Papua New Guinea


**Principles and general objectives of education**

In 1994, the National Executive Council assigned four national objectives to the Department of Education as follows:

- to develop an education system which will meet the needs of Papua New Guinea and its people and which will provide for the return of children to the village community, to seek formal employment or to benefit from further education and training;

- to provide basic schooling for all children;

- to help people understand the changes that are occurring in the contemporary society through the provision of non-formal education and literacy programmes;

- to identify the needs for development of manpower in the public and private sectors, and to provide appropriate higher education, development and training programmes.

Education must provide for citizens who:

- will have a strong moral value system which places emphasis on personal integrity, the equality of all members of society, and the importance and relevance of traditional values in modern life;

- are committed in their own personal development, and view education as a continuing life-long process;

- are invested with productive work ethic and realization of the value of both rural and urban community development activities in the context of national development;

- are prepared for the realities of life in most communities;

- are capable of providing a basis for effective further training for human resources needs.

The Philosophy of Education (1986) acknowledges the national goals and directive principles in the National Constitution (1975) and is based on integral human development: *integral* in the sense that all aspects of the person are important; *human* in the sense that social relationships are basic; and *development* in the sense that every individual has the potential to grow in knowledge, wisdom, understanding, skill and goodness. Education should equip the individual with knowledge, skills and
attitudes for effective communication, numeracy, resource development, and social and spiritual development. The purpose of education is to enable individuals to: live more useful and productive lives; participate in decision-making at all levels; relate responsibly to others; and develop spiritually.

### Current educational priorities and concerns

Papua New Guinea’s population was estimated to be 3.5 million in 1990. The growth rate is 2.3% per year implying a population of 7.4 million by 2010, of which approximately 40% will be in the 13-34 years age range. This rapid growth, especially of the urban population, is creating severe overcrowding, increase in the spread of urban crime and other attendant problems. It furthermore creates competition for resources necessary to meet various social needs, all of which appear urgent and legitimate. It is essential to meet the basic subsistence needs of all the people, to remove the sources of social problems, to protect the environment, and to control excessive population growth. More than 700 distinct languages are spoken in the country. Melanesian Pidgin is spoken widely throughout the country as a lingua franca, as is Hiri-motu, spoken in some parts of the south coast area. English, however, is the main language of instruction and is used in the administrative and commercial sectors.

Human resources development has been a high priority of past and present governments. National reports have stressed that the education of a child is the responsibility of the community and not merely of the teacher. The reports also state that the child must learn in his/her mother tongue, be literate, learn to read and write in the language he/she is familiar with, and that access to education should be available to every school-age child. Nevertheless, government actions may not have always ensured effective attainment of these objectives.

In 1991, the Government commissioned a task force to carry out an Education Sector Review. The aim was to identify and develop strategies in order to rectify problems that had become endemic in the education system since independence, fifteen years earlier.

The education system instituted during the colonial era in Papua New Guinea was characterized by a number of serious problems. It tailored academic programmes which were strongly oriented to the formal employment needs of the Public Service and to a lesser extent to the private sector. In reality, only those students who were academically gifted benefited from high school education and had the opportunity to enrol in institutions that provide training for employment.

The Education Sector Review of 1991 pointed out the following problems:

- high drop-out rates at the primary level, indicating that universal primary education was unlikely to be achieved;
- low transition rates at the post-Grade VI and Grade X levels, and thus a lack of access to secondary and higher education;

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a largely irrelevant curriculum that did not meet the needs of local communities;

- inequality in gender participation and in distribution of education services;

- weak management and administration;

- declining resource allocations combined with high unit costs;

- severe imbalances in the allocation of funding for higher education at the expense of other levels.

An integrated package of strategies was developed. It radically changed the structure and curricula of the education system and established a lower cost base at each level. This development occurred within the context of the new Organic Law on Provincial and Local-level Governments, the Education (Amendment) Act of 1995—which established the new structure of the education system—, the Teaching Service (Amendment) Act of 1995, and current major government policies relating to manpower reduction, user fees and delivery of services at the provincial and district levels.

The education reform programme set out to address the existing problems and to provide educational opportunities for all. The new structure has been progressively implemented since 1993, and runs parallel with the existing education system in many parts of the country, until the reorganization is complete. The reforms were planned to be fully operational by the year 2004 although, unofficially, educational authorities admit that the year 2010 is more realistic, given budget constraints and the relatively slow implementation progress of the reforms in some parts of the country.

The National Education Plan (NEP) was released in 1995, on the basis of which four broad educational programmes were developed:

- The Literacy and Information Programme, which is intended to help people understand the changes that are occurring in contemporary society.

- The Relevant Education For All Programme, which was designed to develop a school system capable of meeting the needs of Papua New Guinea and its people and of providing for the return of children to villages and for further education or training.

- The Education Access and Expansion Programme, aimed at providing basic schooling for all children.

- The Higher Education Programme, aimed at satisfying the qualified human resource requirements of the economy.

The NEP has also set objectives, which are followed closely by all staff ranging from the National Department of Education to the district education administration level. Twenty provincial education plans, with Provincial Executive
Council’s approval, have been developed in recent years. These plans, which address the national targets set in the National Education Plan, include the following:

- A Curriculum Reform Implementation Project, funded through the Australian Agency for International Development (AusAID) programme, has been initiated to strengthen the review of the curriculum.

- A bridging course has been developed in order to improve transition rates.

- A series of teacher training courses for Grades III, IV and V have been conducted. They will be integrated in the primary education (in-service course) diploma.

- The Commodity Assistance Supply Project provides material kits for elementary schools, and textbooks and equipment for primary and secondary schools.

- The Basic Education Infrastructure Curriculum Material Project (BEICMP) is expected to relieve the pressure of material distribution and improve the basic building infrastructure.

The 1995 NEP was updated in 1999 and was endorsed by the Conference of the Council of Education Chairmen in April 2000. This update looked at the progress made since 1995 and included strategies for addressing the issues that have emerged during the early years of implementation. All the twenty provinces have produced an education plan, although by 2003 only twelve plans have been formally endorsed by the respective Provincial Executive Councils.

Three objectives of the reform have been implemented. Firstly, the change in the structure of the education system. The previous system had a 6–4–2 structure, with community schools offering Grades I-VI and secondary schools offering Grades VII-X; upper secondary education (Grades XI and XII) was only offered by national high schools. In the new structure (3–6–2–2), Grades I and II have been relocated to the elementary schools and Grades VII and VIII have been moved from high schools into the primary school structure, opening up the capacity of secondary schools to enrol students in Grades IX-XII without having to increase the infrastructure. It is estimated that 50% of the students completing Grade VIII will continue onto Grade IX in a secondary school, of whom some 30% will enrol in Grade XI.

