higher education and development in south-east Asia

summary report and conclusions

Unesco
and the International Association of Universities
A study of the role of institutions of higher education in the development of countries South-East Asia
Other titles published under the joint Unesco-IAU Research Programme in Higher Education

The study of the role of institutions of higher education in the development of countries in South-East Asia is the second project to be carried out under the Joint Unesco-International Association of Universities Research Programme in Higher Education. This programme, which constitutes a novel form of co-operation between an intergovernmental organization and an international academic body, was brought into being at the end of 1959. Directed by a Joint Steering Committee, its purpose is to carry out under the auspices of the two organizations, with the financial support of private foundations or such other private or public bodies as may be appropriate, a series of studies of important problems affecting the organization, operation and functions of institutions of higher education in the present world.

This study was set up with the co-operation and support of the Ford Foundation which generously authorized grants in the amount of $534,000 for its conduct. Work began in September 1961; extensive inquiries have since been made to determine the actual and potential contribution of higher education in the countries of South-East Asia to the achievement of the goals of social and cultural development as well as its role in providing the knowledge and skills needed for their economic progress. A full report is being prepared, which will be published together with complementary volumes containing the reports of expert consultants to the study and a series of detailed country profiles.

The object of the present volume is to give an advance summary of the full report and of the conclusions which emerge from it. The Joint Steering Committee hopes that it will be useful in itself, while serving as an introduction to the more detailed material still to be published.

The Joint Steering Committee is indebted to all those who helped to carry out this important undertaking. Its thanks are due to the members of the study’s International Commission of Experts for their valuable advice and
guidance, and most particularly to the commission’s chairman, Sir John Lockwood, for his many personal contributions to the work. His sudden death on 11 July 1965, while this volume was being printed, will be mourned by all who have been associated with him in his work for higher education and its development.

The committee also wishes to thank the consultants, Mr. Guy Hunter, Dr. Richard Noss and Professor Ruth Wong, who brought their specialized knowledge and experience to bear on important parts of the study.

The main burden of the work inevitably fell on the directors of the study and its small staff in Kuala Lumpur, and the committee is grateful to them for their devotion to a difficult and onerous task: Dr. Matta Akrawi, who served as director from September 1961 to December 1962; Dr. R. M. Sundrum who continued until March 1964; and Mr. Howard Hayden, who followed and is author of the final report; each played a distinctive part in developing and carrying the work through to a successful conclusion.

Finally, the committee wishes to express its appreciation to the Government of Malaysia and to the University of Malaya for the special facilities afforded to the study in Kuala Lumpur and to thank them as well as the governments and university institutions of the other South-East Asian countries associated with the study for their co-operation and assistance.

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Foreword by Sir John Lockwood

SUMMARY REPORT by Howard Hayden

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A statement prepared on behalf of the study’s International Commission of Experts by Sir John Lockwood
Foreword

It is commonplace that the world of today is experiencing a more rapid transformation than at any time in human history. New nations striding on to the world stage with vivid hopes and ambitions and older nations that have been politically weak, socially unprogressive, and economically stagnant, are afire with the zeal for growth and development to bring them the prosperity and standing of the more developed nations. They see themselves opportunely placed to take advantage of the massive advances that have been achieved in science and technology and of the new strengths which industrialization can bring. But they are confronted by equally massive problems. On the one hand are deficient systems of education and shortage of well-educated and well-trained people to man development programmes; on the other, the intensive rate of population growth emphasizing and at the same time increasing the need to remedy the deficiency and the shortage.

The present study was jointly sponsored by the United Nations Educational, Scientific and Cultural Organization and the International Association of Universities with the generous financial support of the Ford Foundation and was organized under the direction of a Joint Steering Committee, of which the Joint-Chairmen were the Director-General of Unesco and the President of IAU. It was designed to examine the contribution to national development which is being made and which increasingly can and must be made by institutions of higher education in the countries of South-East Asia: Burma, Cambodia, Indonesia, Laos, Malaysia, Philippines, Thailand, Viet-Nam.

The responsibility resting upon the institutions to be consciously and deliberately recognizing national needs in the planning of their activities is clear. Human resource development is a natural and traditional function of universities. In the context of the modern societies of South-East Asia, this function has to be construed and interpreted in the light of national goals at the present
day. These goals are not restricted to the achievement of economic growth, and a purely economic analysis is therefore inadequate.

Inseparable from them are the social objectives, the cultural purposes and the working out of political structures appropriate to progressive societies. Teaching and research have a common part to play in the realization of these national aims. There is nothing in such an assessment of academic policy to conflict with the traditional tasks of universities throughout the world in the transmission and advancement of knowledge.

