

CHAPTER XIV

Education and Training

I.—INTRODUCTION

699. The discussion in Chapter VII clearly indicates that the realisation of the full potential of the vast human resources of the country is a basic challenge in national development. While economic expansion will have to proceed vigorously to provide productive employment for school-leavers, the education and training systems will have to be geared more effectively to enhancing such absorption and to producing adequate numbers of those skilled personnel necessary for the implementation of the New Economic Policy.

700. Besides having a strong manpower orientation, education and training programmes will contribute significantly towards promoting national unity. They will play a vital role in increasing the productivity and income of all Malaysians, as well as in the greater urbanisation of the Malays and other indigenous people by facilitating their participation in modern economic activities.

701. A major objective in the Second Malaysia Plan period will be the consolidation of the education system so as to make it an efficient vehicle for the achievement of these important objectives of national development. Curricula, teaching methods, staffing, classroom facilities and other aspects will be subject to close review for this purpose.

702. The following Sections review the progress and problems in this field during the First Malaysia Plan period and set out the specific programme improvements envisaged during 1971-75.

II.—REVIEW OF PROGRESS, 1966-70

1. EDUCATION

703. *West Malaysia.* Under the First Malaysia Plan a number of policy decisions were taken which resulted in modifications to the education programme. These included:

- (i) the extension of the concept of basic education to include not only the primary cycle but also three years of lower secondary education;

- (ii) the reorganisation of the pattern of secondary education with the introduction of comprehensive and post-comprehensive education; and
- (iii) the shift towards a better balance between general academic education, on the one hand, and vocational, technical and science education, on the other.

Developments in the education system in West Malaysia are summarised in Table 14-1.

TABLE 14-1

DEVELOPMENT IN THE EDUCATION SYSTEM, WEST MALAYSIA, 1965-70

| Level of Education | 1965 | | 1970 | | Increase/Decrease 1965-70 | |
|---------------------------------|-----------------------------|----------------|-----------------------------|----------------|------------------------------|--------|
| | No. of Institu- tions | Enrol- ment | No. of Institu- tions | Enrol- ment | No. | % |
| <i>Primary Level</i> | 4,366 | 1,217,309 | 4,382 | 1,421,469 | 204,160 | 16.8 |
| (Percentage of all levels) .. | | 80.75% | | 74.15% | | |
| <i>Secondary Level</i> | 755 | 277,255 | 747 | 479,065 | 201,810 | 72.8 |
| Lower Secondary | | 231,555 | | 378,535 | 146,980 | 63.5 |
| Upper Secondary | | 42,163 | | 89,435 | 47,272 | 112.1 |
| (a) Arts and Science .. | | 40,755 | | 84,925 | 44,170 | 108.4 |
| (b) Technical | | 855 | | 1,838 | 983 | 115.0 |
| (c) Vocational | | 553 | | 2,672 | 2,119 | 383.2 |
| Sixth Form | | 3,537 | | 11,095 | 7,558 | 213.7 |
| (a) Arts | | 1,668 | | 5,290 | 3,622 | 217.1 |
| (b) Science | | 1,869 | | 5,350 | 3,481 | 186.2 |
| (c) Vocational | | Nil | | 455 | 455 | |
| (Percentage of all levels) .. | | 18.39% | | 25.00% | | |
| <i>Teacher Training</i> | 44 | 9,114 | 11 | 2,671 | - 6,443 | - 70.7 |
| Primary | 16 | 4,691 | 6 | 1,307 | - 3,384 | - 72.1 |
| Secondary | 28 | 4,423 | 5 | 1,364 | - 3,059 | - 69.2 |
| (Percentage of all levels) .. | | 0.60% | | 0.14% | | |

TABLE 14-1—(cont.)

DEVELOPMENT IN THE EDUCATION SYSTEM, WEST MALAYSIA, 1965-70

| Level of Education | 1965 | | 1970 | | Increase/Decrease 1965-70 | |
|--|-----------------------------|----------------|-----------------------------|----------------|------------------------------|-------|
| | No. of Institu- tions | Enrol- ment | No. of Institu- tions | Enrol- ment | Enrolment | |
| | | | | | No. | % |
| <i>College Level</i> | 3 | 1,016 | 5 | 5,228 | 4,212 | 414.6 |
| Technical College* | 1 | 684 | 1 | 943 | 259 | 37.9 |
| College of Agriculture .. | 1 | 113 | 1 | 586 | 473 | 418.6 |
| Ungku Omar Polytechnic .. | Nil | Nil | 1 | 290 | 290 | |
| MARA Institute of Tech- nology* | 1 | 219 | 1 | 2,375 | 2,156 | 984.5 |
| Tunku Abdul Rahman Col- lege, | Nil | Nil | 1 | 1,034 | 1,034 | |
| (Percentage of all levels) .. | | 0.07% | | 0.27% | | |
| <i>University Level</i> | 1 | 2,835 | 3 | 8,505 | 5,670 | 200.0 |
| University of Malaya | 1 | 2,835 | 1 | 8,052 | 5,217 | 184.0 |
| University at Penang | Nil | Nil | 1 | 262 | 262 | |
| Universiti Kebangsaan | Nil | Nil | 1 | 191 | 191 | |
| (Percentage of all levels) .. | | 0.19% | | 0.44% | | |

704. Impressive strides were made in *primary education*, as reflected by improved survival rates and growth in enrolments by nearly 17% over the five-year period. By 1970, over 90% of the primary school-age population was enrolled. An additional 3,830 classrooms were constructed under the First Malaysia Plan. While the number of schools increased from 4,366 to 4,382, the main effort was concentrated in the replacement of sub-standard schools and the amalgamation of under-utilised schools, mainly in the rural areas. About 80% of all primary schools are in the rural areas.