Student numbers have increased dramatically and the projected figures of the Department of Education indicate that this growth is bound to continue. The former education system would have had the capacity to absorb 1.3% growth per year by 2004, excluding the remaining 1% of students. Under the reform, however, it is estimated that almost 300,000 additional students, who otherwise would not have had access, will be able to go to school. This represents a significant growth rate of some 7.2% per year. Hence, the growth in approved teacher positions, in the order of 7% per year since 1994, is consistent with the growth in student numbers.

Despite these gains, a high drop-out rate at the primary level persists. This significant problem is of concern to the Department of Education, which has

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undertaken an awareness programme to inform parents on the importance of an educated population, despite limited employment opportunities in formal sector at present.

The second objective of the reform is to improve equity in enrolments. Women and children in isolated areas register relatively poor participation rates compared to men and urban inhabitants. In addition, some provinces have been less successful than others in providing education for a large number of children. Overall female participation has improved, although at a slower rate than expected. In 1992, a year before the introduction of the reform, females made up 39.9% of Grade VII enrolments, against 42.3% in 1997. Between 1992 and 1997, female enrolments increased by 48.4%; male enrolments by 53.5%.

The third objective of the reform is to improve the quality of education. Extensive investigation is needed in order to assess this aspect, but evidence shows that quality improvements can be expected over the next years.

There are several donor-assisted projects which target the quality of education, such as the Elementary Teacher Education Support Project, the Primary and Secondary Teacher Education Project, the Curriculum Reform Implementation Project, and the Institutional Strengthening Project, all supported by the Government of Australia. The World Bank is continuing its long-term role in the country and the European Union supports infrastructure development. The Governments of Japan, Germany and China continue to assist in developing high schools and vocational training throughout the country. It will take for several years before the benefits of these initiatives can be fully assessed.

The Department of Education has developed thirty-four indicators in order to measure the quality of what takes place in schools. They concern areas such as: providing students with a complete set of textbooks for use in the classroom; the development of school library facilities at the primary school level; and the availability of advisory visits from inspectors and curriculum officers. As the curriculum is expanding, the content and intensity of teacher training courses has recently been upgraded and teachers will be expected to participate in in-service activities—which may not be widely available. They will have to assume increased responsibility for curricular decisions and will be expected to impose even more stringent assessment activities within the classroom. An extensive review of salaries and working conditions has provided evidence of the gap between teachers’ salaries in comparison with other occupations, of the heavy workload of teachers, and of a need for substantial increase in salaries and allowances.

By opting for a reorganization of the entire education system—implemented without a pilot phase—Papua New Guinea subsequently faced a number of problems. First of all, since 1990, the National Department of Education—the lead agency for the implementation of the reform—experienced a number of changes. The Ministry of Education has had five different ministers since 1990. The most frequent instability experienced this decade was in the appointments of Provincial Education Advisors (PEA), some 50% of which have been replaced since 1993. This required further financial development and staff training programmes.
Secondly, 4.5 million people are spread across the mainland and the four major islands of Papua New Guinea with different degrees of communication and transportation problems. This geographical diversity complicates the collection of data. Quarterly and monthly reports from schools—especially those in the remote inland and islands—do not always reach the central division, making the collating of national statistics for planning difficult. Decreases in provincial budgets over the years have been the main cause for unreliable communication, correspondence and transportation between the central division, provincial headquarters and schools.

Thirdly, there is a clear lack of financial, human and material resources. Not only has the Department of Education’s budget decreased over the years, but inappropriate funding has limited its ability to monitor and facilitate new interventions effectively. The lack of manpower is affecting progress while parallel consultations between divisions is causing unnecessary delays. Similarly, co-ordination between government departments is limited and relevant data is not always made available to other users. As the work culture provides few opportunities for women to be employed at higher levels, gender imbalances are a concern, especially at the supervisory and middle management levels.

Fourthly, the curriculum reform is inconsistent with the Department’s structural changes. The Curriculum Division lacks suitably trained manpower. Bridging classes from Grades III, IV and V, taught in two languages, require bilingual teacher-training specialists—still insufficient in number. Automatic promotion has led to classes composed of students with a wide range of abilities, making teaching difficult and creating quality problems. Therefore, teachers workloads and challenges are increasing as student enrolment increases.

Finally, in 1990, the National Literacy and Awareness Secretariat, which has the responsibility for collecting information, has attempted to develop a database of literacy and awareness programmes with minor success. Obtaining timely information from the field is an on-going problem and remains a significant difficulty when assessing the achievement of education for all. Available statistics are usually collected in aggregate form without distinction on the basis of age, sex or location.

The reform agenda is complex and demanding and is confounded by the intention to concurrently phase the new system in and the existing system out, over a period of ten years. A further complexity for planning and management arises from the responsibilities shared between the national and the provincial authorities. There is a risk for attempts to be made to implement the reforms piecemeal. This has occurred at an early stage of the reform process but in response to inadequate planning and/or local pressures it has become more controlled. Such initiatives could distort the integrity of the reforms—particularly in relation to access and equity—and jeopardize the quality of education.

In planning and programming for the development of children and communities, it is important not to lose sight of the fact that 85% of the population continues to live in rural areas and maintains a subsistence-based lifestyle. Strategies for action must be sensitive to the different needs and concerns of remote village communities, and must account for structural disparities affecting less developed areas. It is unlikely for universal primary education to be achieved without legislation.
that enforces compulsory education. In the long-term, over the next twenty years, the attainment of compulsory education up to Grade VIII, followed by the implementation of universal education up to Grade X, are likely to become policy objectives.

The National Education Plan 2004–2015 builds on progress made under the NEP 1995–2004 and includes a national plan of action related to Education for All (EFA). Major objectives include:

- Expand education to disadvantaged children;
- Ensure access and free compulsory primary education by 2015;
- Equitable access to appropriate learning and life skills for all young and adults;
- Achieve a 50% improvement in adult literacy by 2005;
- Eliminate gender disparities by 2005;
- Improve the quality of education with measurable learning outcomes.

Laws and other basic regulations concerning education

The main laws regulating the education system are: the Education (Amendment) Act of 1995, which established the new structure of the education system; the Teaching Service (Amendment) Act of 1995; and the Organic Law on Provincial and Local-level Governments of 1995.

