.

In general, the Program has identified three elements in school improvement. The leadership has provided a trusting and enabling attitude towards teachers; the organizational structure has been changed to reflect this trust and to empower heads and teachers to make changes in the schools; and a significant commitment to teacher training has been made. Given the very modest per pupil investment that has allowed the SIP to succeed, it may be that the three elements of leadership attitudes, organizational structure and training are more important in improving educational quality than the cost.

*Source:* Heneveld and Hasan, Evaluation of Sind School Improvement Program: Aga Khan Education Service (Pakistan), Aga Khan Foundation, Geneva, October 1989.

146. In schools today, the rote learning tradition is strongly reinforced by an examination culture which encourages the mastery and regurgitation of facts. Teachers teach to the exams and this is reinforced by the attitudes of parents whose main concern is the passing of exams which will qualify their children for promotion through the education system, culminating in entry to university. Thus, attempts to change attitudes towards learning must also include parents. They are likely to be supportive when they recognize that a shift away from rote learning will require changes in the methods of student assessment. The desired approach is to rely on continuous assessment up to grade 12 when the major hurdle - the university entrance exam - has to be faced. University entrance is now based on the score obtained in the exam, and this determines which university successful students will enter. Individual universities have no control over the selection process. The process is highly competitive - in 1996 there were 3.5 students applying for every university place. Reform of the university entrance procedure is currently being debated in Thailand (para. 62). The addition of grade point averages (for grades 10-12) should be part of the student selection formula,[55] together with special characteristics or aptitudes as defined by the universities themselves. This would broaden the base of selection, provide an improved predictor of success in university studies and give individual universities some influence over the selection process. The process of broadening selection criteria is being followed in Korea where it has been recognized that a single exam score is an inadequate predictor of success in university studies.

**Streamlining Administration**

147. The core of policy change in educational administration seems to be the deconcentration of responsibility for key activities to the provincial offices of the central agencies of MOE. This is a sound move in principle, but meaningful decentralization of authority will be weakened if the work of the local officials is dominated by the central agencies for which they work. The crucial step in giving the provinces a real say in educational development is to establish effective Provincial Education Councils with strong community membership. If the purpose of decentralization is to ensure that local education needs are met, there must be a close relationship between officials and community representatives. Thus, decentralization will require a careful balance between the technical expertise of officials and the guidance of community representatives representing local needs and priorities. But crucially, the local officials must serve the PEC and reflect its priorities rather than those of the central agencies.

148. There are two other key issues in decentralization. ***First***, is the need, at the provincial and lower levels, for technical expertise in management, planning and budgeting. If skilled administrators are not available at the provincial, district, subdistrict and school levels, decentralization will not be effective and the quality of education will

[55] However, they should not be based on national multiple choice tests (para. 61) but rather on exams which evaluate knowledge, analytical skills and problem solving capabilities. The university entrance exam should also be restructured to test these characteristics as indeed should the continuous assessments.

suffer. The administrative capacity must exist to allocate resources effectively. This encompasses the posting of teachers to ensure adequate staffing in the schools, the timely payment of staff, the delivery of textbooks and other learning materials in line with classroom schedules and the maintenance of physical infrastructure. Special attention should be given to remote and/or poor districts. An effective planning capacity at the local levels is necessary to ensure that the education system can respond to changing community and labor market needs. In addition to careful selection of administrators, administrative training should be provided regularly through the Rajabhat Institutes.

149. ***Second***, school curricula should have enough flexibility beyond the compulsory core subjects to provide content which is relevant to the local environment. Providing the administrative procedures to localize curricula is an important aspect of decentralization. While the relevance of periods providing work experience is vanishing (paras. 47 and 49), careful attention needs to be given to vocational subjects in the secondary curriculum to ensure that they are relevant to the environment of the student, especially those intending to enter the labor market after grade 12. Clearly, the needs of rural students will differ from those of their urban counterparts, and if the former are to be encouraged to stay at home rather than migrate, their education should fit them for their local environment. Assessing local curricular needs must be done in the provinces, and the PEC should organize this activity at the district level and below. Curricular review committees should be organized to do this work and include qualified professionals in their membership. However, care must be taken to ensure that change does not become a constant irritant to teachers. Once local content has been clearly defined, the effort should shift to supporting the principals and teachers in implementing the curricula.

**Skill Training**

150. The priorities in skill training are: (a) to encourage industry to carry out training to the greatest extent possible; and (b) to ensure that the formal VTE institutions (both public and private) are relevant to industry's needs. It has been noted that the practical skills required on the factory floor are most effectively developed in plant. To encourage the expansion of such training, targeted deductions from corporate taxes should be made available to firms. Firms which do not undertake training should be subject to a targeted tax, the proceeds of which would be given to formal training institutions to provide the training. Such training would be clearly defined by industry and its quality assessed on the basis of the on-the job performance of graduates.

151. The formal training institutions should, in general, be responsible for the provision of more general skills. These should be both useful and relevant to industry's needs. Achieving this would be enhanced by a greater focus on "sandwich" courses which combine institutional instruction with practical training on the job. The "Dual System" currently being introduced in DOVE follows this approach. It should be carefully evaluated and if the program can be successfully implanted in the VTE system, its expansion should progressively replace a substantial proportion of the full-time institutional pre-service training, which now predominates in DOVE's institutions.

**The Role of the Private Sector**

152. The confluence of tight education budgets and the need to expand enrollments underlines the importance of ensuring that private investments in education continue to grow. Policies are in place, or are under consideration, to achieve this objective. The role of subsidies is being reviewed. At present, these are available only to private schools established before 1974 and cover 40% of per student recurrent costs. It has been proposed by MOE that all private schools be eligible for subsidies. This seems overly generous and costly - there are 3,000 private schools in Thailand. More restrictive criteria should be used to ensure that an expansion of subsidies covers schools in need (outside the BMA) rather than schools from higher income areas. The expansion of subsidies to schools on a needs basis is consistent with, and would complement, the proposed policy that would waive fees for all families with annual incomes below B60,000. This policy has been held up by the present budgetary constraints but it should be implemented as soon as these constraints are lifted.

153 Assistance to private schools which do not meet the needs criteria should be in the form of abolishing the ceiling on fees. Under present policies, private schools not receiving subsidies can charge fees up to 30% above the ceiling but the average is in the range of 10-15%. Abolishing the fee ceiling would remove a key impediment to entry to the private education sector. Market forces would ensure that fees would not rise to unsustainable levels. However, there is an important role for OPEC to play in supplying information on the availability and quality of private education. OPEC needs to be strengthened to become an effective information provider and to play its proper role in the assessment of quality. The demand for private education would be greatly enhanced if potential clients had enough information on access and quality to permit them to make rational choices.

154. The student loan scheme covers students in private (as well as public) schools and provides heavily subsidized loans to eligible students. On the assumption that deregulating fees would result in some increase in fee levels, greater availability of loans would be necessary to offset the rise. Thus it is important for the Government to review the size of the loan program and the effectiveness of its implementation. Accessibility to loans should also be kept under review. The recent rise in the eligibility limit from a family income of B120,000 to B300,000 per year has greatly expanded potential access for lower income groups.[56] But pressure will undoubtedly arise for the limit to be raised again to include more affluent families. This should be resisted. Loans carrying an interest rate of only 1% represent a very large subsidy and should be available only to genuinely poor families.

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[56] A number of higher education institutions are reporting substantial increases in loan applications and MOE expects a three-fold increase this year. This is due partly to the raising of the loan eligibility ceiling but also to deteriorating economic conditions. Further substantial increases in loan applications are expected next year due to economic hardship. Bangkok Post, September 18, 1997.

155. The development of facilities in private educational institutions will be enhanced by the Institutional Development Fund (para. 74), which became operational in 1996. It is too early to assess its effectiveness, but there appear to be some rigidities in its design which could be removed. Most importantly, selection of institutions to participate in the program is made by senior bureaucrats. This should be left to the Government Savings Bank, which is managing the loan fund, and eligibility should be determined on the grounds of credit worthiness. The loan limit of 50% of a proposed investment should be relaxed and the loan amount should depend on financial and risk factors relating to individual institutions. Similarly, the criterion that borrowing institutions should be at least five years old should be relaxed. Newer institutions could be credit worthy and are generally in greater need of loans than more established ones. The revolving fund for staff development (para. 74) is supposed to be capitalized at B2 billion but only B100 million was allocated in FY97 and nothing is planned for FY98. This fund is vital to raising the quality of private education and should be treated more generously in the (admittedly tight) budget. Annual funding of B100 million in the next few years would seem feasible.

**The Universities**

156. In a future of rapid social and economic change, Thailand's universities will have several crucial roles to play - as intellectual leaders in the national transformation, as suppliers of highly skilled manpower and as centers of research and development. To play their proper role in the country's future, the universities must be innovative and flexible in responding to change. The key to achieving this is to grant the public universities ***autonomy***. This has been resisted (para. 118) and strong leadership will be needed from the Government to bring autonomy to the nation's universities. The time has come for the Malaysian approach to be adopted, whereby the Government ordered the universities (without exception) to "corporatize" according to an agreed schedule (originally 12 months but now extended).[57] Under this approach, the Thai Government would set a reasonable timetable for achieving autonomy and make sure that the universities complied.

157. There is strong equity argument in favor of raising the low fees in the closed admission public universities, where a student body drawn disproportionately from the higher income groups, faces low private costs and high private returns. The Government should seek to reach its goal of 50% cost sharing by students (originally scheduled for 1996) by 2002. Such an increase would help to improve the competitiveness of the

[57] Malaysia's universities are being "corporatized" through changes introduced in late 1996. These changes are compulsory for all the public universities. The universities will be run by boards of directors which will have the power to raise loans, enter into business ventures, acquire shares, set up companies, etc. Greater autonomy in finance and administration is permitted under the new National Council on Higher Education. However, autonomy is not complete - new courses still require the approval of the Minister of Education and constraints on political activities by staff and students have not been rescinded.

private universities (where cost sharing is around 100%) *vis-a-vis* their public counterparts in the higher education market.

158. Competitiveness would be further enhanced by ensuring that student loans and scholarships are available to students entering private institutions on the same basis as those entering public institutions. Although the family income eligibility requirement is the same for both public and private students, the present loan scheme requires that parents provide either collateral to secure the loans or a guarantee for their repayment. This would undoubtedly be a disadvantage to many low income students and these constraints should be abolished. If this is not favored, a more equitable alternative to the present approach would be to provide an option in the form of an income contingent loan which would be repaid through the tax system when the borrower's income reaches a specified level.[58] See Box 6 for details on student loan schemes in the United States and Australia.