705. Opportunities and facilities for *secondary level education*, covering the lower secondary, upper secondary and Sixth Form levels, were greatly expanded. Enrolments at these levels grew over 70% during the period. In all, 3,395 classrooms, 494 science laboratories and 153 workshops were constructed. The number of secondary vocational schools and secondary technical schools also increased. About 55% of the secondary schools are in rural areas. Overall, 68% of students completing primary level education proceeded to the secondary level.

* Including some training at university/professional level.

706. Under the *teacher training* programme, a total of 7,500 primary school teachers, 7,450 secondary school teachers and 739 specialist teachers were trained. This supply was adequate to meet the requirements for teachers at the primary and lower secondary levels. With the upward revision in the pupil-teacher ratio in primary and lower secondary education, the teacher training programme was phased down considerably. However, the output of trained graduate teachers, particularly for science and mathematics, for upper and post-secondary education, continued to lag behind total requirements despite the fact that over 2,000 such teachers were trained locally and abroad during the period.

707. At the *College* level, teaching facilities and the scope of courses offered at the Technical College, Kuala Lumpur, were improved to meet the needs of its enrolment growth of nearly 38% in the five years. Much of the expansion, however, occurred in the latter part of the period and 1970 output from the College was only 198 compared to the 1965 level of 160. The Ungku Omar Polytechnic, established in 1969, had its first intake of 290 students. The expansion programme envisaged for the College of Agriculture, Serdang, was fully achieved by mid-1970. Enrolments in the College increased more than five-fold. The College's target of producing 160 graduates per year was met in 1970.

708. *University education* in Malaysia expanded dramatically during 1966-70. Not only did the University of Malaya more than double its enrolment, two other Universities, the Universiti Kebangsaan and the University at Penang, were also established. However, given the short period over which such expansion took place, the Universities faced a number of problems. While the University of Malaya was able to expand physical facilities to accommodate the increased enrolment, the two other universities had not found sufficient facilities or instructors to provide for the desired student intakes. Further, science and technology enrolments lagged behind those in arts and humanities.

709. At the University of Malaya, the Plan target enrolment of 7,000 was exceeded when the student population reached 8,052 in the 1970/71 session. Of these, 1,363 were in Science, 324 in Agriculture, 392 in Engineering and 631 in Medicine. Some 275 were studying for post-graduate degrees. Of the remainder, 1,360 were in the Faculty of Economics and Administration. The first batch of 61 doctors graduated from the Medical Faculty in 1969. A Diploma course in Public Administration was also started at the University of Malaya to provide graduate level training for

public service officials. The first class of 24 graduated in 1970. Physical facilities for teaching, administration and residence at the University were greatly increased.

710. The University at Penang began with an intake of 60 science students in 1969 and increased its enrolment to 262 in the 1970/71 session, more than two-thirds of them in science. The Universiti Kebangsaan had its first intake of 191 students, including 37 students in the science course.

711. *East Malaysia*. The enrolment and output targets for educational development in East Malaysia in the Plan were also largely met. Actual development expenditure, however, was only 61% of the allocation for Sabah and 57% for Sarawak. Much of the increase in enrolment was achieved through more intensive use of existing facilities.

712. In *Sarawak*, the Plan objective of providing three years of secondary education to about 30% of pupils completing Primary Six and a further two years of secondary education to about 50% of those completing Form Three was fulfilled. Enrolment in schools increased as follows:

| | | | 1965 | 1970 | Increase (%) |
|-----------|-----|-----|---------|---------|--------------|
| Primary | ... | ... | 119,400 | 153,600 | 28.6 |
| Secondary | ... | ... | 13,000 | 22,100 | 70.0 |

In addition to the construction of 16 new Government secondary schools and 260 classrooms, extensions were made to 57 schools.

713. With the establishment of the new Teacher Training College at Rajang, with assistance from the New Zealand Government, teacher training enrolment in Sarawak increased by 50% to over 700 in 1970.

714. In *Sabah*, primary and secondary enrolments expanded as follows:

| | | | 1965 | 1970 | Increase (%) |
|-----------|-----|-----|--------|---------|--------------|
| Primary | ... | ... | 86,413 | 128,500 | 48.7 |
| Secondary | ... | ... | 11,422 | 32,281 | 182.6 |

At the primary level, 853 classrooms were constructed, while 347 classrooms, 48 specialist rooms and 56 science laboratories were constructed at the secondary level; 450 teachers' quarters and 20 student hostels were also built.