There are no legal provisions regarding free or compulsory education, or any age limits set. Free and compulsory education is a very long-term goal of the Government. A number of Provincial Education Plans have included a recommended age of entry to elementary schools.

Administration and management of the education system

At the central level, the National Department of Education is responsible for school education and the preparation and implementation of education plans, including policy on core functions relating to curriculum, standards (inspections, guidance and examinations), teacher education, staff development and in-service training, and special education. The Secretary for Education co-ordinates the implementation of education policies and ensures their implementation in the provinces and local-level Governments. The Department was restructured in April 1999 and comprises ten Divisions: Inspection and Guidance; Curriculum Development; Technical/Vocational Education and Training; Teacher Education and Staff Development; General Education Services; National Capital District (NCD) Education Services; General Administration and Personnel; Finance and Budgeting; Policy, Research and Communications; and Planning, Facilitating and Monitoring. The Teaching Service Commission is responsible for the appointment, salaries and conditions of

Provincial governments, through the Provincial Division of Education, are responsible for: planning for the establishment of elementary schools; planning for the flow of pupils for the lower to the upper primary level; budgeting for teacher emoluments, capital works, maintenance, rehabilitation of facilities and other operational costs at the secondary level; implementing approved teacher-training courses; appointing teachers and ensuring the cost-effective deployment of teachers; preparing provincial education plans.

Local-level Governments (LLG) and District administrations are responsible for: developing and producing curriculum materials for elementary education; providing support to communities for the development of elementary schools; contributing towards the construction and maintenance of school classrooms and facilities; assisting and facilitating cluster- and district-based staff development activities; assisting and developing central primary schools as resource centres for the cluster of elementary and feeder elementary schools; planning for the establishment of elementary and primary schools. There are about 284 LLGs and 89 districts in the country.

The community (ward) is responsible for: providing suitable land for the establishment of elementary schools, and constructing and maintaining school buildings; forming a Board of Management (BOM) in order to assist provincial and district planners and co-ordinate with primary school headteachers in the clustering of elementary schools; nominating elementary school teachers; developing and implementing annual plans for elementary and primary schools; forming a Board of Governors (BOG) that is required to organize the maintenance of secondary school classrooms and facilities; ensuring that LLG plans and budgets are consistent with provincial plans.

Inspectors are responsible for school-level supervision and teacher assessment at the elementary, primary and secondary levels. They monitor curriculum implementation for the approval of student certification, offer advice for institutional support and teachers professional development, and carry out teacher appraisal for registration and promotion purposes. Guidance officers work in the secondary/high school system and support teachers in their counselling duties. They also assist in primary schools with counselling services.

The National Literacy and Awareness Council (NLAC) deliberates on policies and strategies for the development of literacy programmes. The National Literacy and Awareness Secretariat acts as the executive arm of the NLAC.
Structure and organization of the education system

Papua New Guinea: structure of the education system

Pre-school education

Pre-school education (elementary education) is not compulsory. The full-time programme involves one preparatory year—known as Prep or EP—followed by two years of elementary education, often referred to as Elementary 1 (E1) and Elementary 2 (E2) to distinguish them from Grades I and II in the community schools. In principle, children should be 6 years old to enrol in EP and 7 years old to enrol in E1. Elementary education is considered as the first stage of the nine-year basic education programme.

Primary education

Primary education is the second stage of basic education and is not compulsory. According to the Education (Amendment) Act of 1995, the programme lasts six years, covering Grades III–VIII. Primary education is divided into lower (Grades III–V) and upper primary (Grades VI–VIII). Pupils currently sit two examinations: the Primary Education Certificate Examination (PECE) at the end of Grade VI, and the Certificate of Basic Education (COBE) examination at the end of Grade VIII. It is expected that the PECE will be phased out.

Secondary education

According to the Education (Amendment) Act of 1995, secondary education lasts four years and is divided into two cycles: lower (Grades IX and X) and upper secondary (Grades XI and XII). Students currently sit two examinations: the School Certificate Examination at the end of Grade X, and the Higher School Certificate Examination at the end of Grade XII. Traditionally, vocational education has been a provincial responsibility. Admission to the vocational training centres is currently for Grade VI graduates, but in the future will be for pupils who have successfully completed the basic education programme (Grade VIII). Technical colleges currently offer one-year Pre-employment Technical Training (PETT) courses to students who have completed lower secondary education. These courses are being replaced by a two-year Technical
Training Certificate (TTC) programme. The Papua New Guinea Education Institute currently offer a three-year course for Grade X graduates leading to the Certificate of Elementary Teaching.

Post-secondary and higher education is provided by the University of Papua New Guinea (UPNG), the University of Technology, and a number of colleges and specialized training institutes. At the UPNG, courses leading to the award of a bachelor’s degree normally take four years of study (five years in the case of medicine). A bachelor’s degree with honours takes an additional year. The University of Technology awards a Bachelor of Technology degree after three to five years of study. Two-year certificate and three-year diploma programmes are also offered in a number of fields. Primary teacher-training colleges offer a three-year diploma course for Grade XII graduates. The UNPG–Goroka (formerly the Goroka Teachers College) offer a four-year course leading to the Bachelor of Education degree. A one-year post-graduate diploma in education is also offered.

The school year consists of forty weeks and is divided into four terms. One week is set aside for the national in-service training week. The academic year is currently divided into two semesters.

**The financing of education**

The Organic Law of 1995 has facilitated the transfer of educational resources to provincial and district education authorities. However, provincial budget estimates are unreliable as a means to assess overall expenditures. Figures for 1997 and 1998 indicate that some 2.9% and 3.1% of the Gross National Product, respectively, were spent on primary education.

The resources required for implementing the reform are expected to exceed the projected level of resources available. The agreed priority areas must be fashioned to fit and to be maintained within the financial parameters that emerge. A risk exists for the flow of funds to fluctuate to the extent that the implementation will be neither consistent nor sustainable. Such a situation could diminish the efficiency of the process, jeopardize student progress and undermine public confidence.

The major investments required, as a result of the reform, will be for the upgrading of facilities, the provision of materials at the primary and secondary levels, and the cost of elementary school teacher salaries. The unit costs of education in Grades VII-XII will be reduced through increased enrolments by utilizing facilities at existing primary and provincial high schools. This reduction will be further enhanced by the almost complete abolition of boarding students in Grades VII and VIII.