159. The Government aims to ensure that the universities play their proper role in providing the S&T manpower to underpin the country's drive towards technology intensive industrialization. Policies to expand enrollments in science and engineering programs to close the gaps in high level skills are being implemented. But these have met with only partial success in spite of the high private returns to investments in science and engineering degrees. MUA needs to ensure that information on graduate employment rates and starting salaries are disseminated more widely to guide student choice. This should be complemented by specially targeted scholarships for S&T courses aimed at talented students, irrespective of means, with a particular focus on the high-fee private universities. Priority can also be given to subsidized student loans for students enrolling in S&T courses.

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[58] An income contingent loan scheme has been introduced successfully in Australia. See: Woodhall, M., The Reform of Higher Education Finance in Developing Countries: Some Implementation Issues, mimeo, World Bank, March 27, 1997, pp.4-5; Cusack M., Public and Private Financing Strategies for Financing Higher Education in Asia, EDI/World Bank seminar, July, 1992, p. 7.

**Box 6: Student Loans in the United States and Australia**

The Stafford Loan Program in the United States has been the principal federal government mechanism for promoting access to higher education. Under the program, post-secondary students who meet financial need criteria and are enrolled in accredited institutions, have access to government subsidized loans from private commercial banks. Loans can be used at public or private institutions, including vocationally oriented proprietary institutions. The federal government acts as the loan guarantor and pays an administration fee to the financial institutions handling the loans.

Since its inception in 1964, the U.S. student loan program has helped millions of students from middle and low income families to attend college or to attend higher quality institutions than they would otherwise have been able to afford. It has allowed the U.S. to achieve high participation rates in post-secondary education at a much lower cost to government than if such education were provided free to all students. Nevertheless, the expansion in the 1970s of the loan program to vocational institutions, to increase further the enrollment of low income students, has made the program increasingly costly and raised the default rate. During the 1980s, about 17% of borrowing students failed to repay their debts resulting in a US$3 billion annual government loss. However, the robust economy of recent years had reduced the default rate to under 11% by 1994.

The late 1980s was a period of significant reform and expansion in Australia's public higher education system. As a simple and equitable means of securing student contributions to the costs of higher education, a fee in the form of the Higher Education Contribution Scheme (HECS) was introduced in 1989. The fee could be paid upfront and gain a discount (currently 25%). In the interests of equity, an option in the form of a deferred payment income contingent loan was introduced. Repayment is made through the taxation system and begins when a student's weekly income exceeds a specified minimum level equivalent to annual average earnings of A$28,395 (for 1996-97). The annual rate of repayment depends on the level of income above the threshold and is in the range of 3-6%. Payments are collected by employers through the pay as you earn taxation arrangements. There is no rate of interest on the outstanding debt but this is increased in line with the consumer price index to maintain its real value. The HECS debt can be paid down at any time through a voluntary payment to the Taxation Office. Voluntary repayments of A$500 or more attract a 15% discount.

The HECS has been a success. In 1995 around 510,000 students were liable for a HECS debt. Special attention is being given to monitoring the impact of HECS to ensure that the entry of disadvantaged groups to higher education has not been adversely affected. No such effect has been recorded to date. A clear advantage of the income contingent nature of the HECS and debt collection through the taxation system is that conventional loan defaults are likely to be rare. However, there is an element of unrecoverability in that some debtors will remain below the threshold for repayment due to unemployment, part time employment or employment in low wage public service jobs. The establishment of a HECS or similar approach in other countries will depend upon the existence of some basic requirements - taxation on an individual basis, a national system of identification, a central processing facility for taxation assessments, compatibility of information systems for higher education institutions and the taxation system, and the ability of institutions to provide details on student debt.

Source: Albrecht, D., and Ziderman, A., Financing Universities in Developing Countries, PHREE/92/61, World Bank, 1992. Department of Employment, Education and Training, The Operation of the Higher Education Contribution Scheme (HECS) in Australia, Canberra, 1996.

160. The long term plan for higher education calls for a much greater research effort on the part of the universities. Government policy also calls for budget allocations for research to reach 1% of GNP by 1997 and 1.5% by 2004. Although it is unlikely that these goals will be met on schedule, their ultimate achievement will depend on a much greater research effort in the universities, especially in the fields of science and technology. As noted above (para. 124), the research base of the universities is limited. This needs to be strengthened through improved incentives for academic staff to undertake research - finance, facilities, requirements for promotion, etc. Another crucial ingredient in strengthening research capacity is the expansion of graduate programs. Enrollment in science and engineering programs at the masters and doctoral level is only about 16% of total graduate enrollments. Incentives in the form of attractive teaching assistantships should be expanded to complement improved research facilities. This will enlarge the pool of research manpower, train future academics (many of whom will benefit from the improved conditions of employment flowing from the autonomous status of the public universities) and provide the future research leaders in industry.

## V. IMPLEMENTING POLICY CHANGE

161. In Thailand, the quality of education is often questioned but there is no doubt that in a quantitative sense, the system is able to deliver a wide range of education services to a large number of people. The two education ministries (including the private institutions which they supervise), control nearly 38,300 formal institutions enrolling around 13.5 million students and employing over 680,000 teachers. This represents a very large enterprise, and in an operational sense, proves that educational authorities can implement programs on a very large scale. While the situation may be less satisfactory in some of the more remote areas, schools are staffed, teachers paid, learning materials supplied, students attend, etc. In other word, the education process works in Thailand.

162. At the policy level, implementation is less smooth. In Thailand, there is widespread understanding of the problems in the education system and the policy prescriptions necessary to resolve them. The difficulty lies in implementing the needed policies. It is clear from the earlier parts of this paper that there are a number of sound policies being implemented which bear on improving the quality of education at all levels. At the same time, there are a number of policy issues which are not being addressed. Most of these have been around for some time and have been widely debated. They have not been resolved for a variety of reasons. In some cases (e.g. changing classroom practice away from rote learning) the issue is complex, the solution requires multiple inputs accompanied by attitudinal changes among the participating groups and results can be achieved only in the long term. In other cases, the constraints are social and political e.g. raising fees substantially in the public universities or granting them autonomy.

163. It is not clear under present conditions whether the various outstanding issues can be successfully addressed. There does not seem to be a mechanism in place that would lead to a thorough review of the issues, followed by the appropriate decisions to resolve them and timely implementation of these decisions. There are clear statements of intent enshrined in various policy and planning documents. One example of this is the statement that by the end of the Seventh Plan (i.e. by 1996), "students in all state institutions should be sharing the burden of no less than 50% of their tuition fees and other expenses"[59] It has been noted that raising fees is politically difficult to achieve and the 50% target is a long way from achievement. How could success be achieved? The answer is a combination of good communications and strong leadership. From this generalization, a set of actions for the successful implementation of a policy initiative can be postulated:

* Determine a leadership strategy i.e. decide who will take the lead role in presenting the policy to the public. For certain issues having high political sensitivity, the Prime Minister might take the lead. More usually, it would be the Minister of Education or University Affairs in concert with senior officials. It is important that the Minister and his senior officials speak with one voice and that everyone is committed to the policy.

* Present a clear statement of the objectives of the policy, which would indicate what is to be done and why it is being done. The objectives should be articulated within the broader context of the education sector or subsector

* Identify stakeholders

* Analyze the costs and benefits and present these in concise, non-technical terms. It should be made clear as to how costs and benefits will affect particular stakeholders.

* Identify the agency responsible for implementation and indicate the time span and some key implementation indicators. If the policy is to be implemented over a number of years, the indicators should be published annually so that progress can be monitored by interested stakeholders.

164. A framework along the lines of the above would bring a degree of rigor to the policy implementation process. It would clarify what is to be done, why it is to be done and who is going to do it. There is a marked tendency under present conditions for initiatives to be taken with insufficient regard to the broader policy framework, especially those areas of policy which might be connected to the initiatives. A good example of this is the recent controversy over the supply of 90,000 personal computers to schools. Little thought seems to have been given to the policy beyond the supply of hardware. Consequently, a controversy erupted in the press and questions were raised in Parliament

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[59] Thailand's Long-Term Plan for Higher Education (1990-2004), MUA, September 1990, p. 10.

over the bidding procedures, cost, technical specifications and the ability of schools and teachers to utilize the computers. If the computer supply program had been subjected to a rigorous analysis, it would have become clear as to: (a) what benefits computers would bring to the classroom; (b) how they would impact on the stakeholders i.e. students and teachers; (c) whether the technical configuration of the machines was appropriate; (d) what additional activities (training, curricular change, etc.) would be needed to support the computers; and (e) the procurement method and unit cost.

165. The issue of leadership cannot be separated from the need for good communications. And leadership is hierarchical. At the apex is the Minister, supported by Deputy Ministers, who must articulate the Government's education policies in Cabinet, Parliament and in the community. Below the political level, senior officials led by the Permanent Secretary bring their professional expertise to bear in amplifying the details of stated policies. While there is no firm line between the political and the bureaucratic functions, there needs to be some understanding of the respective roles of politician and bureaucrat. When these roles get mixed up, controversy and confusion can result. It seems most appropriate for politicians to focus on articulating policies in their generality, getting the message through to the community and providing leadership in politically sensitive policy areas. This provides the context within which the professionals can elaborate on policy statements.

166. The notion of defined areas of political and bureaucratic responsibility can be demonstrated practically by applying it to the example of the computer procurement program mentioned above. An effective approach would start with a formal announcement by the Minister of Education that a major expansion of computer use in the schools was to be undertaken. He would emphasize the benefits to be gained from having more computers in the classroom in terms of more effective teaching (especially of math, science and languages) leading to better quality instruction and ultimately to higher student achievement. Officials in MOE would estimate program size and cost, determine equipment specifications and software requirements, manage the procurement and installation process and arrange for training and other support services. Thus the Minister would get the general idea across and emphasize the educational benefits while leaving the technical and managerial aspects to his officials. The Minister would deal with the "what" and the "why" while his officials would handle the "how".