715. The extensions undertaken to Kent College and Gaya College enabled the two Colleges to expand enrolments to 320 and 330 teacher trainees respectively. The total output of teachers during the period from these Colleges and the Native Voluntary Teachers' Training College, Tanjong Aru, was 1,314 of whom 189 were lower secondary teachers.

2. OTHER EDUCATION PROGRAMMES

716. Apart from the development in the formal education system under the Ministry of Education, described above, a number of important developments took place outside this system during the period.

717. The educational programme sponsored by MARA in the *MARA Institute of Technology (ITM)* expanded at a rate much beyond that originally envisaged in the Plan. Enrolment increased nearly ten-fold, while 816 students graduated from the ITM during the period. The ITM offered a total of 44 courses of study in its ten schools, including Accountancy and Finance, Computer Science, Agriculture, Engineering, Hotel and Catering Management, Library Science and Pre-University Studies. Most of these courses were offered at the sub-professional level, with provision for some training at the professional level, leading to recognised external degrees or the ITM's Diplomas.

718. The inadequacy of residential and teaching facilities, shortages of instructors and wastage among students posed difficult problems for the ITM during this period of expansion. However, at the end of the period under review steps were being taken to resolve these problems. A sum of \$600,000 was expended on extensions and renovations to the ITM at Petaling Jaya, while work was begun on its new premises at Shah Alam. In 1965, there were only 12 full-time staff, but the staff strength had increased to nearly 200 in 1970, with ten overseas volunteers assisting as well.

719. Besides the education programme at ITM, MARA's *Training Division* expended some \$12 million in providing 993 scholarships and 743 loan awards to qualified persons for study in local and overseas institutions.

720. The *Tunku Abdul Rahman College*, which receives Government support, had its first intake of 510 students in 1969 in its School of Pre-University Studies. Enrolment increased to 1,034 in 1970, with 643 students

in Science and 391 in Arts. Pending the construction of its own premises, the College uses the facilities of two educational buildings under the Ministry of Education.

3. TRAINING PROGRAMMES

721. The First Malaysia Plan envisaged that the formal education system would carry the main responsibility for producing the manpower needed for economic and social development. Training institutions, both public and private, were expected to cater for the needs of the economy for management, business and technical skills. The main thrust of the Plan in this regard was to make full use of the training facilities available, expand them where necessary and co-ordinate their activities with the general school system. While the education system continued to expand and diversify, increasing attention was paid during the course of the Plan to the training of personnel outside the school system. Both in the public and private sectors, management and technical training came to be increasingly emphasised. These programmes are described below.

722. *Management Training.* The *National Productivity Centre*, established in 1962 and constituted into a quasi-autonomous body in 1967, offered greatly diversified facilities for short-term courses and seminars in various aspects of management. Apart from the basic programmes in the four sections of the Centre—Management Development, Sales and Marketing, Industrial Engineering and Light Industry Services, and Industrial Relations—special courses were also conducted in such areas as supervisory training, operations research and plantation management. Over 330 courses and seminars for nearly 5,200 participants were conducted in the Centre during the Plan period.

723. The *Management Institute of Malaysia*, launched by the private sector in 1966, was also actively involved in the development of business management skills. The Institute conducted a number of seminars and courses for both public and private sector management personnel during the period.

724. As a result of a study on training for development in the public services, carried out by the Development Administration Unit, a Training and Career Development Division was created in the Public Services

Department in 1969. *The Government Staff Training Centre* was expanded and the number and content of courses offered were considerably improved. A sizable overseas training programme at post-graduate level for public service officials was also launched, with the assistance of the United Nations, Colombo Plan and the Ford Foundation. All these programmes helped supplement the management training programmes at ITM and the University of Malaya, as well as overseas.

725. *Industrial Training.* The First Malaysia Plan envisaged an expanded role for the Ministry of Labour and Manpower in the training of craftsmen and artisans. MARA and the National Youth Pioneer Corps were also called upon to undertake training at these levels as part of the measures to intensify industrial and trade training.

726. The *Industrial Training Institute (ITI)* of the Ministry of Labour and Manpower, situated in Kuala Lumpur, was expanded to increase intakes for its apprenticeship training programme and to provide preparatory trade courses for school-leavers. The ITI offers courses in the mechanical and electrical engineering, printing and building trades. Workshop and residential facilities at the Institute were enlarged and construction of another four-storey block to house the instructor training programme was started. Construction of a second ITI at Prai was started in 1970. Altogether, 1,100 apprentices underwent training during the period, while about 500 youths completed the preparatory trade training programme. A special accelerated programme to upgrade the skill standard of workers already employed in industry was also started in 1968. Employers sponsored 100 workers for this programme during 1968-70. The duration of apprenticeship training was reduced from five years to four years to bring the programme into line with progressive schemes elsewhere.

727. To overcome the shortage of suitable instructors, not only at the ITI but also in other public training institutions and for in-plant training in industry, the *Training Service* of the Manpower Department, with UNDP/SF assistance, started an instructor training programme in late 1968. A total of 72 instructors participated in the programme during the ensuing two years. Another 45 personnel from the public and private sectors were trained in 1970 under a part-time instructor training programme.