Papua New Guinea owes a lot of its infrastructure and provision of equipment to international assistance agencies. In recent years project activity has expanded considerably, particularly with the changeover from recurrent to project support through AusAID.

The 1999 report *Resource allocation and reallocation* estimates that the education development budget for 1998 was in the vicinity of 93 million of kina (K),
corresponding to some 22% of the total national development budget. Slightly less than 50% of the 1998 allocation was for the school level, the balance being for tertiary education. The total education development programme (over five years) is estimated to be around K355 million, which is some 31% of the national development programme. Less than 5% of the 1998 education development budget was financed from the government and AusAID contribution represented about 67% of the total overseas funding. The Report indicates that budget figures should be interpreted with caution, as it is difficult to obtain reliable information on funding.

Teacher salaries are by far the greatest component of the education budget in particular at the primary level, where they account for more than 80% of the budget.

According to the Asian Development Bank, the government's allocation to higher education increased from 13% to about 20% of the total recurrent budget for education during 1993-2004.

The educational process

Pre-primary and elementary education

In the past, the provision of early childhood education has been left to the private sector. Although relatively small in number, programmes have been run by the international school system since the 1970s—and by non-governmental organizations since the 1980s—in the form of a one-year *tok ples priskul* programme. *Tok ples* schools ‘originally offered mainly initial literacy in the vernacular [language], but the curriculum of most of them was broadened to include numeracy and health skills. (Hoi & Wari, 1995, p.766).

*Tok ples priskuls* attracted large numbers of children. It was partly their success that led the Department of Education to introduce a three-year elementary school programme into the public school system in 1993. The three-year elementary education programme became part of the national education system with the amendment of the Education Act in 1995. The duration of a school day is four hours and the curriculum is adapted to the characteristics of the local environment.

The strength of early childhood education is its position within the community. The planning and organizational foundations focus strongly on the local community, which is actively involved in the selection process of teachers and in the development of the curriculum. Elementary schools are built by villagers using local materials. Communities informally monitor the activities of the school, the children and the teachers on a daily basis, while parents assist with field trips and voluntarily help out in the classroom. Furthermore, instruction is given in the mother tongue of the child and is aimed at developing literacy and numeracy skills appropriate to the elementary level.

As a result, elementary schools differ from the established primary and secondary schools. The organization, management and matters relating to teachers require other kinds of solutions than simply applying existing practices, which have proven to have limited success. In addition, elementary schools are conceived as

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autonomous institutions, which are not a part of primary schools. They have their own headmaster, board and management. This is a further strength of the sector and an additional reason for resolving issues through means that are relevant to the community and educators.

The education reform planning model anticipates that past problems in terms of access, quality, retention and academic achievement of children in community schools will be addressed through the elementary education programme. Figures indicate that after a slow start of the reform, the total enrolment in elementary schools has exceeded the projected figures in 1998. A slight gender bias continues in favour of male enrolments. The Department of Education needs to reflect on its strategies to enhance opportunities for female students at the preparatory year level.

Elementary school teachers are rather specialized in Papua New Guinea. They are heavily involved in the development of the elementary curriculum which is made up of three components: mathematics, culture and community. The culture and community components take up 60% of the elementary curriculum time allocation and require understanding of the culture and the ability to use vernacular languages fluently to participate in village ceremonials and everyday community life, work cooperatively with others and express the aesthetics and morals of community life through stories, arts and crafts.

It is expected that, as elementary education programmes are established, enrolment will increase substantially while tok ples priskul enrolment will decline. Evidence indicates that the number of children enrolling in early childhood education programmes has significantly increased during the past ten years.

The effectiveness of the elementary programme is difficult to assess. Early work in the 1980s, in relation to the tok ples programmes in the North Solomons province, suggests that children who become literate in their vernacular language do better in the Primary Education Certificate Examination at the end of Grade VI than those who did not attend priskul. The present elementary programme is a recent event and children are only now beginning to move into bridging English classes. Elementary schools should have little difficulty taking over the good work of the tok ples priskul movement.

The reform will take place over a period of ten years. The specific targets relating to elementary education are:

- the provision of basic education from EP to Elementary 2 for all children;
- enrolment in elementary schools should exceed 400,000 children by 2004;
- some 14,000 elementary teachers are needed to cope with the projected elementary school enrolment;
- the development of an integrated activity-based elementary programme with strong community inputs;

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• the attainment of initial literacy in a language the child speaks by the end of elementary education;

• to establish elementary schools as feeder schools to all primary schools in all provinces with equal access opportunities for males and females by the year 2004;

• a 100% transition rate of children from elementary schools to primary schools.

In 1999, total enrolment in elementary schools was estimated at 130,191 children. In 1998, there were 2,696 teachers at the elementary level (of whom 1,137 were female) and the average pupil-teacher ratio at the national level was 29.4:1. (Department of Education, March 2000).

According to estimates of the UNESCO Institute for Statistics, in 2003 there were 95,637 children enrolled in the preparatory year and the total number of teachers was 2,712. The gross enrolment ratio was estimated at 59%.

Primary education

The education reform programme focuses on access, equity, and quality in the provision of nine years of basic education from the preparatory year to Grade VIII. The introduction of elementary schools will free classroom space and other facilities within the primary schools, facilitating the relocation of Grades VII and VIII from high schools. No significant increase in either the enrolments rate or the number of teachers in primary schools over the period of reform is expected.

The six-year primary education programme now covers Grades III–VIII. It is hoped that this will help to overcome the problem of high drop-out rates, particularly of girls after Grade VI. To improve the quality and relevance of education, the primary curriculum will become more subject-specific and a strong vocational component will be developed for the upper grades as part of a Curriculum Reform Project. A new examination system will be introduced at the end of Grade VIII, which will also allow students selection for Grades IX–XII. Teachers currently within the system will be offered the opportunity to upgrade their qualifications to the diploma level through an in-service programme. New graduates from the teacher colleges will be diploma holders equipped to teach the upper primary grades.

Reform targets for the primary education sector are:

• a bridging programme into English in Grade III and IV;

• the establishment of Grades VII and VIII in primary schools;

• the development of teaching subjects in Grades VI–VIII;

• a renewed emphasis on social, cultural, spiritual, moral and vocational education;

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a community orientation which emphasizes the skills that children need in order to contribute to the development of their own communities.