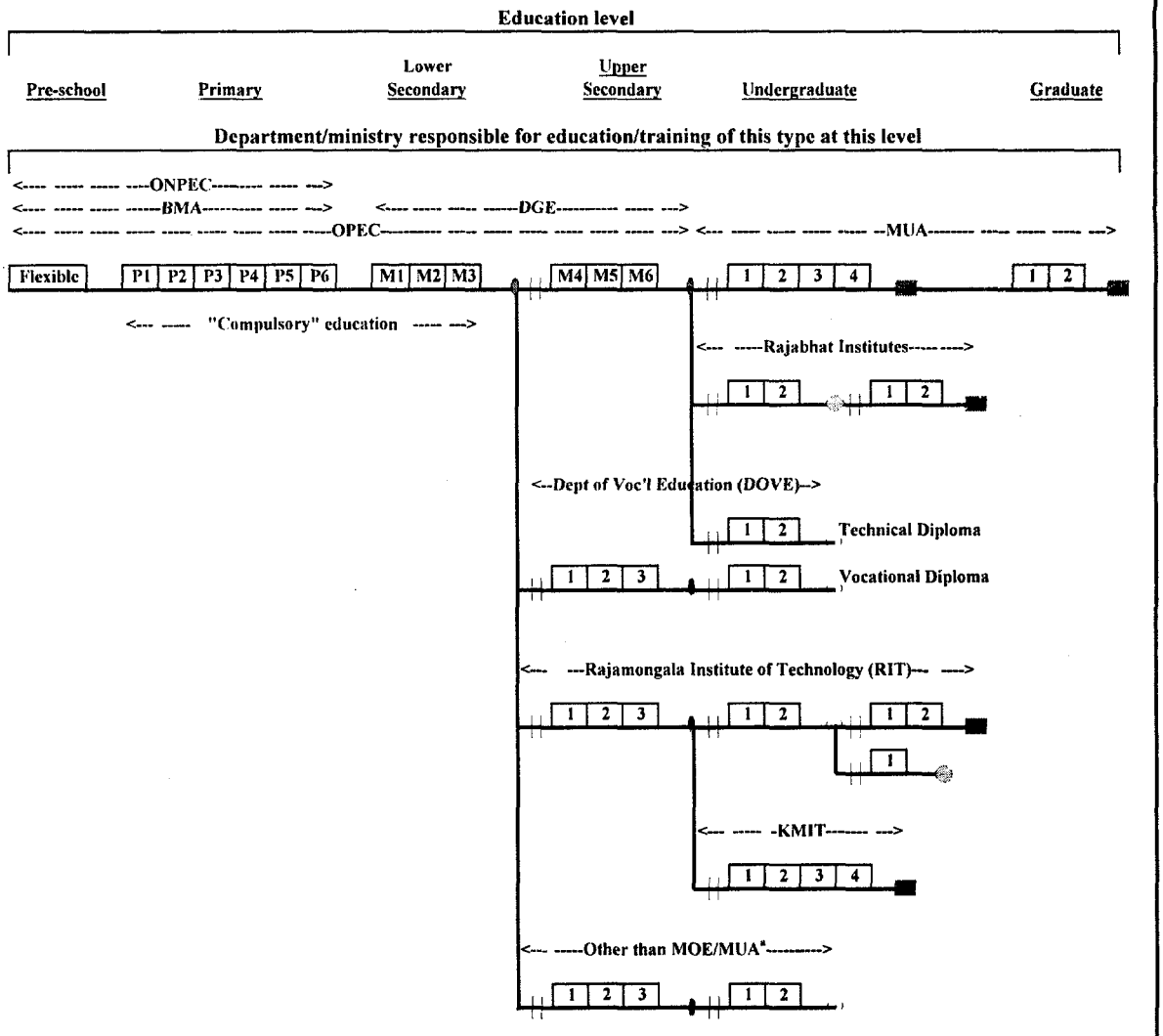
167. As decentralization progresses, there will be similar scope at the provincial level for policy articulation and bureaucratic support for its implementation. Here, the Provincial Education Committee would play a similar role to that of the Minister at the national level. That is, the PEC would be responsible for articulating policies and getting community acceptance for them at the local level. The role of supporting bureaucrats would be affected by the way decentralization is implemented. Present policies call for the deconcentration of responsibilities of the central agencies to the provincial level and below. This carries the risk that the views of the central bureaucrats (in DGE, ONPEC, etc.) would predominate at the local level and result in the implementation of policies being influenced strongly by the center. This would weaken the role of the PEC in local

policy formulation. The remedy is to ensure that the line of responsibility of officials implementing policies at the local level runs to the PEC rather than the central agencies.

168. Looking to the future, the debate on education issues in Thailand will continue to benefit from strong community interest and the support of a free press. There will be no shortage of criticism and this will help to focus decision makers on the need for policy change. The change process will lead to a more efficient, relevant and higher quality education system if strong political leadership can define clearly the overall policy directions and education bureaucrats can transform these into viable operational programs, that dedicated principals and teachers will implement in the schools.

# STATISTICAL ANNEXES

# Annex 1: Structure of Thailand's Education and Training System




**Abbreviations**

| | | |
|---|---|---|
| BMA | -- | Bangkok Metropolitan Administration |
| DGE | -- | Department of General Education of MOE (Ministry of Education) |
| KMIT | -- | King Mongkut's Institute of Technology under MUA |
| MUA | -- | Ministry of University Affairs |
| ONPEC | -- | Office of the National Primary Education Commission of MOE |
| OPEC | -- | Office of the Private Education Commission of MOE |
| P1-P6 | -- | Prathom Suksa 1-6 (primary education) |
| M1-M3 | -- | Muthayom Suksa 1-3 (lower secondary education) |
| M4-M6 | -- | Muthayom Suksa 4-6 (upper secondary education) |

**Symbols**

-- Entrance Examination
-- Certificate
-- Diploma
-- Diploma in Teacher Training
-- Degree

**Footnote**

* Ministries of Interior, Public Health, Labor, and Transport & Communication.

Table 1
Adult Illiteracy Rates (%) in Selected East Asian Economies in 1995

| Country | Total | Male | Female |
|---|---|---|---|
| Republic of Korea | 2 | 0.7 | 3.3 |
| Philippines | 5.4 | 5 | 5.7 |
| **Thailand** | **6.2** | **4** | **8.4** |
| Viet Nam | 6.3 | 3.5 | 8.8 |
| Hong Kong | 7.8 | 4 | 11.8 |
| Singapore | 8.9 | 4.1 | 13.7 |
| Indonesia | 16.2 | 10.4 | 22 |
| Malaysia | 16.5 | 10.9 | 21.9 |
| China | 18.5 | 10.1 | 27.3 |

Source: World Education Report 1995, UNESCO

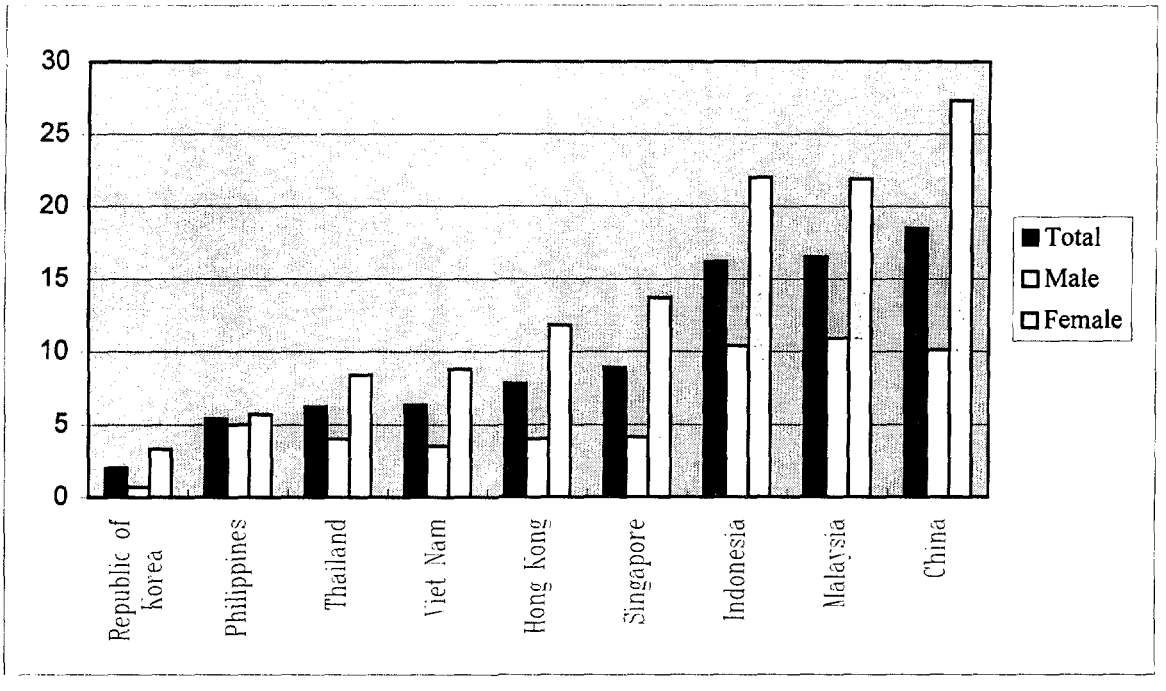


Table 2
Gross Enrollment Ratio (%) of Pre-primary Education in Selected East Asian Economies in 1980 and 1992

| Country | 1980 | 1992 |
|---|---|---|
| Philippines | 4 | 12 |
| Indonesia | 12 | 18 |
| Singapore | 13 | 21 |
| China | 13 | 26 |
| Viet Nam | 35 | 28 |
| Malaysia | 23 | 36 |
| **Thailand** | **10** | **50** |
| Republic of Korea | 8 | 65 |
| Hong Kong | 81 | 81 |

Source: World Education Report 1995, UNESCO

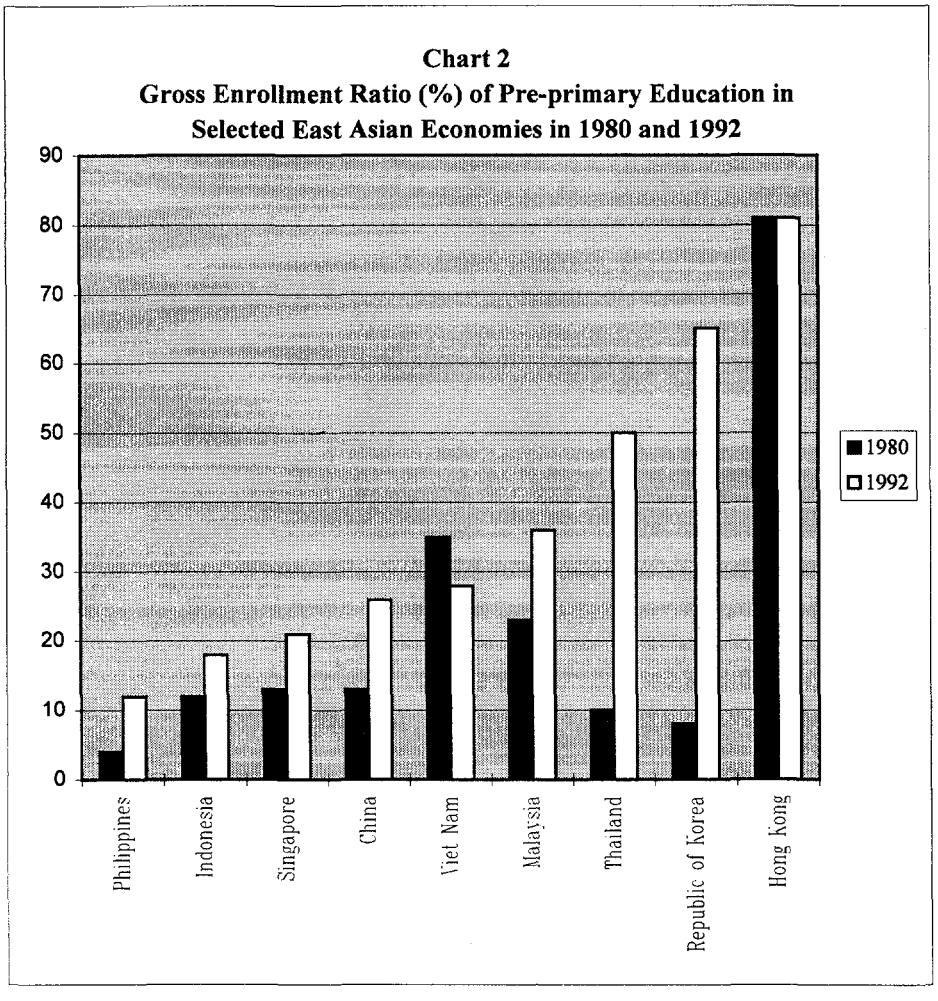


Table 3
Percentages of Cohort Reaching Grade 2 and Grade 5 in Selected East Asian Economies in 1991

| Country | Grade 2 | Grade 5 |
|---|---|---|
| Philippines | 87 | 75 |
| **Thailand** | **95** | **88** |
| China | 98 | 88 |
| Indonesia | 98 | 86 |
| Japan | 100 | 100 |
| Malaysia | 100 | 100 |
| Singapore | 100 | 100 |
| Republic of Korea | 100 | 100 |