728. The contribution of the *Training Division of MARA* in this field has been significant. During the period under review, it established four Vocational Institutes, at Malacca, Alor Star, Kuala Trengganu and Petaling Jaya.

The courses offered at these Institutes ranged from mechanical and automobile engineering in Malacca to radio and television servicing at Petaling Jaya. The training is designed to introduce and inculcate a sufficient level of trade and craft skill to rural Malays and other indigenous youths to enable them to obtain productive employment. A total of 506 youths were provided full-time training through these Institutes. Some 240 youths were also trained at vocational institutes in Japan, India and the Federal Republic of Germany under MARA sponsorship. A programme of on-the-job training for selected Malay youths in various workshops in the private and public sectors was also introduced. MARA provided these youths with a subsistence allowance during the period of training, which varied from six months to two years. About 2,650 youths benefitted from such training during the period.

729. The *National Youth Pioneer Corps (NYPC)* was established in 1966 to provide disciplinary and skill training for youths who could not normally gain admission into other formal training programmes because of their educational standards. It conducted training in eight trades, ranging from motor mechanics, tractor driving and maintenance to tailoring. Under this programme, the recruits undergo two months of disciplinary training, followed by four months in the Works Section of the Corps. On completion of this, they are assigned for up to twelve months of training in the various trades.

730. Up to the end of 1970, a total of 2,576 trainees had been enrolled in the NYPC and 351 had completed their period of training. A number of problems facing the NYPC, however, limited its effectiveness and expansion. One difficulty was the limitation of space and facilities at its present site at Dusun Tua. As was the case with other training institutions, the NYPC faced severe problems in obtaining suitable instructors. Though only 351 trainees actually completed their training under the Corps, some 700 others left the Corps on being offered employment before completion of their course. At the end of the period, these problems and the future programmes of the NYPC were being studied in order to make improvements in this important area of youth development.

731. Table 14-2 summarises the allocation made in the First Malaysia Plan to education and training programmes and the actual amounts expended.

TABLE 14-2

DEVELOPMENT EXPENDITURE ON EDUCATION AND TRAINING, 1966-70

(\$ million)

| | Original Plan allocation | Estimated actual expenditure | Achievement (%) |
|-------------------------------------|-----------------------------|------------------------------------|-----------------|
| <i>Ministry of Education</i> | 439.3 | 255.6 | 58.2 |
| <i>West Malaysia</i> | 366.5 | 213.1 | 58.1 |
| Primary | 54.6 | 48.5 | 88.8 |
| Secondary | 188.7 | 100.7 | 53.4 |
| Technical | 30.8 | 10.8 | 35.1 |
| University | 30.0 | 24.4 | 81.3 |
| Teacher Training | 28.5 | 9.7 | 34.0 |
| Other Programmes | 33.9 | 19.0 | 56.0 |
| <i>East Malaysia</i> | 72.8 | 42.5 | 58.4 |
| Sabah | 27.2 | 16.5 | 60.7 |
| Sarawak | 45.6 | 26.0 | 57.0 |
| <i>Other agencies</i> | 31.5 | 73.8 | 234.3 |
| Ministry of Labour | 1.5 | 0.8 | 53.3 |
| MARA Training Division | 26.0 | 64.0 | 246.2 |
| ITM | 4.0 | 9.0 | 225.0 |
| Total | 470.8 | 329.4 | 70.0 |

III.—PROGRAMMES UNDER THE SECOND MALAYSIA PLAN

1. OBJECTIVES

732. The overall and long-term objectives of the education and training programme set out in the First Malaysia Plan will continue to guide development under the Second Malaysia Plan. Programme improvements in 1971-75 will, however, concentrate on four major areas:

- (i) consolidation of the education system to promote national integration and unity;

- (ii) orientation and expansion of education and training programmes towards meeting the manpower needs of the country;
- (iii) improvement of the quality of education for the building of a progressive society oriented towards modern science and technology; and
- (iv) improvement of the research, planning and implementation capability to meet the above objectives.

These objectives are, to a great extent, inter-related and will, therefore, be carried forward in a comprehensive way. However, certain features of the programmes in respect of each of these main objectives may be summarised here.

733. The main programmes in respect of national integration and unity are:

- (i) the implementation, in stages, of Bahasa Malaysia as the main medium of instruction in schools;
- (ii) closing the gap in educational opportunities among regions and races; and
- (iii) the eventual integration of the education systems of the East Malaysian States with the national system.

As regards the manpower orientation of the programmes, the Second Malaysia Plan period will see improvements in the co-ordination of these programmes, a sharper definition of their methods and objectives and expansion in areas of critical manpower needs. Improvements in the quality of education will be designed to make education progressive. This will be done through reduction of wastage rates throughout the system, more intensive evaluation and improvements of curricula, teaching methods, facilities, teacher-pupil ratios and through achievement of a better balance between general education and science and technological subjects.