Each of these reform targets has considerable implications for the work of teachers and requires professional development inputs to equip teachers with the knowledge and skills to cope with the reform agenda. Grades VII and VIII pupils will still be enrolled in existing high schools until full implementation is achieved. Infrastructure development will be required in the early years until the introduction of the elementary sector frees up school facilities for the new Grades VII and VIII. Specific objectives related to primary education to be attained by the year 2004:

- all children will have the opportunity to complete nine years of basic education;
- there will have been an improvement in the Grade I-VI retention rates;
- participation and completion rates for females will improve;
- rehabilitation of existing and construction of a new primary infrastructure will take place;
- staff deployment will have been rationalized.

Community schools in the process of reform are designated as primary schools. Sometimes the term ‘top-up’ has been used. A ‘top-up’ school is a school that added higher grades to its structure. For example, a ‘top-up’ community school is a Grades I–VI community school which changes to a primary school by adding Grades VII and VIII. Eventually this school passes Grades I and II to nearby elementary schools thus becoming a primary school covering Grades III–VIII. During the transition period there will be other variations (i.e. lower primary schools covering Grades III–V), as provinces and districts will work out clusters to suit their situation.

The new curriculum for lower and upper primary education was approved in October 1999 and is applied on an experimental basis. Each subject will develop and improve over the next years as a result of the process. Programmes will be mainly thematic in lower primary and subject-based in upper primary. The tables below show the suggested time allocation for each subject:
Grades VII and VIII students follow the same curriculum that has been adjusted to suit the new situation they are in. Grade VIII examinations have reduced the amount of instructional time. There are core and optional subjects for schools to choose from, as shown in the table below:

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**Lower primary education: suggested time allocation (in minutes per week)**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Suggested weekly time allocation in each grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>III</td>
</tr>
<tr>
<td>Language</td>
<td>570</td>
</tr>
<tr>
<td>Mathematics</td>
<td>210</td>
</tr>
<tr>
<td>Environmental studies</td>
<td>180</td>
</tr>
<tr>
<td>Health education</td>
<td>90</td>
</tr>
<tr>
<td>Physical education</td>
<td>105</td>
</tr>
<tr>
<td>Community living</td>
<td>150</td>
</tr>
<tr>
<td>Arts and crafts</td>
<td>150</td>
</tr>
</tbody>
</table>

Other school time:

- Religious instruction: 60
- Block time: 60

**Total minutes per week**: 1,575

*Source: Department of Education, 2008.*

**Upper primary education: suggested time allocation (in minutes per week)**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Suggested weekly time allocation in each grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VI</td>
</tr>
<tr>
<td>Language</td>
<td>180</td>
</tr>
<tr>
<td>Mathematics</td>
<td>180</td>
</tr>
<tr>
<td>Life skills</td>
<td>360</td>
</tr>
<tr>
<td>Personal development/Physical education</td>
<td>240</td>
</tr>
<tr>
<td>Science</td>
<td>180</td>
</tr>
<tr>
<td>Social science</td>
<td>180</td>
</tr>
<tr>
<td>Arts</td>
<td>180</td>
</tr>
</tbody>
</table>

Other school time:

- Religious instruction: 60
- Local courses: 90

**Total minutes per week**: 1,650

*Source: Department of Education, 2008.*

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Grades VII and VIII transition subjects: suggested time allocation (in minutes per week)

<table>
<thead>
<tr>
<th>Core subjects</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (240 min.)</td>
<td><em>One of these:</em></td>
</tr>
<tr>
<td>Library skills (40 min.)</td>
<td></td>
</tr>
<tr>
<td>Mathematics (200 min.)</td>
<td>Agriculture (120–160 min.)</td>
</tr>
<tr>
<td>Science (200 min.)</td>
<td>Commerce (120–160 min.)</td>
</tr>
<tr>
<td>Technology (240 min.)</td>
<td>Religious instruction (120–160 min.)</td>
</tr>
<tr>
<td>Guidance (40 min.)</td>
<td><em>Two from these:</em></td>
</tr>
<tr>
<td></td>
<td>Agriculture (80–160 min.)</td>
</tr>
<tr>
<td></td>
<td>Commerce (80–160 min.)</td>
</tr>
<tr>
<td></td>
<td>Expressive arts (80–160 min.)</td>
</tr>
<tr>
<td></td>
<td>Physical education (80–160 min.)</td>
</tr>
<tr>
<td></td>
<td>Religious instruction (80–160 min.)</td>
</tr>
<tr>
<td></td>
<td>Additional English or library skills (80–160 min.)</td>
</tr>
</tbody>
</table>


Repetition is not allowed at any stage of the system except for exceptional reasons—usually health. Drop-out rates are considerably high. National examinations are administered by the Measurement Services Unit of the Curriculum Development Division. There are two examinations that pupils currently sit: the Primary Education Certificate Examination (PECE) at the end of Grade VI, and the Certificate of Basic Education (COBE) examination at the end of Grade VIII.

The PECE was introduced in 1982, is meant for community-school pupils and is mainly used to select pupils for Grade VII. This examination consists of three papers: written expression, basic skills and combined subjects. The PECE is being phased out as a result of the introduction of Grades VII and VIII in primary schools. The COBE examination was approved in 1995. It is a skill-based examination and it is mainly used to select pupils for Grade IX. This examination consists of four papers: written expression; literacy skills; numeracy skills; and general skills.

In 1997, the average transition rate to Grade VII was 67.8% (37.5% in 1987) and the transition rate to Grade IX was 79%. In 1998, total primary school enrolment (Grades I–VIII) amounted to 568,164 pupils. There were 16,082 teachers (of whom 6,018 were female) and the average pupil-teacher ratio at the national level was 34.9:1. (Department of Education, March 2000).
**Secondary education**

Secondary education lasts four years and is divided into two cycles: lower (Grades IX and X) and upper secondary (Grades XI and XII). Students currently sit two examinations: the School Certificate Examination at the end of Grade X, and the Higher School Certificate Examination at the end of Grade XII. The table below shows the teaching subjects at the lower secondary level:

**Lower secondary education: weekly lesson timetable**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number of weekly teaching periods in each grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IX</td>
</tr>
<tr>
<td><strong>Core subjects:</strong></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>Science</td>
<td>5</td>
</tr>
<tr>
<td>Social science</td>
<td>5</td>
</tr>
<tr>
<td><strong>Practical subjects:</strong></td>
<td></td>
</tr>
<tr>
<td>Home economics</td>
<td>3–4</td>
</tr>
<tr>
<td>Practical skills</td>
<td>3–4</td>
</tr>
<tr>
<td>Technology</td>
<td>3–4</td>
</tr>
<tr>
<td>Agriculture</td>
<td>3–4</td>
</tr>
<tr>
<td>Commerce</td>
<td>3–4</td>
</tr>
<tr>
<td><strong>Other:</strong></td>
<td></td>
</tr>
<tr>
<td>Religious education</td>
<td>3–4</td>
</tr>
<tr>
<td>Expressive arts</td>
<td>3–4</td>
</tr>
<tr>
<td>Physical education</td>
<td>2</td>
</tr>
<tr>
<td>Library</td>
<td>1–4</td>
</tr>
<tr>
<td>Guidance</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note: Up to a maximum of forty periods per week (each teaching period lasts 40 minutes).*

In 1999, total enrolment at the secondary level amounted to 79,601 students (secondary and provincial high schools; national high schools). In 1998, there was a total of 2,900 teachers at this level and the average student/teacher ratio was 25.5:1. In 1997, the transition rate to Grade XI was 20% (9.6% in 1990). (Department of Education, March 2000).

Upper secondary education was formerly only offered by four national high schools. The new education structure provides for the conversion of selected provincial high schools into secondary schools covering Grades IX–XII.

Traditionally, vocational education has been a provincial responsibility. Admission to the vocational training centres is currently for Grade VI graduates, but in the future will be for pupils who have successfully completed the basic education programme (Grade VIII graduates). Technical colleges currently offer one-year Pre-employment Technical Training (PETT) courses to students who have completed lower secondary education. These courses are being replaced by a two-year Technical Training Certificate (TTC) programme. The Papua New Guinea Education Institute

Compiled by UNESCO-IBE (http://www.ibe.unesco.org/)
currently offer a three-year course for Grade X graduates leading to the Certificate of Elementary Teaching.

In 1999, there were 15,573 students enrolled in vocational centres, 1,949 students in technical colleges, and 1,731 students in primary teachers’ colleges. (Department of Education, March 2000).

**Assessing learning achievement nationwide**

No national programmes for assessing and monitoring pupils and students learning achievement are reported.

**Higher education**

Post-secondary and higher education is provided by the University of Papua New Guinea (UPNG, founded in 1965), the University of Technology (established in 1975), and a number of technical colleges, teacher-training colleges, industrial training colleges and specialized training institutes.

The UPNG offers courses in the fields of the arts, education, law, medicine and science. The University of Technology offers courses in the following fields: accountancy and business studies; agriculture; applied physics; architecture and building; chemical technology and forestry; civil, electrical and communication engineering; language and communication studies; mathematics and statistics. At the UPNG, courses leading to the award of a bachelor’s degree normally take four years of study (five years in the case of medicine). A bachelor’s degree with honours takes an additional year. The University of Technology awards a Bachelor of Technology degree after three to five years of study. Two-year certificate and three-year diploma programmes are also offered in a number of fields. Primary teacher-training colleges offer a three-year diploma course for Grade XII graduates. The UNPG–Goroka (formerly the Goroka Teachers College) offer a four-year course leading to the Bachelor of Education degree. A one-year post-graduate diploma in education is also offered.

In 1997, more than 10,000 Grade X and more than 1,000 Grade XII students were not selected for post-secondary and higher education studies. As the expansion of post-secondary and higher education is not keeping pace with the number of graduates, Grade X and XII students are increasingly being refused in further education institutions.

Grade X students are more affected by this phenomenon. In 1998, the Madang Teacher College, admitted only Grade XII graduates in its first year. Other colleges also admitted an increasing number of Grade XII graduates.

As little as five years ago, some 90% of Grade XII graduates continued at the tertiary level. The increasing number of Grade XII graduates as a result of the reform, and the lack of expansion of the higher education sector, means that as few as 40% of Grade XII graduates have enrolled in higher education institutions in 1999.
According to the Asian Development Bank (2006), in 2004 there were four public universities (UPNG, the University of Technology, the University of Goroka, and the University of Vudal), with a total enrolment of 6,760 students (of whom 33% females) and 494 lecturers (of whom 15% females). In addition, there were two private universities with 1,277 students enrolled and 86 lecturers. Other tertiary level institutions included teacher colleges, technical/business colleges, nursing colleges and miscellaneous colleges, with an overall enrolment of 6,677 students.

**Special education**

The Department of Education policy supports integration and encourages disabled children to attend mainstream schools. Various materials have been produced, including: a manual to be used in the training of teachers; a variety of leaflets for teachers and parents in order to help them to enrol disabled children in regular schools; a series of pamphlets on specific disabilities, such as hearing, visual, physical and intellectual impairments. Materials and examination papers can be produced in Braille and there is also a specially adapted Grade X science practical examination for the visually impaired.

A Special Education Section has been established within the Teacher Education and Staff Development Division and there are now eight Special Education Resource Centres situated in the major urban areas of the country.

**Private education**

The two major providers of private education in the country are the Seventh Day Adventist Mission and the International Education Agency (IEA).

Most expatriates send their children to schools run by the IEA, which has primary schools in all the major centres. Schools follow the IEA outcomes-based core curriculum, with materials drawn from Australia, New Zealand, the United Kingdom and the United States of America. The IEA also operates two international high schools (in Port Moresby and Lae) up to and including Grade XII. A further IEA school in Port Moresby goes up to Grade X with a lower fee structure. Students attend classes conducted in accordance with the Australian high school curriculum (New South Wales), or take the International General Certificate of Secondary Education (IGCSE). Final year students may opt to matriculate with the International Higher School Certificate or follow the International Baccalaureate Programme.

There has been a trend in recent years for a number of privately-run education institutions in the post-secondary sector to rise. These mainly cater to Grades VIII and X graduates who are interested in obtaining business-type qualifications in the clerical or computing fields.

Compiled by UNESCO-IBE (http://www.ibe.unesco.org/)
Means of instruction, equipment and infrastructure

Papua New Guinea owes a lot of its infrastructure and provision of equipment to the international assistance.

The responsibility for providing infrastructure in elementary schools lies with the communities themselves. The Australian Agency for International Development (AusAID) supplies materials for elementary schools through a Commodity Assistance Support Programme (CASP) mechanism. Each school receives five kits of materials: three literacy kits—one for each of the three grades—and two numeracy kits. It is expected that the teachers themselves will produce a large amount of the materials required for their classes. There is an important need for schools and Local-level Governments (LLG) to ensure that resources are allocated for the purchase of consumables.