Source:World Education Report 1995, UNESCO

**Chart 3**
**Percentages of Cohort Reaching Grade 2 and Grade 5 in Selected East Asian Economies in 1991**

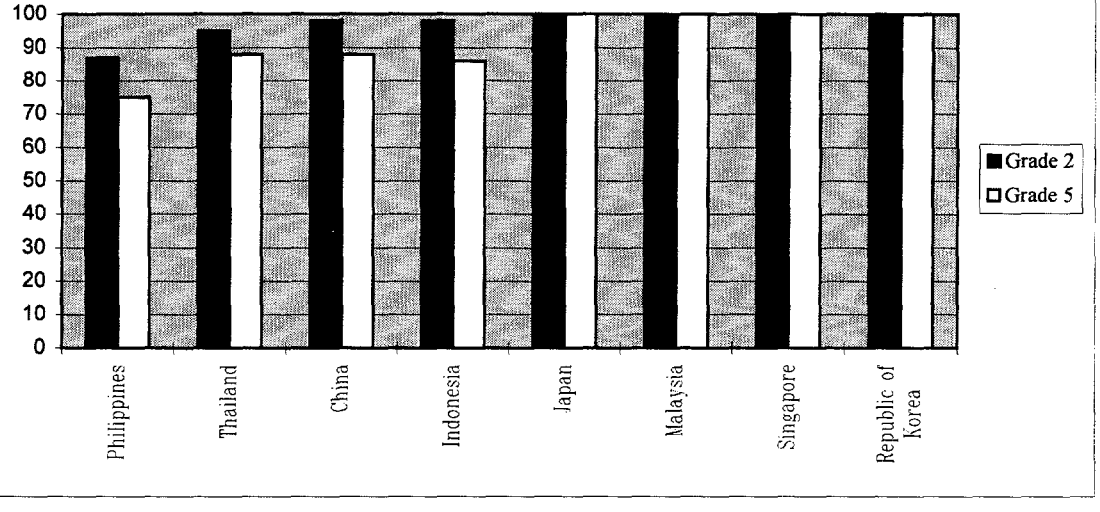


Table 4
Gross Enrolment Ratios (%) of Second-level Education in Selected East Asian Economies in 1992

| Country | 1980 | 1992 |
|---|---|---|
| Viet Nam | 42 | 32 |
| **Thailand** | **29** | **39** |
| Indonesia | 29 | 43 |
| China | 46 | 54 |
| Malaysia | 48 | 60 |
| Singapore | 58 | 68 |
| Philippines | 64 | 77 |
| Republic of Korea | 78 | 91 |
| Japan | 93 | 96 |

Source: World Education Report 1995, UNESCO

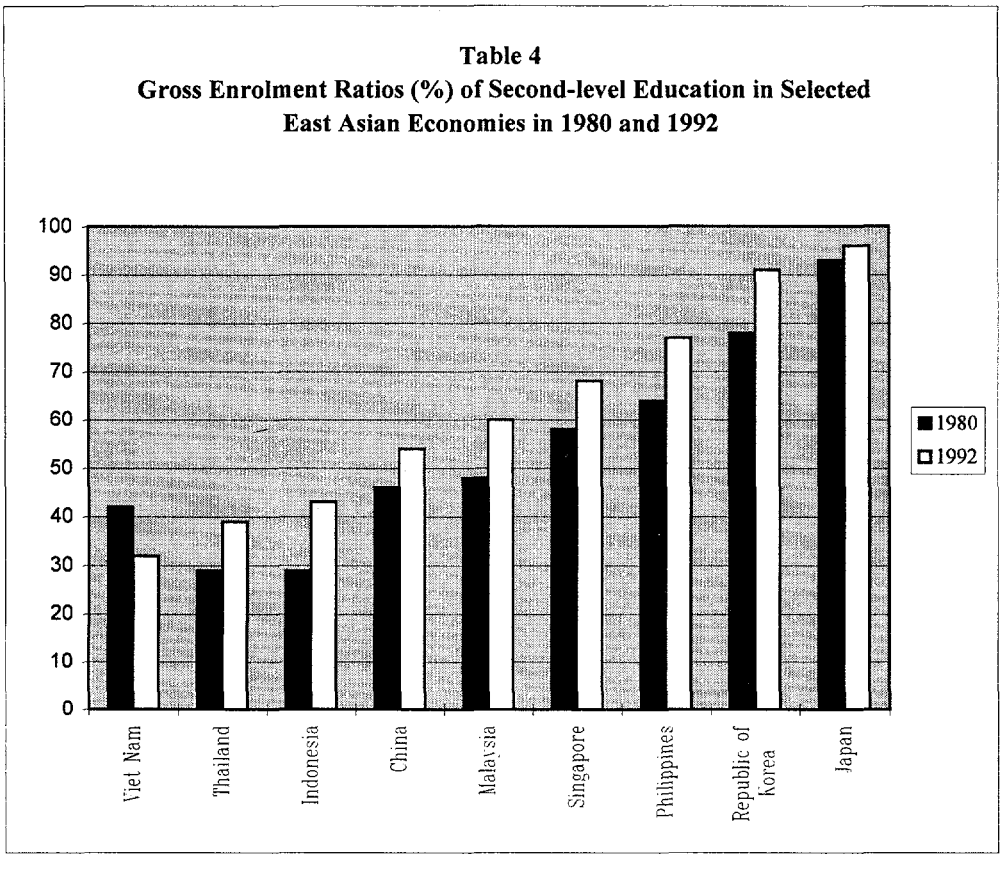


Table 5
Pupil-teacher Ratios in Selected East Asian Economies in 1992
First Level

| Country | P.T.Ratio |
|---|---|
| **Thailand** | **17** |
| Japan | 20 |
| Malaysia | 20 |
| China | 22 |
| Indonesia | 23 |
| Singapore | 26 |
| Republic of Korea | 33 |
| Philippines | 34 |
| Viet Nam | 36 |

Source: World Education Report 1995, UNESCO

Table 5a
Pupil-teacher Ratios in Selected East Asian Economies in 1992
Second Level

| Country | P.T.Ratio |
|---|---|
| Indonesia | 14 |
| China | 15 |
| Japan | 17 |
| **Thailand** | **18** |
| Malaysia | 19 |
| Viet Nam | 21 |
| Singapore | 22 |
| Republic of Korea | 24 |
| Philippines | 33 |

Source: World Education Report 1995, UNESCO

**Chart 5**
**Pupil-teacher Ratio of First-level Education in Selected East Asian Economies in 1992**

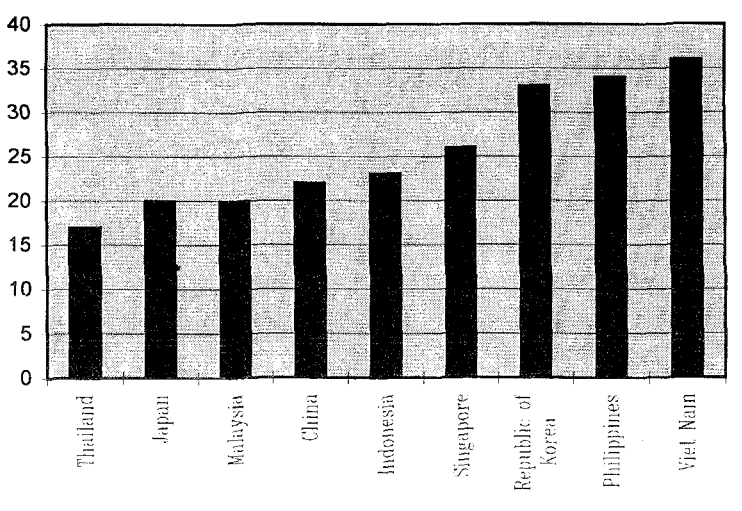



**Chart 5a**
**Pupil-teacher ratios of Second-level Education in Selected East Asian Economies in 1992**

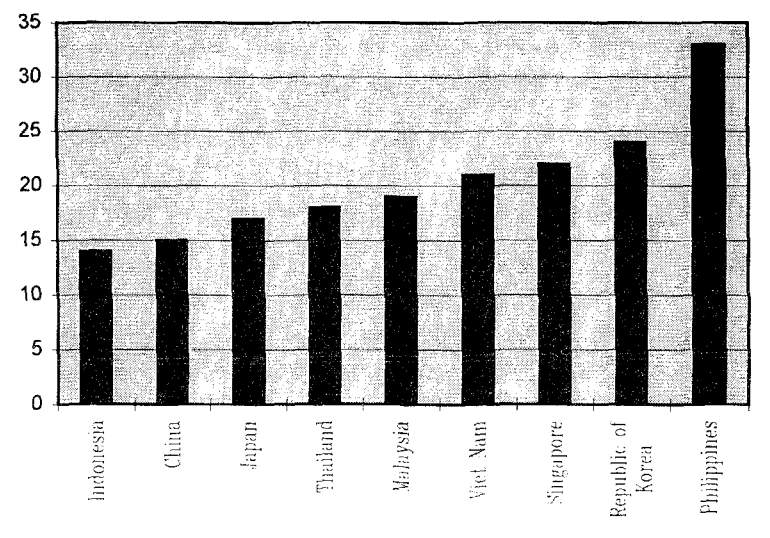


Table 6
Percentages of Students by FIeld of Study in Selected East Asian Countries in 1992

| Country | Natural Sci | Medical Sc | Education | Humanities | Law and S | Others |
|---|---|---|---|---|---|---|
| Thailand | 19 | 5 | 12 | 14 | 50 | 0 |
| Indonesia | 22 | 2 | 18 | 3 | 55 | 0 |
| Japan | 22 | 6 | 8 | 19 | 39 | 6 |
| Philippines | 26 | 19 | 18 | 9 | 26 | 2 |
| Malaysia | 27 | 3 | 25 | 9 | 30 | 6 |
| Hong Kong | 35 | 5 | 7 | 8 | 26 | 19 |
| Korea, Rep. | 40 | 6 | 7 | 17 | 27 | 3 |
| China | 47 | 10 | 24 | 6 | 13 | 0 |