2. MINISTRY OF EDUCATION PROGRAMMES

734. *Primary Education.* Under the primary education programme, a full 95% of children of school-going age enrol in Primary One and nearly 90% of those who enter complete the primary cycle. However, the teaching facilities and survival rates are still not uniformly satisfactory throughout the various regions. In the Second Malaysia Plan the Government will continue its policy of providing nine years of schooling for every child. The Government will also seek to enhance the quality of primary

education through improvements in content and teaching methods, increases in teacher supply, provision of supporting services and expansion of classroom facilities.

735. In West Malaysia, classroom facilities and teacher supply will be further expanded and improved substantially in the rural areas to meet the projected increase in enrolments from the present 1,421,469 to 1,605,000 by 1975. In Sarawak, provision has been made for the creation of an additional 24,000 places in primary schools. In Sabah, plans are to construct 778 classrooms in Government schools and a further 100 in aided schools.

736. *Secondary Education.* Enrolment in all streams of upper and post-secondary education has been expanded rapidly in response to strong demand for places at these levels. In 1970, 49% of those completing lower secondary education in West Malaysia proceeded to the next level, while 14% of those successfully completing the upper secondary level were admitted to Sixth Form education.

737. The diversification of secondary education and the pressure of demand for places at these levels posed severe strains on the system in respect of physical facilities and teachers. Provision has been made in the Plan for the projected expansion of enrolment in West Malaysia at all these levels of education, as indicated below:

| | Enrolment | | Increase (%) |
|-----------------|-----------|---------|--------------|
| | 1970 | 1975 | |
| Lower Secondary | 378,535 | 537,000 | 42 |
| Upper Secondary | 84,925 | 140,000 | 65 |
| Sixth Form | 11,095 | 16,000 | 44 |

An important project in the Plan is the establishment of ten pilot residential secondary science schools to provide added educational opportunities for pupils from rural areas to pursue their education in science subjects. Further details of these ten schools are given in paragraph 755.

738. In Sabah, extensions will be made to ten schools, and six new schools will be constructed to cope with projected enrolment increase from the present 14,597 to 28,600 in 1975 in Government secondary schools. Two of the extension projects and three of the new schools are part of a World Bank assisted project. One replacement and 18 extension projects will also be undertaken in aided secondary schools. A Junior College, for Sixth Form education, will also be established, providing for an enrolment of 660 students.

739. In Sarawak, seven new Government secondary schools will be constructed and extensions made to 32 schools. Replacements and extensions will also be undertaken in 23 aided secondary schools.

740. *Upper Secondary Technical and Vocational Education.* In West Malaysia, seven new vocational schools will be constructed, six of them with World Bank loan finance. Six new secondary technical schools will also be constructed; five of them are World Bank assisted projects. Progress in technical and vocational education, held back in the First Malaysia Plan period as a result of unforeseen delays in finalising the loan agreements with the World Bank, will therefore be rapid under the current Plan. Enrolments are expected to increase from 4,510 in 1970 to 12,830 in 1975.

741. In Sabah, the Likas Vocational School and the Sandakan Specialist Trade Centre will be expanded. The former, which opened in January, 1969, will have its full enrolment of 192 trainees by 1971. Annual outputs are expected at 64 per year. The proposed expansion of the latter will enable intake to increase from its present level of 70 to 192 trainees. In Sarawak, the vocational schools will cater for 180 trainees per year.

742. *Higher Education.* In the development of higher education, the basic decisions to establish institutions and to expand enrolments have already been taken and some of the physical facilities to cope with these expansions are already in place or planned. Investment programmes in higher education are, therefore, continuation programmes. The one exception to this is the Agriculture University, which will have its first intake in 1973.

743. Enrolments at this level of education are projected as follows :

| | Enrolment | | Increase (%) |
|-------------------------------|-----------|-------|--------------|
| | 1970 | 1975 | |
| <i>College Level</i> | | | |
| Technical College | 943 | 1,400 | 48.5 |
| Ungku Omar Polytechnic | 290 | 1,540 | 431.0 |
| College of Agriculture | 586 | 1,080 | 84.3 |
| <i>University Level</i> | | | |
| University of Malaya | 8,052 | 8,000 | -0.6 |
| Universiti Kebangsaan | 191 | 2,850 | 1,392.1 |
| University at Penang | 262 | 2,280 | 770.2 |

744. At the College level, funds are provided for the expansion programmes in the *Technical College*, the *Ungku Omar Polytechnic* and the *College of Agriculture*. The investment programmes at the College of Agriculture and the Technical College also include provision for the introduction of two-tier Diploma and Degree programmes under the aegis of the Agriculture University and the proposed College of Technology, respectively.

745. An allocation of \$11.05 million has been provided for the expansion programme of the *University of Malaya*. The main project is construction of a complex to accommodate such programmes as the Graduate Study Centre, the Electron Microscope Centre and the Students Admission Centre. Extension will be made to the Faculties of Economics and Administration, Education, Agriculture and Engineering and to the Sixth College. A new Seventh Residential College is also planned. In addition, provision is made for the expansion of the Medical Faculty and the establishment of a Faculty of Dentistry (*see* Chapter XV).