Elementary schools received a boost at the start of the 2000 school year when the Department of Education, with the support of AusAID, provided a large number of textbooks and other materials. The AusAID contribution (approximately 2 million of kina) was used for printing and distributing curriculum materials developed by the Curriculum Development Division. However, there is still a great need for vernacular materials. The Literacy and Materials Production (LAMP) centres—with a few honourable exceptions—are not coping with the demand for materials for the different language groups in each province.

A scope and sequence book for the elementary level has been produced, replacing the previously produced attainment targets. The book contains guidelines for teachers on how to produce lessons using local resources, as the curriculum should be community-based. Additional textbooks are under preparation, relating to local culture and curriculum, mathematics, language teaching, and oral introduction to English.

At the lower primary level, there should be no need for any new infrastructure provided that the provinces have implemented the reforms in a planned and orderly manner. The communities continue to hold the bulk of responsibility for infrastructure at this level. The Board of Studies endorsed the lower primary education curriculum in 1998. In 1999, some of the bridging materials for Grade III have been provided to schools and further materials are under preparation.

The upper primary education curriculum was endorsed by the Board of Studies in late 1999. AusAID supplied all the necessary textbooks, aids and materials required by the new Grade VII and VIII classes that commenced between 1993 and 1996. A review of CASP was carried out by AusAID in 1999, showing that textbook supply was the most valued aspect of the programme, although it has been noted that many teachers did not know how to use some of the equipment provided. A major, long-term Educational Infrastructure, Equipment and Materials Project, funded by AusAID, started in March 2000. It is expected to target the needs of elementary and primary schools.

Compiled by UNESCO-IBE (http://www.ibe.unesco.org/)
Nearly all the provinces have begun to shed Grade VII and VIII classes in their high schools to allow for greater access to Grades IX and X. It is hoped that the provision of textbooks for Grades IX and X will be included as part of the CASP, in order to speed up the transition process. Upper secondary education (Grades XI and XII) was formerly only offered by four national high schools. The new educational structure provides for the conversion of selected provincial high schools into secondary schools offering Grades IX–XII, a process that started in 1993. Infrastructure development at the new secondary schools has been carried out with the support of a variety of donors. The cost is dependent on the state of the school (an average of K4 million in 2000). The scope of work usually includes a computer room, new staff housing, extension to the library and administration facilities, and the general upgrading of facilities. Provincial governments have provided some funding, but this is not sufficient and only covers some of the maintenance costs.

Technical colleges have large quantities of old equipment requiring maintenance and repair. In the year 2000, colleges started offering Technical Training Certificate (TTC) courses without sufficient textbooks and other reference materials. The course ‘Introduction to computing is now a requirement for all TTCs and a number of colleges have neither a computer room nor enough computers. AusAID is currently funding the introduction and setting up of a Trade Testing and Certification System. The technical and business colleges are being developed into trade testing centres through: the construction, renovation and maintenance of facilities; the provision of tools and equipment; the construction of student dormitories and libraries; the training of staff; and the development of teaching resources and materials. The European Union is also funding the maintenance and repair of college facilities.

**Adult and non-formal education**

In the past ten years, considerable efforts have been made for improving literacy and awareness levels. Non-governmental organizations (NGOs) are taking the leading role in initiating adult literacy and awareness programmes in rural and urban environments, while government institutions are offering programmes aimed at unemployed youth, women and disabled students.

It is difficult to obtain information on these programmes as no comprehensive and continuous records are kept. The existing databases are incomplete in one way or another. It is equally difficult to discern which programmes are effective in terms of outcomes and resource utilization, and which represent ‘best practices’, that may be emulated in order to maximize literacy and awareness efforts throughout the country.

What is certain is that Papua New Guinea has a poor level of literacy attainment which is, in a sense, an accumulation of past poor participation rates in all sectors of education. The average number of years of schooling per adult stands at a disappointing 2.1 years. The overall literacy rate is about 52%, but this is unequally distributed on a gender basis—males have a rate of 65% compared to the female rate of 38%. In 2002, the adult literacy rate (population above 15 years) was estimated at 64.6%.
Specific information on youth literacy rates is unavailable. Recent data indicate an improvement in literacy rates of youths in comparison to their parents. A World Bank sponsored study (1997) noted a change in the average number of years of schooling of youths and their parents. Parents in central provinces have an average of six years of schooling, children nine and a half. In the highlands provinces, the respective figures are two and six years. The education reform, with its improvement in access, seeks to improve youth literacy rates.

The National Literacy and Awareness Secretariat (NLAS) and the National Literacy and Awareness Council (NLAC) have been given pivotal roles by the government in the organization, monitoring and financing of literacy and awareness programmes. NGOs also play an important role and it will be of value to understand the structures that exist to support all literacy and awareness programmes.

Other than the expression of concern over the poor literacy rate in the country, the government has not yet set goals for the attainment of higher levels of adult literacy. Nonetheless, literacy through non-formal education means plays a crucial role in the country, where only 76% of the children between 6 and 12 years of age go to school, and only one-third of those who complete Grade VI continue their studies. Whether it occurs through vocational education, agricultural or health extension programmes, adult literacy activities, distance education, or community-based libraries, non-formal education is a very important part of the effort to meet the learning needs of the majority of the population.

Non-formal education targets youths who are not in the formal school system as well as out-of-school adults and second-chance learners, by mobilizing the expertise of government agencies and NGOs to: improve health and nutrition; develop an interest in literacy; teach appropriate technology skills for economic development; develop leadership skills for political development; mount communication networks for social development; encourage and support creative activities for spiritual and cultural development; and help people to appreciate the need for the preservation of the environment. The basic principal underlying non-formal education is that programmes must be learner-centred. This means:

- giving high priority to nurturing and promoting creativity in the personal and collective development of the learners.
- giving higher value to the learners’ freedom to explore and inquire, their developing awareness of the self and their identities, their questioning, challenging and self-learning habits, and enhancing sensitivity, compassion and empathy;
- supplementing national funding of a local initiative as long as it does not entail a recurrent cost.

The major objective of non-formal education is to carry out literacy campaigns involving NGOs, women’s associations and youth groups, and to institutionalize early childhood care. The utilization of self-help and community co-operation for carrying out non-formal education projects emphasizes equality and empowerment while it enables individuals to compete effectively in the market place.
The experiences of NGOs in village-level programmes have made them experts in many aspects of non-formal education. Government departments as well as NGOs will jointly be involved in planning, implementing, maintaining, and evaluation of non-formal education programmes. Programmes include the following:

- Maximizing community planning. Goals will be determined as much as possible by the community hosting and supporting the programmes. Communities will be involved from the beginning in designing the programmes in order to help them solve urgent problems and achieve their most pressing needs.