Source: World Education Report 1995, UNESCO

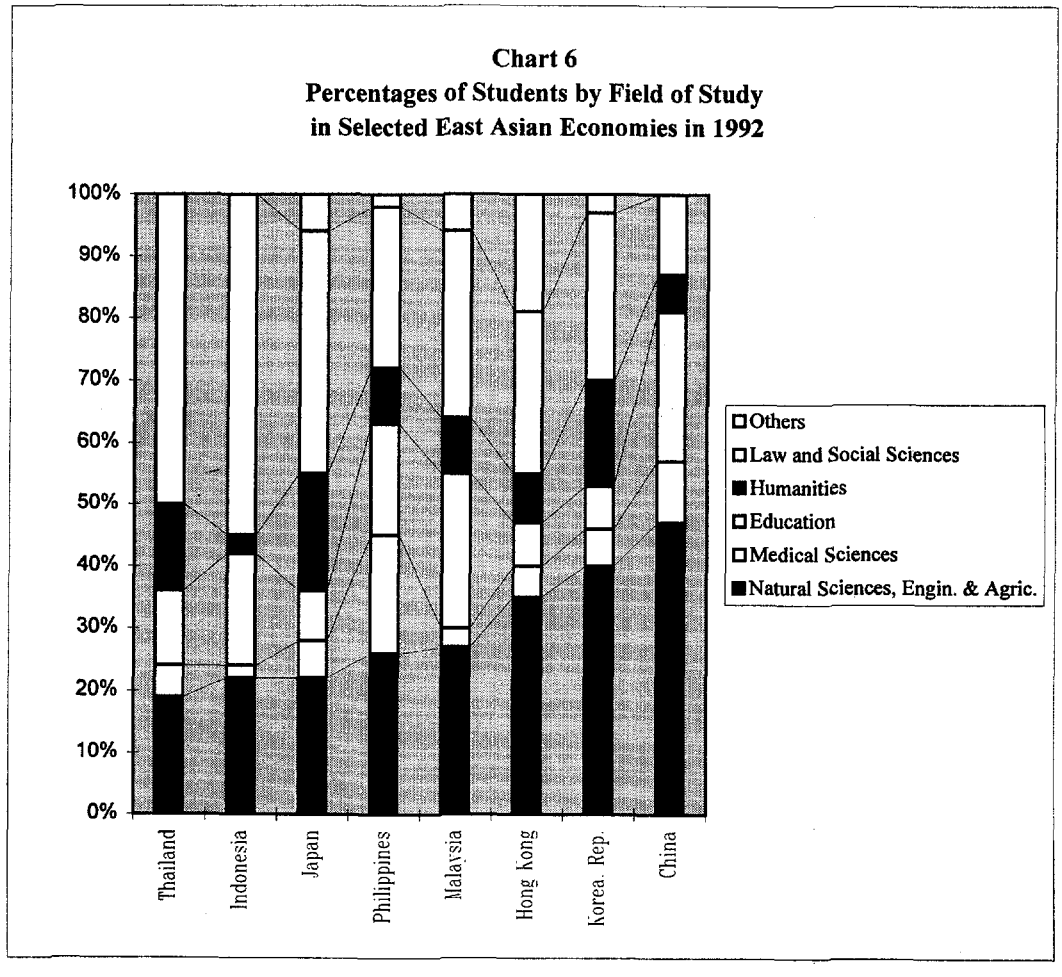


Table 7
Number of Students per 100,000 Inhabitants in Selected East Asian Economies in 1980 and 1992

| Country | 1980 | 1992 |
|---|---|---|
| Viet Nam | 214 | 149 |
| China | 116 | 192 |
| Malaysia | 419 | 679 |
| Indonesia | 367 | 1045 |
| Hong Kong | 1201 | 1540 |
| Thailand | 1284 | 2029 |
| Japan | 2065 | 2340 |
| Philippines | 2641 | 2696 |
| Republic of Korea | 1698 | 4253 |

Source: World Education Report 1995, UNESCO

**Chart 7**
**Number of Students per 100,000 Inhabitants**
**in Selected East Asian Economies in 1980 and 1992**

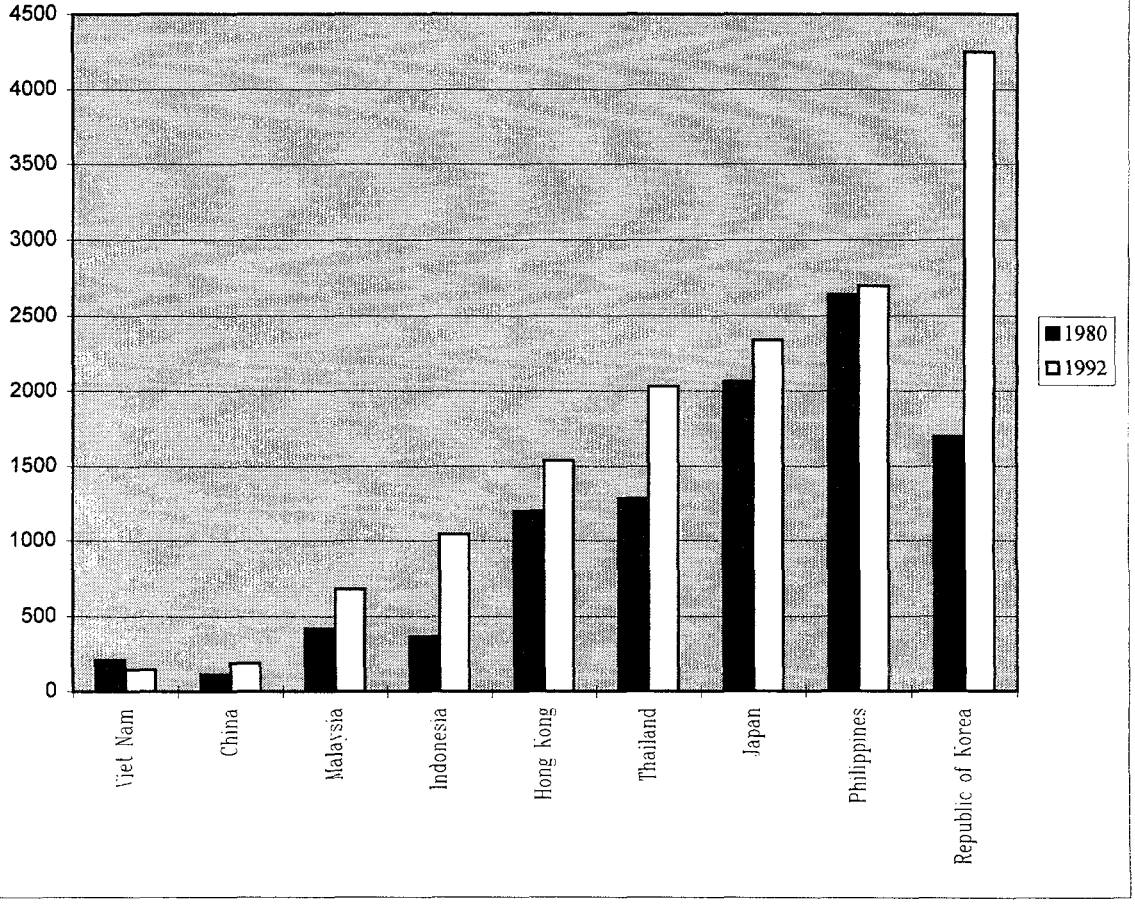


Table 8
Private Enrolment as Percentage of Total Enrolment of Pre-primary Education in 1992

| | Private | Public |
|---|---|---|
| Thailand | 23 | 77 |
| Malaysia | 43 | 57 |
| Philippines | 53 | 47 |
| Singapore | 72 | 28 |
| Republic of Korea | 74 | 26 |
| Japan | 80 | 20 |
| Indonesia | 100 | 0 |

Source: World Education Report 1995, UNESCO

**Chart 8**
**Private and Public Enrolment as Percentage of Total Enrolment of Pre-primary Education in Selected East Asian Economiesin 1992**

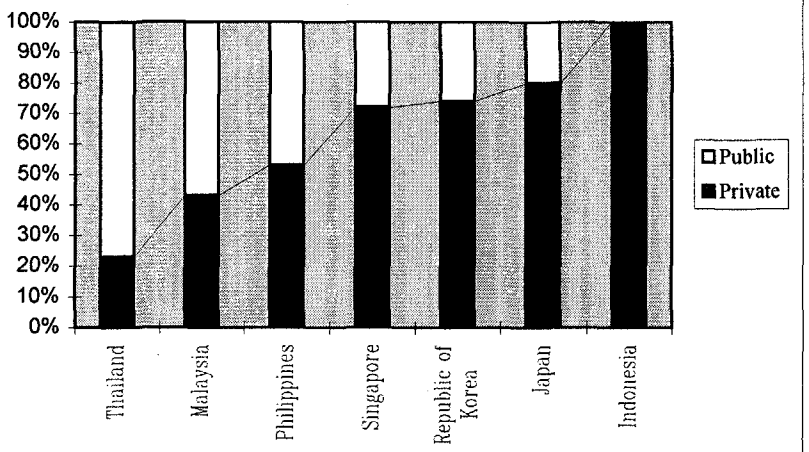


Table 8a
Private Enrolment as Percentage of Total Enrolment of First Level Education in 1992

| | Private | Public |
|---|---|---|
| Japan | 1 | 99 |
| Republic of Korea | 2 | 98 |
| Philippines | 7 | 93 |
| Thailand | 10 | 90 |
| Indonesia | 17 | 83 |
| Singapore | 24 | 76 |

Source: World Education Report 1995, UNESCO

**Chart 8a**
**Private and Public Enrolment of First Level Education as Percentage of Total Enrolment in Selected East Asian Economies in 1992**