746. Both the University at Penang and the Universiti Kebangsaan are now housed in borrowed premises which have inhibited planned expansions in enrolments and courses of study. Both Universities will obtain their own campuses during the Second Malaysia Plan period.

747. Under the development programme of the *Universiti Kebangsaan* construction projects to cater for the enrolment increase to 2,850 by 1975 are planned. The Universiti Kebangsaan will eventually include Faculties of Medicine, Engineering and Economics and Commerce in addition to the present Faculties of Science, Arts and Islam. An Institute of Malay Language, Literature and Culture, a Library, an Administration Complex and three Residential Colleges will also be constructed. An amount of \$40 million has been provided for this University.

748. The *University at Penang* is now preparing a master site plan to develop the recently acquired Minden Barracks site. An amount of \$18 million has been provided for this purpose. When completed, the University will have facilities for the School of Biological Sciences, the School of Chemical Science, the School of Physics and Mathematics, the School of Cultural and Community Studies, a Centre for Educational Services, Lecture Theatres, Residential Halls and a Student Centre. The University will continue to use the facilities at the Malayan Teachers College until its new campus has been developed.

749. *Teacher training.* The teacher training programme will concentrate on upgrading the standards and quality of the output of teachers from the training colleges and providing intensive in-service Bahasa Malaysia training courses for primary and secondary school teachers to enhance their competence to teach in the language. The other major effort in the training programme will be to increase the output of science and mathematics teachers to cope with the anticipated demand. Present facilities are adequate to cater for the average annual intake of 870 and 700 trainees, respectively, in the primary and secondary teacher colleges during the period.

750. Apart from the expanded graduate teacher training programme at the Faculty of Education of the University of Malaya and the graduate teachers returning from overseas institutions, the University at Penang and the Universiti Kebangsaan will also produce a small but growing number of graduate teachers. The overall teacher supply and demand situation in West Malaysia is discussed in Chapter VII.

751. In Sabah, extensions will be made to the Kent College, Tuaran and the Gaya College, Kota Kinabalu, while work on the Teacher Training College in Sandakan and the Native Voluntary Schools Teachers' Training Centre, Tanjong Aru, will be completed. In Sarawak, the programmes will cover extension works to the Batu Lintang Training College and the Rajang Teachers College. These extensions will provide sufficient capacity for the training of primary and secondary teachers required in both these States.

3. SPECIAL PROGRAMMES AND MEASURES IN EDUCATION

752. *Bahasa Malaysia.* A plan has already been adopted for the introduction of Bahasa Malaysia in stages as the main medium of instruction in West Malaysia. This plan, which spells out the time phasing of implementation, also establishes English as a second language in all schools. This phased programme, already in operation, envisages that by 1975 all subjects, except English and other languages, will be taught in Bahasa Malaysia at the primary level in all English medium primary schools, and by 1982 secondary education, including Form Six, will be in that medium. Consequently, by 1983, all courses, other than languages, for new admission to Universities will be conducted in Bahasa Malaysia. Plans for the greater use of Bahasa Malaysia in schools have also been drawn up in Sabah and Sarawak.

753. *Improved educational opportunities.* One of the basic aims of national development in Malaysia's multi-racial society is the promotion of

equal opportunities for people of all races to participate in and benefit from the modernising of the economy and consequent raising of productivity and income. In this regard, education is seen as one of the most powerful measures.

754. The Second Malaysia Plan period will see the availability of more educational opportunities to the disadvantaged groups, in particular, the rural children and the poor. More emphasis will be given to improving the quality of education available to these children. The rural school improvement programme has also made significant progress, with increasing facilities being provided for secondary education and education in science and technical subjects. However, the vast spread of the programme, the difficulties in attracting and retaining suitable and sufficient teachers for these schools and the problems encountered in equipping rural schools to the high standards already obtaining in most urban areas have limited the impact of the programme.

755. In the Second Malaysia Plan, therefore, provision has been made for ten pilot residential secondary science schools to be established in suitable locations. Each school will have an enrolment of 1,200 students, predominantly from the rural areas, with residential facilities for approximately 70% of the students. Selection of students for these pilot schools will be made on the basis of the Standard Five Assessment Test. The teaching of science, mathematics and other technical subjects will be the main emphasis, but students will sit for the national examinations common to all schools. The programme will be kept flexible and the curriculum will be adjusted to suit its objectives and requirements. It is intended, through such schools, to provide a concentration of attention and resources not easily achieved through the general education programme.

756. In addition to the introduction of these special schools, other programmes of improvement of rural schools will also be implemented. Considerable sums have been provided for general improvements in the availability and quality of education in the rural areas through construction of new schools and additional hostel facilities, replacement of sub-standard schools and supply of workshop and laboratory equipment.

757. The teacher supply to rural areas will also be improved following the adoption of the recommendations in the Report of the Royal Commission on the Teaching Services.

4. EDUCATION RESEARCH AND PLANNING

758. Improvement in the quality of education throughout the system requires continuing research and evaluation of the present system in terms of its performance relative to the objectives of the education system and its cost. Some of these studies have already led to projects to improve the education system, while other studies are underway.