The study has, therefore, looked at development in the broadest sense. To take a few examples, it deals alike with the general economic situation, the special types of manpower need, the range of educational requirements and the adequate preparation in quality and number of educators for schools, colleges, and universities, the problems of the present social and cultural imbalance of rural and urban communities, the questions posed by decisions on the use of national languages at all stages in education, and, what is a matter to which great importance is attached, the value of educational co-operation among the countries of the region in research and other programmes. The successive directors of the study, Dr. Matta Akrawi, Dr. R. M. Sundrum, and Mr. Howard Hayden, with their assistants, particularly Mr. Rafe-uz-Zaman, have brought their own special expertise to the evolution of the report. The study has benefited greatly from the work of consultants to the programme, notably Mr. Guy Hunter on manpower problems, Dr. Richard B. Noss on language policies, and Professor Ruth A. K. Wong on aspects of the relation between secondary and higher education. A paper by Dr. F. Cyril James on the nature and functions of a university helped to bring together the historic role of universities and the challenges which they face in the changing scene.

The report of the study will be accompanied by separate-country 'profiles' and the contributions of consultants.

The work of the study has been supervised by an International Commission of Experts, whose members were as follows: His Highness Sri Sultan Hamengku Buwono IX, Sultan of Jogjakarta, Indonesia, Honorary President; Monsieur le Recteur Jean Capelle, formerly Director-General of Schools Programmes, Ministry of Education, France; Professor G. P. Gorshkov, Professor of Dynamic Geology, University of Moscow, U.S.S.R.; Mr. Lê-Vân-Thoài, formerly Rector of the University of Saigon, Viet-Nam; Sir John Lockwood, Master of Birkbeck College, University of London, United Kingdom, Chairman; Mom Luang Pin Malakul, Minister of Education, Thailand; Professor A. Milthers, Rector of the Royal Veterinary and Agricultural College, Copenhagen, Denmark; Dato Sir Alexander Oppenheim, Vice-Chancellor, University of Malaya; Dr. Vicente G. Sinco, formerly President, University of the Philippines; Dr. John C. Warner, formerly President of the Carnegie Institute of Technology, Pittsburgh, U.S.A., Dr. Hla Myint, Lecturer in Economics, University of Oxford, United Kingdom, and formerly Rector of the University of Rangoon, Burma; and Professor Ungku Abdul Aziz bin Abdul Hamid, Professor
of Economics in the University of Malaya, were members of the commission during part of its work.

The three meetings of the commission in 1963, 1964, 1965 and the administrative work between meetings profited greatly from the assistance and advice of Mr. Willem H. Welling, Chief of Unesco Division of Higher Education, and Mr. Douglas J. Aitken, Executive Secretary of IAU and Secretary of the Joint Steering Committee.

The commission expresses its deep gratitude to the Vice-Chancellor of the University of Malaya and to Professor Ruth Wong for their generosity and great helpfulness in housing the headquarters and the research office of the study in the School of Education of the University.

Warm thanks are owed to the staff of the office, particularly to Mrs. Winifred Drake, Mrs. Ruth Daroesman, and Mrs. Amy Griffiths, who have been in the service of the study for most of the period of its work.

JOHN LOCKWOOD
Summary report
NATURE OF THE REPORT

The study was designed to survey the present position and estimate the future responsibilities of higher education in the countries of Burma, Cambodia, Indonesia, Laos, Malaysia the Philippines, Thailand and Viet-Nam. However, the diversity of political situations in the region has not been without effect either upon the extent or upon the immediacy of the information obtained from each country.

The report on the study is based in the main on work specially carried out for it. As part of this, a series of country ‘profiles’ was prepared and the assistance of three consultants was invited. They were Mr. Guy Hunter on ‘High-level manpower for development’, Dr. Richard Noss on ‘Language policy and higher education in South-East Asia’, and Professor Ruth Wong on ‘The relationship between secondary education and teacher training’. The profiles, largely a quantitative description of the higher education facilities of each country in a demographic and socio-economic setting, and studies submitted by the consultants, will be published in subsequent volumes.

The report commences with an introduction to the characteristics of the region, physical, ethnological and cultural; then the patterns of the national education systems are traced.

Against this background, economic, social and cultural problems are reviewed, the plans in operation or under discussion for promoting development are outlined, and the consequential needs for high-level manpower discussed and assessed. Social and cultural factors in development, particularly the problems of language, are next considered, and the major implications of both sets of factors, economic and social, on the development of higher education are established and discussed. The report then turns from general concepts to the specific problems that are likely to be common to expanding
institutions, and reviews such matters as the structure and growth of post-secondary institutions, the problems of the student body, of staffing, teaching methods and research, and finally the forms of potential regional co-operation among institutions of higher education.

The report concludes with a review of the major issues it has raised. A note on 'The nature and functions of the university' has been contributed by Dr. F. Cyril James, Principal Emeritus of McGill University, and appendixes deal with the methodology of the study and a sample study of university costs.

SCOPE OF THIS SUMMARY

The pattern of the report is closely, but not completely, followed by this summary which in general omits both the descriptive content of the main document and the statistical material upon which it is based. The summary is designed to outline the general argument of the study and to throw into relief those areas in which recommendations or proposals for further study and investigation are made, or the possible results of alternative courses forecast. Particular attention is given to the report's investigations into such problems as teacher training, manpower requirements, social and cultural responsibilities, language problems, training abroad, the recruitment of staff, the relationship between teaching, research and development, liaison between education at the second and third levels, the development pattern of educational institutions with particular reference to the needs of technical and technological education, the responsibilities of higher education in the development of rural areas, and ways of promoting co-operation between the various institutions of higher education in the region.
I. The background

1. The region

Despite political difficulties and tensions and in some cases a certain element of internal instability, there is an underlying basis throughout the region of bio-geographical and cultural factors of common origin and comparable historical development, a core of common needs and problems, which make it possible to view the function and growth of higher education as a regional as well as a national process and asset.