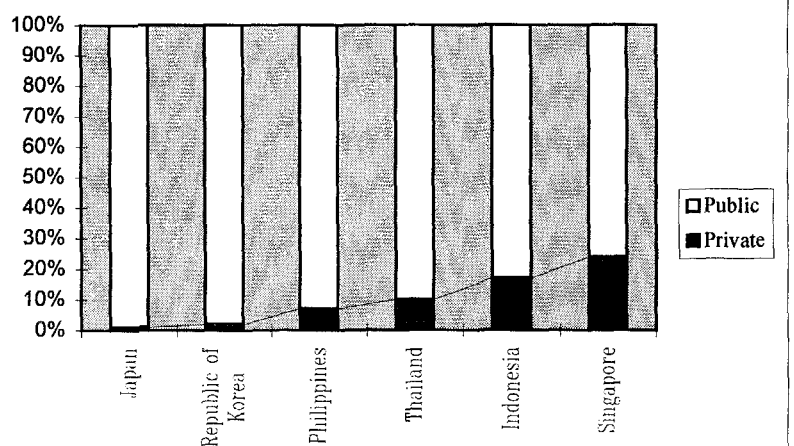


Table 8b
Private Enrolment as Percentage of Total Enrolment of Second Level Education in 1992

| | Private | Public |
|---|---|---|
| Malaysia | 5 | 95 |
| Thailand | 10 | 90 |
| Japan | 16 | 84 |
| Singapore | 27 | 73 |
| Philippines | 35 | 65 |
| Republic of Korea | 39 | 61 |
| Indonesia | 44 | 56 |

Source: World Education Report 1995, UNESCO

**Chart 8b**
**Private and Public Enrolment of Second Level Education as Percentage of Total Enrolment in Selected East Asian Economies in 1992**

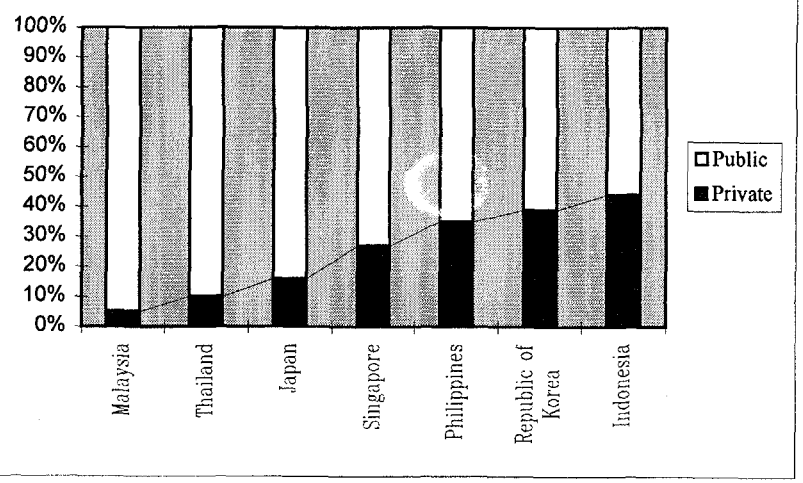


Table 9
Public Expenditure on Education in Selected East Asian Economies in 1992
As Percentage of GNP

| Country | 1980 | 1992 |
|---|---|---|
| China | 2.5 | 2 |
| Indonesia | 1.7 | 2.2 |
| Philippines | 1.7 | 2.9 |
| Thailand | 3.4 | 4 |
| Republic of Korea | 3.7 | 4.2 |
| Japan | 5.8 | 4.7 |
| Malaysia | 6 | 5.5 |

Source: World Education Report 1995, UNESCO

**Chart 9**
**Public Expenditure on Education as Percentage of GNP in Selected East Asian Economies in 1980 and 1992**

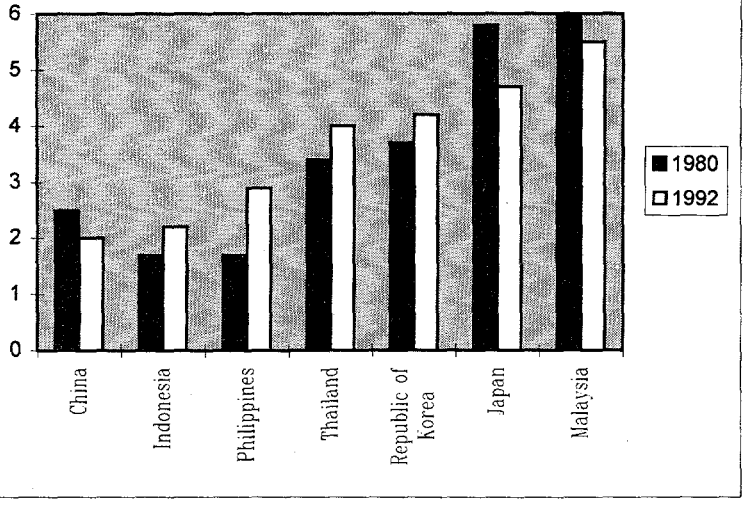


Table 9a
Public Expenditure on Education in Selected East Asian Economies in 1992
As Percentage of Government Expenditure

| Country | 1980 | 1992 |
|---|---|---|
| Indonesia | 8.9 | 9.4 |
| Philippines | 9.1 | 10.5 |
| China | 9.3 | 12.2 |
| Japan | 19.6 | 16.6 |
| Malaysia | 14.7 | 16.9 |
| Hong Kong | 14.6 | 18.1 |
| Thailand | 20.6 | 19.6 |

Source: World Education Report 1995, UNESCO

**Chart 9a**
**Public Expenditure on Education as Percentage of Government Expenditure in Selected East Asian Economies in 1980 and 1992**

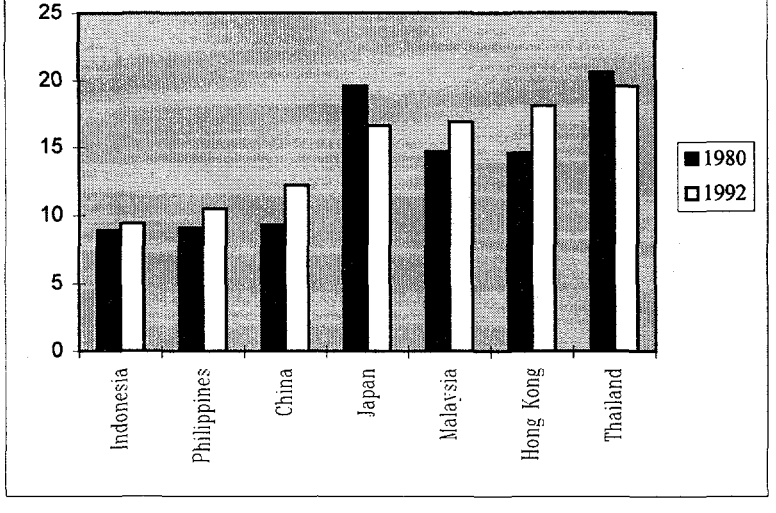


Table 9b
Public Expenditure on Education in Selected East Asian Economies in 1992
Average Annual Growth Rate (%)

| Country | 1980-1992 |
|---|---|
| Japan | 2 |
| Philippines | 6.6 |
| China | 7.6 |
| Thailand | 7.7 |
| Indonesia | 8.3 |
| Republic of Korea | 13.2 |

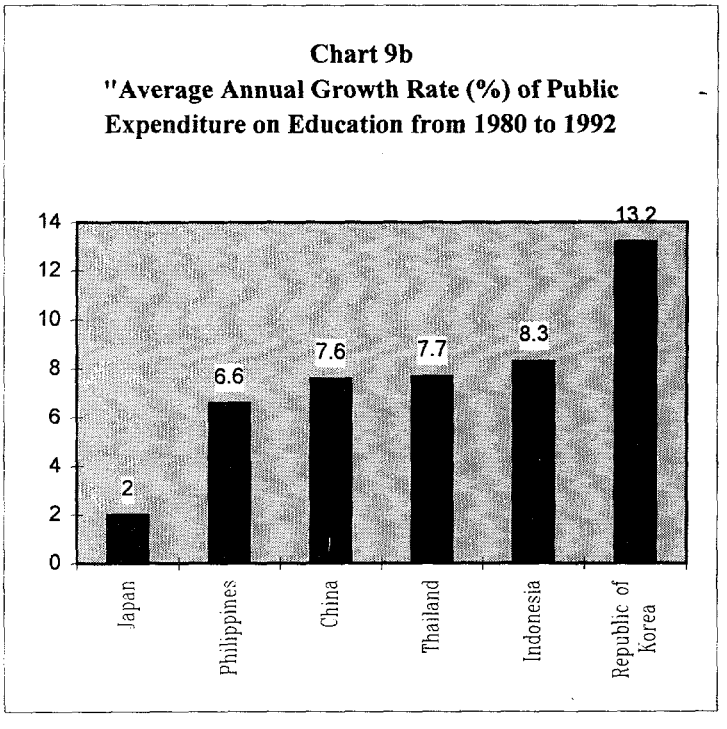


Table 10

Achievement in Mathematics, 8th Grade

| Rank | Country | Average Achievement |
|---|---|---|
| **1** | **Singapore** | **643** |
| **2** | **Korea** | **607** |
| **3** | **Japan** | **605** |
| **4** | **Hong Kong** | **588** |
| 5 | Belgium(Fl) | 565 |
| 6 | Czech | 564 |
| 7 | Slovak | 547 |
| 8 | Switzerland | 545 |
| 9 | Netherlands | 541 |
| 10 | Slovenia | 541 |
| 11 | Bulgaria | 540 |
| 12 | Austria | 539 |
| 13 | France | 538 |
| 14 | Hungary | 537 |
| 15 | Russia | 535 |
| 16 | Australia | 530 |
| 17 | Ireland | 527 |
| 18 | Canada | 527 |
| 19 | Belgium(Fr) | 526 |
| **20** | **Thailand** | **522** |
| 21 | Israel | 522 |
| 22 | Sweden | 519 |
| 23 | Germany | 509 |
| 24 | New Zealand | 508 |
| 25 | England | 506 |
| 26 | Norway | 503 |
| 27 | Denmark | 502 |
| 28 | United States | 500 |
| 29 | Scotland | 498 |
| 30 | Latvia | 493 |
| 31 | Spain | 487 |
| 32 | Iceland | 487 |
| 33 | Greece | 484 |
| 34 | Romania | 482 |
| 35 | Lithuania | 477 |
| 36 | Cyprus | 474 |
| 37 | Portugal | 454 |
| 38 | Iran | 428 |
| 39 | Kuwait | 392 |
| 40 | Colombia | 385 |
| 41 | South Africa | 354 |