- Promoting community control, responsibility and participation. Programmes will be community-based and people-centred. Wherever possible, non-formal education must rely on community control, responsibility and participation.

- Developing human and community resources. Training in community resource development will be provided for effective non-formal education programmes.

- Dependence on external assistance will be minimal, and more reliance will be placed on local resources. Grants from external agencies will be carefully administered to help local communities develop and achieve their aims.

Sub-programmes and project options are as follows:

- Recruitment and training of manpower in the NLAS in researching material, production and distribution.

- Monitoring and evaluating literacy and awareness programmes.

- Implementation of a National Literacy Campaign by the NLAS in consultation with the National Non-formal Education Council established to provide functional literacy training for women and first-chance learners.

- Expansion of community libraries by the National Library and Information Services.

- The development of orthographies of vernacular languages as a component of the Elementary Teacher Education Upgrading project.

An unaccounted number of children are not in the formal education system. Links are needed with non-formal education initiatives, employers and communities in order to cater to drop-outs as well as to children and youths who never attended school. Strategies are needed to improve retention rates such as a national awareness programmes, free and compulsory education, improvement of school/community partnerships, and flexible school fee policies. Some local churches and NGOs have instituted “Half-Way” houses to assist out-of-school and unemployed youths. These young adolescents are taught vocational trade skills and ethics.
A National Literacy Policy is under preparation. The policy will delineate the responsibilities at the different levels of government, including local-level governments and community councils. It will also stress the important linkages between literacy and the formal education system, in particular the vocational centres and the College of Distance Education.

### Teaching staff

The lack of teachers is a matter of concern in the country. In 1998, the Teaching Service Commission approved 26,649 teaching positions but only 21,100 were filled. These figures vary from province to province, but all areas are faced with the problem of unfilled positions.

Of the 3,182 early childhood teachers employed by the Department of Education in 1998, all have had training. The first trained elementary teachers have graduated at the end of 1999 (some 1,000 teachers) and received a Certificate of Elementary Teaching from the Papua New Guinea Education Institute. An additional 1,000 teachers were expected to graduate at the end of 2000. There remains a great deal of expansion to take place at this level, as the projected number of elementary teachers needed by 2004 has been estimated at 15,401.

The training of primary teachers has been upgraded in the past ten years. All primary and community teachers have at least a two-year certificate in teaching from a recognized teacher-training institution. In 1993, the primary teaching qualification was extended to a three-year diploma qualification, and the completion of Grade XII is the minimum entry requirement for admission into a teacher-training college. The majority of new teachers are Grade XII graduates who continue their studies at the tertiary level for at least three years. The Papua New Guinea Education Institute offers a Diploma in Education Primary (In-service) course, a mixed-mode course designed to upgrade teachers to the diploma level and to prepare them for teaching at the upper primary level. School-based in-service teacher training is encouraged at all levels. Many teachers follow courses offered by university centres across the country and administered by the Institute of Continuing and Distance Education, University of Papua New Guinea.

Pre-service training for secondary teachers lasts four years. The content of the programme leading to the Bachelor of Education degree has recently been upgraded. Students are expected to participate in in-service activities (although they may not be widely available) as the curriculum is expanding. The expansion of access to Grades XI and XII will require a curriculum that provides greater choice. Teachers will be increasingly asked to develop a school-based curriculum appropriate to the needs of students and to the local contexts.

The social status of teaching staff is low and there are few incentives for young people to enter the profession or for those within the system to stay. Teachers are expected to undertake heavy workloads for the same salary as public servants, who usually have less responsibilities and no comparable tertiary qualifications. Allowances are provided for those working in remote areas. The Rural Remote Disadvantaged School Allowance, for instance, was set at K200 per year in 1983.

Compiled by UNESCO-IBE (http://www.ibe.unesco.org/)
attract teachers to isolated schools. This was a breakthrough at the time but, in 1999, the allowance remains at the same level. Similarly, housing allowances provide little compensation. An extensive review of salaries and working conditions showed evidence of the gap between teachers’ salaries compared to other occupations. The increasing workload calls for substantial increases in salaries and allowances in order to attract and retain teachers within the profession. Recently, an agreement has been signed between teachers and the government; it foresees several measures aimed at encouraging teachers to move to remote regions. Multigrade teaching is becoming more and more institutionalized and a multigrade teaching allowance has been introduced.

Working and employment conditions for teaching staff are set by the Teaching Service Commission. There is an increasing sensitivity regarding gender issues and an understanding of the need to encourage more women to reach higher levels of the teaching service and, more importantly, to play a greater role in administration and decision-making.

The Department of Education has sought to increase class sizes as a reform objective in order to reduce the cost of education. Reform targets indicate that student/teacher ratios across the country are set at 30:1 in elementary schools, 40:1 in primary and lower secondary schools and 30:1 at the upper secondary school level. National averages hide the many variations in student/teacher ratios between and within provinces. Student/teacher ratios range from the 20:1 in Manus to 40:1 or more in the National Capital District. Teacher deployment is a significant problem and provinces need to move teachers from over-staffed to understaffed schools.

Given the high proportion of the education budget allocated for salaries and allowances of teaching and non-teaching staff, policies and practices relating to deployment are critical factors in implementing cost-effectiveness and in reducing unit costs. The implementation of efficient deployment strategies will facilitate the achievement of reform goals by minimizing the provision of additional resources, other than for the elementary sector. More efficient staff deployment practices will delay the demand for additional resources, particularly for teachers and infrastructure, which natural population increases alone could be expected to bring.

There are a few training opportunities for school principals and headteachers, although courses have been developed in the past. It is expected that this will be one of the main areas of attention in future years. The AusAID-sponsored Institutional Strengthening Project (completed in 1999) and the Regional Management and Planning Advisors component of the Education Development Project have attempted to improve the capacity of administrators and planners at all levels.

**Educational research and information**

The Department of Education has very limited research capacities. The bulk of research work is carried out by international providers operating in the country. Major research in 2000 included: a study on the impact of the government assistance to the quality of education programme, carried out by the Department; a study on retention,
carried out by the National Research Institute and the Department; and a study on literacy, carried out by the National Research Institute.

References