759. The Plan provides for the establishment of a *Science Education Centre* in Kuala Lumpur to serve as the nerve centre for improvements in the curriculum and teaching of science and mathematics. It is planned that the Centre will consist of three units: the Biological Materials Unit, the Design, Testing and Prototype Equipment Unit and the Special Services Unit. The three Units will deal with the preparation of materials for practical laboratory work and tests, and the development of various equipment for use in the teaching of science. The Special Services Unit will be mainly responsible for the development and modification of the science and mathematics curricula, effective methods of their teaching in schools and the provision of in-service training, seminars and guidance notes for science and mathematics teachers. In the development of its work, the Centre will work closely with the Regional Centre for Science and Mathematics (RECSAM) in Penang and the Universities. The present special project in science and mathematics education in primary schools will be integrated into the Special Services Unit of the Centre. The establishment of the Centre reflects the importance attached to science and mathematics education in the country. The Centre will assist significantly in upgrading the teaching of these subjects in the schools.

760. Based on the success of the pilot educational telecasts in the previous Plan period, an *Educational Television Service (ETV)* will be launched in 1972 to provide programmes for primary and secondary schools, particularly in civics, languages, science and mathematics. ETV will reach an estimated 215 primary schools and 265 secondary schools, covering 86,000 and 418,000 pupils, respectively, in both urban and rural areas. To derive maximum benefit from this educational technology, ETV will be given adequate staff and research support.

761. Among the issues that will be closely reviewed are the pupil-teacher ratio in primary and lower secondary schools; better methods of evaluating the progress and performance of pupils through the primary and lower secondary cycles and the remedial steps that might be taken; reduction of

wastage rates, particularly in primary schools in rural areas; and closer integration of the community with activities in schools, especially the use of school facilities after school hours by pupils as well as adults.

762. A key question that will also be reappraised is the strategy of secondary education for meeting manpower needs and providing school-leavers with basic skills for employment. The present comprehensive lower secondary schools and upper secondary vocational schools were designed to acquaint students with some pre-vocational skills in a situation under which increasing numbers of school-leavers were finding it difficult to obtain any employment while prevalent skill shortages were inhibiting industrial and employment expansion. Detailed studies to assess the full impact of such education are being made, particularly of vocational education at the upper secondary level.

763. The present vocational system, while advanced in its content, needs to be studied in the context of the requirements of commerce and industry. An appraisal of the existing system will evaluate the relevance of the material to the school-leavers' ability to obtain employment and to perform well on the job. Other aspects of the system, including the role of placement activities, guidance and labour market information, will also be investigated. Alternative approaches, including skill training by industry itself or jointly with formal institutions, will be compared in terms of their cost effectiveness. The objectives of this form of education will be the focus of continuous evaluation and adjustment.

5. OTHER EDUCATION PROGRAMMES

764. The *MARA Institute of Technology (ITM)*, established to provide more higher educational facilities for rural Malays and other indigenous students, will be substantially expanded during 1971-75. The ITM's new premises at Shah Alam are being developed and were already partly occupied in 1970. When the whole complex is completed, the ITM will be able to expand its enrolment further to 4,500 by 1975. In addition to the courses described in paragraph 717, new courses in Fine Arts, Journalism, Food Technology, Languages and a Bachelor of Science course leading to an external degree will also be introduced. With a substantial teacher training programme already underway, it is anticipated that staffing problems will be resolved during the Plan period. Increasingly, the ITM's attention will be devoted to consolidating the instruction programme and courses of study now provided so that it will continue to play a vital role

in preparing Malays and other indigenous people for greater participation in modern commerce and industry.

765. Provision has been made for MARA to establish a Junior College to provide upper secondary and Sixth Form education so as to relieve the problem faced by other educational institutions, including the ITM, in finding an adequate supply of suitably qualified Malay candidates.

766. The *Tunku Abdul Rahman College* will receive capital grant assistance for its new premises. Enrolment at the College is expected to reach its optimum level of 4,300 by 1975. Of these 1,600 will be enrolled in the School of Pre-University Studies, while the School of Arts and Science will offer a programme for 1,100 students with emphasis on the physical and biological sciences, leading to external degrees. The Schools of Technology and Business Studies will have 1,000 and 600 students, respectively, in the three-year programme.

6. TRAINING PROGRAMMES

767. The most significant development in the training programme during the Plan period will involve the increased role of the *Manpower Department* of the Ministry of Labour and Manpower, in formal apprenticeship and preparatory industrial training at the Industrial Training Institutes (ITI's), in sponsoring in-plant training within industry and in providing co-ordination and general supporting services for the national training effort.

768. The expansion of facilities at the ITI, Kuala Lumpur, will be completed in 1971, while construction of the new ITI in Prai will be completed in 1972, with the assistance of the Federal Republic of Germany. Together, these Institutes will provide training for some 4,420 apprentices in 18 different trades during the Plan period. Work on preparing the national trade syllabi will be completed in 1972. While output of trainees from the preparatory trade training courses is expected to total 2,540 during the period, a shift in emphasis towards greater industry participation is expected to reduce the need to hold trade upgrading courses within the Institute itself. This will permit expansion of preparatory trade courses to cater for a greater number of school-leavers.