Source: The Third International Mathematics and Science Study (TIMSS), 1994-95

Achievement in and Science, 8th Grade

| Rank | Country | Average Achievement |
|---|---|---|
| **1** | **Singapore** | **607** |
| 2 | Czech | 574 |
| **3** | **Japan** | **571** |
| **4** | **Korea** | **565** |
| 5 | Bulgaria | 565 |
| 6 | Netherlands | 560 |
| 7 | Slovenia | 560 |
| 8 | Austria | 558 |
| 9 | Hungary | 554 |
| 10 | England | 552 |
| 11 | Belgium(Fl) | 550 |
| 12 | Australia | 545 |
| 13 | Slovak | 544 |
| 14 | Russia | 538 |
| 15 | Ireland | 538 |
| 16 | Sweden | 535 |
| 17 | United States | 534 |
| 18 | Germany | 531 |
| 19 | Canada | 531 |
| 20 | Norway | 527 |
| **21** | **Thailand** | **525** |
| 22 | New Zealand | 525 |
| 23 | Israel | 524 |
| **24** | **Hong Kong** | **522** |
| 25 | Switzerland | 522 |
| 26 | Scotland | 517 |
| 27 | Spain | 517 |
| 28 | France | 498 |
| 29 | Greece | 497 |
| 30 | Iceland | 494 |
| 31 | Romania | 486 |
| 32 | Latvia | 485 |
| 33 | Portugal | 480 |
| 34 | Denmark | 478 |
| 35 | Lithuania | 476 |
| 36 | Belgium(Fr) | 471 |
| 37 | Iran | 470 |
| 38 | Cyprus | 463 |
| 39 | Kuwait | 430 |
| 40 | Colombia | 411 |
| 41 | South Africa | 326 |

Source: The Third International Mathematics and Science Study (TIMSS), 1994-95

## Annex 3 Table 1: School Enrollment 1982-1994 Rates: 1982-1994

| Plan Period | Year | Pre-primary (age 3-5) | | | Primary (age 6-11) | | | Lower Secondary (age 12-14) | | | Upper Secondary (age 15-17) | | | Total Secondary (age 12-17) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Population | Enrollment | % | Population | Enrollment | % | Population | Enrollment | % | Population | Enrollment | % | Population | Enrollment | % |
| 5th Plan | 1982 | 3,749,367 | 408,681 | 10.9 | 7,496,027 | 7,413,571 | 98.9 | 3,666,044 | 1,173,134 | 32.0 | 3,499,360 | 930,830 | 26.6 | 7,165,404 | 2,103,964 | 29.4 |
| | 1983 | 3,797,000 | 471,597 | 12.4 | 7,362,000 | 7,272,153 | 98.8 | 3,734,000 | 1,224,140 | 32.8 | 3,527,000 | 967,573 | 27.4 | 7,261,000 | 2,191,713 | 30.2 |
| | 1984 | 3,415,158 | 474,707 | 13.9 | 7,420,933 | 7,279,935 | 98.1 | 3,695,496 | 1,304,510 | 35.3 | 3,664,131 | 945,346 | 25.8 | 7,359,627 | 2,249,856 | 30.6 |
| | 1985 | 3,783,460 | 672,080 | 17.8 | 7,458,300 | 7,151,054 | 95.9 | 3,702,120 | 1,308,872 | 35.4 | 3,673,900 | 934,501 | 25.4 | 7,376,020 | 2,243,373 | 30.4 |
| | 1986 | 3,896,259 | 1,009,131 | 25.9 | 7,527,931 | 7,159,062 | 95.1 | 3,724,837 | 1,277,619 | 34.3 | 3,722,434 | 908,274 | 24.4 | 7,447,271 | 2,185,893 | 29.4 |
| 6th Plan | 1987 | 3,823,320 | 1,158,466 | 30.3 | 7,558,303 | 7,157,713 | 94.7 | 3,711,701 | 1,217,438 | 32.8 | 3,705,622 | 893,055 | 24.1 | 7,417,323 | 2,110,493 | 28.5 |
| | 1988 | 3,831,668 | 1,248,290 | 32.6 | 7,515,478 | 7,009,604 | 93.3 | 3,701,223 | 1,221,224 | 33.0 | 3,684,992 | 862,013 | 23.4 | 7,386,215 | 2,083,237 | 28.2 |
| | 1989 | 3,649,805 | 1,273,782 | 34.9 | 7,470,333 | 6,992,232 | 93.6 | 3,748,608 | 1,282,024 | 34.2 | 3,682,286 | 835,879 | 22.7 | 7,430,894 | 2,117,903 | 28.5 |
| | 1990 | 3,593,000 | 1,292,593 | 36.0 | 7,414,000 | 6,956,694 | 93.8 | 3,749,000 | 1,394,129 | 37.2 | 3,699,000 | 833,862 | 22.5 | 7,448,000 | 2,227,991 | 29.9 |
| | 1991 | 3,543,000 | 1,349,374 | 38.1 | 7,369,000 | 6,906,336 | 93.7 | 3,789,000 | 1,569,929 | 41.4 | 3,718,000 | 878,883 | 23.6 | 7,507,000 | 2,448,812 | 32.6 |
| 7th Plan | 1992 | 3,284,000 | 1,675,698 | 51.0 | 6,812,000 | 6,788,049 | 99.6 | 3,503,000 | 1,773,270 | 50.6 | 3,504,000 | 943,296 | 26.9 | 7,007,000 | 2,716,566 | 38.8 |
| | 1993 | 3,265,000 | 1,954,350 | 59.9 | 6,751,000 | 6,576,876 | 97.4 | 3,487,000 | 1,990,808 | 57.1 | 3,506,000 | 1,056,355 | 30.1 | 6,993,000 | 3,047,163 | 43.6 |
| | 1994 | 3,236,000 | 2,121,294 | 65.6 | 6,692,000 | 6,291,945 | 94.0 | 3,468,000 | 2,200,384 | 63.4 | 3,504,000 | 1,182,371 | 33.7 | 6,972,000 | 3,382,755 | 48.5 |

Sources: NEC 1995, MOE Educational Statistics in Brief

Annex 3 Table 2: Lower Secondary Enrollment by Class: 1987-1994

| Region | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 |
|---|---|---|---|---|---|---|---|---|
| M1 | 422,630 | 439,871 | 476,073 | 534,681 | 608,736 | 683,383 | 759,629 | 827,077 |
| M2 | 395,338 | 402,349 | 419,751 | 455,879 | 516,402 | 587,380 | 661,963 | 733,512 |
| M3 | 399,470 | 379,004 | 386,200 | 406,807 | 442,121 | 502,507 | 569,143 | 639,795 |
| Total Rate | 1,217,438 | | | | | | | |
| of Increase | -4.71 | 1,221,224 | 1,282,024 | 1,397,367 | 1,567,259 | 1,773,270 | 1,990,735 | 2,200,384 |
| | | 0.31 | 4.98 | 9.00 | 12.12 | 13.14 | 12.26 | 10.53 |

Annex3 Table 3: Transition Rates at Lower and Upper Secondary Levels: 1989-1994

| Level | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 |
|---|---|---|---|---|---|---|
| Lower Sec. | | | | | | |
| P6/M1 * | 46.9 | 53.0 | 59.9 | 63.5 | 77.4 | 84.6 |
| Upper Sec.** | 79.4 | 88.2 | 85.4 | 91.7 | 96.7 | 96.4 |
| M3/M4 | 44.6 | 46.1 | 43.7 | 48.9 | 51.7 | 51.8 |
| M3/ Voc. | 34.8 | 42.1 | 41.7 | 42.8 | 45.0 | 44.6 |
| Cert. | | | | | | |

* Only formal school system.

** Includes both general and vocational streams.

Sources: NEC: Educational Statistics of Thailand: Year 1992-1994;and MOE 1993 Educational Statistics in Brief for 1989-1991.

Annex 3 Table 4: Public and Private Lower Secondary Enrollment: 1987-1994

| | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 |
|---|---|---|---|---|---|---|---|---|
| Public | 1,076,644 | 1,078,740 | 1,133,744 | 1,240,118 | 1,404,122 | 1,609,537 | 1,827,646 | 2,039,718 |
| Private | 140,794 | 142,484 | 148,228 | 157,172 | 163,137 | 163,733 | 163,089 | 160,666 |
| Public:Private | 88:12 | 88:12 | 88:12 | 89:11 | 90:10 | 91:9 | 92:8 | 93:7 |

Annex 3 Table 5: M1 Retention Rates: 1987-1993

| | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|---|
| M 1 Retention Rates | 90 | 91 | 91 | 93 | 93 | 94 | 93 |

Annex 3 Table 6: Reasons for Non-Attendance of School (%)

| Reason | Age 12-14 | Age 15-19 |
|---|---|---|
| Medical | 1.2 | 1.5 |
| **No financial support** | **63.3** | **40.4** |
| Distance | 3.4 | 1.8 |
| **Had to earn livelihood** | **19.7** | **26.5** |
| No interest | 9.5 | 15.2 |
| Could not be admitted | 0.7 | 7.5 |
| Misconduct | 0.2 | 1.3 |
| Others | 1.9 | 5.7 |
| Unknown | 0.0 | 0.0 |
| Total | 100 | 100 |

Source: Report on Children and Youth Survey (NSO, 1992).

Annex 3 Table 7: Share of Enrollment in Private Institutions: 1978-1994

| | Pre-primary | Primary | Secondary | |
|---|---|---|---|---|
| | | | General | Vocational |
| 1978 | 56.6 | 9.0 | 22.3 | 41.0 |
| 1980 | 56.4 | 8.6 | 19.2 | 45.5 |
| 1985 | 40.6 | 9.0 | 11.8 | 43.1 |
| 1990 | 24.3 | 9.7 | 10.1 | 47.0 |
| 1994 | 22.1 | 11.3 | 6.9 | 49.0 |

Sources: World Bank 1991; and NEC 1995.

## Annex 3 Table 8: Education Budget: 1982-1995

Unit: Million Baht

| | ---------- GDP ------- | | ------ National Budget -------- (NB) | | | ---------- Education Budget ---------- - | | | |
|---|---|---|---|---|---|---|---|---|---|
| Fiscal Year | Amount | Growth Rate (%) | Amount | Growth Rate (%) | % of GDP | Amount | Growth Rate (%) | % of GDP | % of NB |
| 1982 | 846,136 | 7.6 | 161,000 | 15.0 | 19.0 | 32,364.6 | 15.9 | 3.8 | 20.1 |
| 1983 | 928,548 | 9.7 | 177,000 | 9.9 | 19.1 | 37,142.9 | 14.8 | 4.0 | 20.9 |
| 1984 | 973,412 | 7.0 | 192,000 | 8.5 | 19.7 | 38,670.6 | 4.1 | 4.0 | 20.1 |
| 1985 | 1,014,399 | 4.2 | 209,000 | 8.9 | 20.6 | 38,565.6 | 0.3 | 3.8 | 18.5 |
| 1986 | 1,099,541 | 8.4 | 211,650 | 1.3 | 19.2 | 39,438.7 | 2.3 | 3.6 | 18.6 |
| 1987 | 1,234,030 | 12.2 | 227,500 | 7.5 | 18.4 | 41,111.0 | 4.2 | 3.3 | 18.1 |
| 1988 | 1,465,736 | 18.8 | 243,500 | 7.0 | 16.6 | 43,860.7 | 6.7 | 3.0 | 18.0 |
| 1989 | 1,744,014 | 19.0 | 285,500 | 17.2 | 16.4 | 47,358.1 | 8.0 | 2.7 | 16.6 |
| 1990 | 2,191,000 | 11.6 | 335,000 | 17.3 | 16.7 | 59,572.9 | 25.8 | 3.0 | 17.8 |
| 1991 | 2,520,000 | 8.4 | 387,500 | 15.7 | 16.1 | 74,860.6 | 25.7 | 3.1 | 19.3 |
| 1992 | 2,833,000 | 7.9 | 460,400 | 18.8 | 17.6 | 85,664.5 | 14.4 | 3.3 | 18.6 |
| 1993 | 3,168,000 | 8.4 | 560,000 | 21.6 | 18.9 | 108,069.7 | 26.2 | 3.7 | 19.3 |
| 1994 | 3,602,000 | 8.7 | 625,000 | 11.6 | 17.4 | 121,973.1 | 12.9 | 3.4 | 19.5 |
| 1995 | 4,092,000 | 8.8 | 715,000 | 14.4 | 17.5 | 135,137.6 | 10.8 | 3.3 | 18.9 |

Source: Office of Policy and Planning, Ministry of Education and NESDB

Annex 3 Table 9: Estimated Social and Private Rates of Return to Various Levels and Types of Education, 1994[a]

| | Primary | Lower Secondary | Upper Secondary | | "Highly Vocational" | Bachelor's Degree | |
|---|---|---|---|---|---|---|---|
| | | | Academic | Vocational | | Technical | Tchr Trng |
| Social rate of return (%) | 5.7 | 12.6 | 2.4 | 7.2 | 6.0 | 14.2 | 8.0 |
| Private rate of return (%) | 21.4 | 15.3 | 3.2 | 9.4 | 9.0 | 18.8 | 11.4 |

Footnote:

[a] Departments with graduates included in study:

*Primary*: ONPEC (Office of the National Primary Education Commission), BMA (Bangkok) Metropolitan Administration), OPEC (Office of the Private Education Commission)

*Lower Secondary*: DGE (Department of General Education), OPEC

*Upper Secondary, Academic*: DGE, OPEC

*Upper Secondary, Vocational*: DOVE (Department of Vocational Education), RIT (Rajamongala Institute of Technology), OPEC

*"Highly Vocational"*: DOVE, RIT, OPEC

*Bachelor's Degree, Vocational*: RIT

*Bachelor's Degree, Teacher Training*: RIs (Rajabhat Institutes)

Source: National Education Commission, "Economic Rate of Return," 1994, mimeographed.

Annex 3 Table 10: Enrollments in Formal Education and Training -- Public vs. Private, 1995

| | Total | Public | | Private | |
|---|---|---|---|---|---|
| | ('000) | ('000) | (Percent) | ('000) | (Percent) |
| *General Education* | *11,018.6* | *9,585.0* | *87.0* | *1,433.6* | *13.0* |
| Pre-primary | 1,912.9 | 1,409.7 | 73.7 | 503.3 | 26.3 |
| Primary | 5,944.4 | 5,209.3 | 87.6 | 735.1 | 12.4 |
| Lower secondary | 2,406.5 | 2,247.1 | 93.4 | 159.4 | 6.6 |
| Upper secondary | 754.8 | 719.0 | 95.2 | 35.9 | 4.8 |
| *Vocational and Technical Education* | *903.0* | *499.1* | *55.3* | *403.9* | *44.7* |
| Department of Vocational Education | 426.3 | 426.3 | 100.0 | - | 0.0 |
| Rajamangala Institute of Technology | 59.5 | 59.5 | 100.0 | - | 0.0 |
| Rajabhat Institutes | 13.3 | 13.3 | 100.0 | - | 0.0 |
| *Higher Education* | *1,008.5* | *849.2* | *84.2* | *159.3* | *15.8* |
| Limited admission universities and colleges | 349.0 | 189.7 | 54.4 | 159.3 | 45.6 |
| Open admission universities | 523.6 | 523.6 | 100.0 | - | 0.0 |
| Rajamangala Institute of Technology | 15.7 | 15.7 | 100.0 | - | 0.0 |
| Rajabhat Institutes | 120.2 | 120.2 | 100.0 | - | 0.0 |
| *Non-formal Education (1993)* | *1,053.7* | *250.3* | *23.8* | *803.4* | *76.2* |
| **TOTAL ENROLLMENT** | **13,507.2** | **11,110.8** | ***82.3*** | **2,396.3** | **17.7** |

Sources:

MOE, OPEC, *Statistics of Private Education Academic Year 1995*.

MOE, RIT, *Educational Statistics in Brief Academic Year 1995*.

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MUA, *Higher Education: Data and Information, 1996*.

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## Annex 3 Table 11: Recurrent and Capital Expenditures on Education: 1985-1996

(Baht million)

| | Total | | Recurrent Expenditures | | Capital Expenditures | |
|---|---|---|---|---|---|---|
| Year | Amount | Percent | Amount | Percent | Amount | Percent |
| 1985 | 38,565.6 | 100.0 | 32,179.3 | 83.4 | 6,386.3 | 16.6 |
| **End of 5th Ed. Dev. Plan** | | | | | | |
| 1986 | 39,438.7 | 100.0 | 33,570.6 | 85.1 | 5,868.1 | 14.9 |
| 1987 | 41,111.0 | 100.0 | 35,571.8 | 86.5 | 5,539.2 | 13.5 |
| 1988 | 43,860.7 | 100.0 | 38,121.6 | 86.9 | 5,739.1 | 13.1 |
| 1989 | 47,358.1 | 100.0 | 40,673.3 | 85.9 | 6,684.8 | 14.1 |
| 1990 | 59,962.1 | 100.0 | 51,118.4 | 85.3 | 8,843.7 | 14.7 |
| **End of 6th Ed. Dev. Plan** | | | | | | |
| 1991 | 74,923.6 | 100.0 | 62,731.9 | 83.7 | 12,191.7 | 16.3 |
| 1992 | 85,664.5 | 100.0 | 69,003.1 | 80.6 | 16,661.4 | 19.4 |
| 1993 | 108,069.7 | 100.0 | 89,988.6 | 83.3 | 18,081.1 | 16.7 |
| 1994 | 121,973.1 | 100.0 | 98,847.4 | 81.0 | 23,125.7 | 19.0 |
| 1995 | 135,309.0 | 100.0 | 108,482.7 | 80.2 | 26,826.3 | 19.8 |
| **End of 7th Ed. Dev. Plan** | | | | | | |
| 1996 | 167,560 | 100.0 | 135,345.1 | 80.8 | 32,215.2 | 19.2 |

Sources: Educational Statistics of Thailand: Year 1992-1994. Office of the National Education Commission.
1995 and 1996 data also from the Office of the National Education Commission.

Annex 3 Table 12: Salaries/Wages as Percentage of Recurrent Expenditures by Level of Education: 1992-1996

**Baht million**

| Year | Total Recurrent Expend. | Pre-Prim. & Prim. | | | | | Secondary | | | | | Tertiary | | | | | Others | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Salaries/Wages | | | Other | | Salaries/Wages | | | Other | | Salaries/Wages | | | Other | | Salaries/Wages | | | Other | |
| | Baht | Total | Baht | % | Baht | % | Total | Baht | % | Baht | % | Total | Baht | % | Baht | % | Total | Baht | % | Baht | % |
| 1992 | 69,003.1 | 38073.4 | 35,041.5 | 92.0 | 3,031.9 | 8.0 | 17824.3 | 12,980.8 | 72.8 | 4,843.5 | 27.2 | 8664.1 | 5,363.9 | 61.9 | 3,300.2 | 38.1 | 4441.3 | 1,722.1 | 38.8 | 2,719.2 | 61.2 |
| 1993 | 89,988.6 | 49694.7 | 46,081.6 | 92.7 | 3,613.1 | 7.3 | 23385.2 | 17,347.3 | 74.2 | 6,037.9 | 25.8 | 11048.6 | 7,067.0 | 64.0 | 3,981.6 | 36.0 | 5860.1 | 1,810.1 | 30.9 | 4,050.0 | 69.1 |
| 1994 | 98,847.4 | 55077.1 | 48,790.1 | 88.6 | 6,287.0 | 11.4 | 25878.6 | 18,464.4 | 71.4 | 7,414.2 | 28.6 | 12016.4 | 7,616.1 | 63.4 | 4,400.3 | 36.6 | 5875.3 | 2,100.5 | 35.8 | 3,774.8 | 64.2 |
| 1995 | 108,482.7 | 60135.4 | 48,374.7 | 80.4 | 11,760.7 | 19.6 | 28125.6 | 19,811.0 | 70.4 | 8,314.6 | 29.6 | 13325.9 | 8,290.7 | 62.2 | 5,035.2 | 37.8 | 6895.9 | 2,287.9 | 33.2 | 4,608.0 | 66.8 |
| 1996 | 135,345.1 | 72589.5 | 58,008.8 | 79.9 | 14,580.7 | 20.1 | 33577.9 | 23,909.5 | 71.2 | 9,668.4 | 28.8 | 17972.0 | 10,454.1 | 58.2 | 7,517.9 | 41.8 | 11204.8 | 2,760.8 | 24.6 | 8,444.0 | 75.4 |

| Year | Secondary General | | | | | Secondary Vocational | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Salaries/Wages | | | Other | | Salaries/Wages | | | Other | |
| | Total | Baht | % | Baht | % | Total | Baht | % | Baht | % |
| 1992 | 13277.9 | 10,162.1 | 76.5 | 3,115.8 | 23.5 | 4115.9 | 2,553.8 | 62.0 | 1,562.1 | 38.0 |
| 1993 | 17305.9 | 13,415.8 | 77.5 | 3,890.1 | 22.5 | 5491.7 | 3,573.3 | 65.1 | 1,918.4 | 34.9 |
| 1994 | 19299.1 | 14,332.8 | 74.3 | 4,966.3 | 25.7 | 5942.4 | 3,752.2 | 63.1 | 2,190.2 | 36.9 |
| 1995 | 20688.4 | 15,405.7 | 74.5 | 5,282.7 | 25.5 | 6691.0 | 3,991.1 | 59.6 | 2,699.9 | 40.4 |
| 1996 | 24641.1 | 18,555.6 | 75.3 | 6,085.5 | 24.7 | 8021.2 | 4,845.0 | 60.4 | 3,176.2 | 39.6 |

Sources: Educational Statistics of Thailand: Year 1992-1994. Office of the National Education Commission.
1995 and 1996 data also from the Office of the National Education Commission.

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