769. Preparations are underway for the introduction of extensive skill upgrading courses to be conducted within industrial establishments themselves. The Training Service of the Manpower Department will undertake

the training of sizable numbers of instructors sponsored by industry to conduct these courses. In fact, some such instructors have already been trained and a pilot in-plant group training project with ten participating establishments is now being conducted in collaboration with the private sector. The Government anticipates that in-plant training will be a substantial effort during the Plan period to meet, in large measure, industry's requirements for skilled craftsmen, process and semi-skilled production workers. The Government will discuss proposals with industry for expanded in-plant training programmes, both in Malaysia and overseas, including the question of financial assistance and other incentives.

770. The *Vocational Institutes of MARA* and *MARA's on-the-job training programme* will continue to expand so as to enhance opportunities for rural Malays and other indigenous people in skilled employment in industry. A further three Vocational Institutes, to be situated at Shah Alam, Sungei Petani and Kuantan, are to be established during the period.

771. The main efforts of the *National Youth Pioneer Corps* will be concentrated on improvement of its standards of training and the placement of its trainees in productive employment. In this it will work closely with the Ministry of Labour and Manpower. The Corps will also undertake the training of youths to meet the specific requirements of user public agencies. For example, it will train field supervisors for youth and other land settlement schemes.

772. The Government has established a National Advisory Council on Industrial Training. This Council will be charged with the primary responsibility of bringing about closer co-operation and co-ordination between industry and Government in the field of training. Representation on the Council includes selected Government agencies and representatives of the various sub-sectors of industry.

773. A Malaysian National Trade Certification Board has also been established in the Ministry of Labour and Manpower, consisting of representatives of the Government, industry and workers. The function of the Board is to evaluate and certify levels of skills achieved by individual workers so as to ensure uniformity or comparability of trade standards. This step in itself is likely to be of great value in encouraging and developing training and skill improvement in both the public and private sectors.

774. Table 14-3 sets out the allocation for education and training programmes in the Second Malaysia Plan.

TABLE 14-3

ALLOCATION FOR EDUCATION AND TRAINING, 1971-75

| | | (\$ million) | | | | | | |
|----------------------------------|-----|--------------|-----|-----|-----|-----|--------------|---------------|
| <i>West Malaysia</i> | ... | ... | ... | ... | ... | ... | ... | 458.89 |
| <i>Ministry of Education</i> | ... | ... | ... | ... | ... | ... | ... | 370.11 |
| Primary | ... | ... | ... | ... | ... | ... | ... | 55.09 |
| Secondary | ... | ... | ... | ... | ... | ... | ... | 154.43 |
| Technical and Vocational | ... | ... | ... | ... | ... | ... | ... | 32.00 |
| Technical (post-secondary) | ... | ... | ... | ... | ... | ... | ... | 10.86 |
| University | ... | ... | ... | ... | ... | ... | ... | 87.05 |
| Teacher Training | ... | ... | ... | ... | ... | ... | ... | 3.00 |
| Other Education (including ETV) | ... | ... | ... | ... | ... | ... | ... | 27.68 |
| <i>Other agencies</i> | ... | ... | ... | ... | ... | ... | ... | 88.78 |
| Ministry of Labour and Manpower | ... | ... | ... | ... | ... | ... | ... | 3.70 |
| MARA | ... | ... | ... | ... | ... | ... | ... | 42.20 |
| ITM | ... | ... | ... | ... | ... | ... | ... | 42.88 |
| <i>Sabah</i> | ... | ... | ... | ... | ... | ... | ... | 36.00 |
| Primary | ... | ... | ... | ... | ... | ... | ... | 11.00 |
| Secondary | ... | ... | ... | ... | ... | ... | ... | 14.80 |
| Technical | ... | ... | ... | ... | ... | ... | ... | 4.23 |
| Teacher Training | ... | ... | ... | ... | ... | ... | ... | 1.97 |
| Capital Grants to Aided Schools: | | | | | | | | |
| Primary | ... | ... | ... | ... | ... | ... | ... | 1.00 |
| Secondary | ... | ... | ... | ... | ... | ... | ... | 1.00 |
| Junior College | ... | ... | ... | ... | ... | ... | ... | 2.00 |
| <i>Sarawak</i> | ... | ... | ... | ... | ... | ... | ... | 42.37 |
| Primary | ... | ... | ... | ... | ... | ... | ... | 7.82 |
| Secondary | ... | ... | ... | ... | ... | ... | ... | 27.95 |
| Technical and Commercial | ... | ... | ... | ... | ... | ... | ... | 4.10 |
| Teacher Training | ... | ... | ... | ... | ... | ... | ... | 1.00 |
| School Broadcast | ... | ... | ... | ... | ... | ... | ... | 0.10 |
| Loans to School Managements | ... | ... | ... | ... | ... | ... | ... | 1.40 |
| | | | | | | | Total | 537.26 |