The region is a great marchland of 1,500,000 square miles lying between the peoples of India and China, with a population in mid-1961 of 205 million estimated to grow to 348 million by 1980. The rugged relief of the mainland and the remoteness of the archipelago chains have led to isolated social groupings, either in the valleys of the great rivers or around the focal point of sea-borne communication, and major problems both of development and of education are posed by the vast range of standards of living between the major urban areas and the rural hinterland.

The influence of China, linguistic and commercial, and of India, spreading not only two great religions, first Buddhism \(^1\) and then Islam, and the activities of its merchants, but also the skills of its Brahmin administrators, was succeeded by the mercantile imperialism of the West. Then, in tune with the great libertarian movements of the twentieth century, independence loomed more strongly as the goal of all countries in the region (save Thailand, a sovereign state for 700 years, but otherwise sharing the economic, social and cultural problems of the region) until, with the fight for independence finally won, the struggle for development, political, economic and social, had begun.

On the one hand, throughout the region may be seen a tendency to section-

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1. Replacing Hinduism.
alism: the fissiparous effect of terrain—and the divisive factors of multi-
racial communities with their separatist elements of religion and language of
which the leading instance is the presence of major Chinese communities in
Malaysia and Thailand, the much smaller Indian minorities in Malaya, Singa-
pore and Burma, the Shan and Karen minorities of Burma, and the people
of the outer islands of Indonesia. On the other hand, is the cohesive tendency
promoted by common national aspirations supplied by historical revolution
and the process of social evolution, and the parallel experiences of the common
economic background—every country is a primary producer in search of the
investment to promote industrial development which will lead to economic
‘take-off’.

The general picture is that of a group of countries spread over a vast and
difficult terrain populated in the main by peasant cultivators of amiable but
by no means dynamic disposition led, in some cases somewhat insecurely, by
small cadres of intellectuals grouped in metropolitan cities, the life of which,
at least on the surface, bears little resemblance to the circumstances or the
needs of the outlying rural population.

The concept of national identity is there, but still has to achieve a full reali-
zation in socio-economic attitudes and actions.

2. PATTERNS OF EDUCATION WITHIN THE REGION

(a) Primary education

Primary education courses within the region vary in length from between four
to seven years—most countries have six-year courses (the Karachi Plan ad-
vocated seven years). For primary and secondary education combined there
is a total range of schooling of from ten to thirteen years. In 1961, 72 per cent of
the relevant school age group throughout the region was enrolled in primary
schools, though within this average, considerable national variations, ranging
between 35 and 97 per cent, were to be found. Primary education is free in all
countries and is compulsory in a number of specific districts, but lack of funds,
teachers and buildings makes universal compulsory primary education a
target still to be attained.

(b) Secondary education

Enrolment in secondary education is growing at over 6 per cent per annum,
yet in the region as a whole, only 10 per cent of the relevant age group is en-
rolled in secondary schools: the range in 1961 was from 1.2 to 27 per cent.
In 1964, the figures for Malaya and for the Philippines were 24 and 31 per cent
respectively, but it has not been possible to obtain comparable figures for the
whole of the region. Of the total 1961 enrolment, 88 per cent was in general
secondary schools, 7 per cent in vocational or technical schools, and 5 per cent in teacher training institutions. Entrance examinations serve as a filter to secondary education in all countries of the region though a recent development has postponed selection to the beginning of the second cycle in Malaya.

(i) General secondary courses. General secondary courses vary in length from four to seven years: with the exception of the Philippines, courses are organized in two cycles, with some degree of specialization in the second cycle which may be extended to cover a pre-university course in Malaya, Singapore, Burma, Viet-Nam, Cambodia and Laos. Figures supplied to the Japanese Ministry of Education in 1964 indicated an average pupil-teacher ratio of 28:1 in secondary schools throughout the region. Other available data suggest, however, that more realistic figures would be 40:1 in the first cycle and 35:1 in the second cycle.

(ii) Vocational secondary education. There is a wide range to the limited provision of vocational education at the secondary level. Of the many types of school—crafts, agriculture, building, carpentry, fitting, light engineering of various kinds, commerce and, inevitably, home economics for the girls—many are controlled by ministries other than the Ministry of Education. Two trends are noticeable, the tendency to postpone technical education until after the completion of the first cycle of secondary education and a move to concentrate various forms of training in one institution rather than in various specialized small institutions.

(iii) Teacher training at the secondary level. Except in the Philippines, where all teacher training is given at the post-secondary level, teachers are trained for primary schools, and generally for lower secondary schools also, at points varying between the end of the first cycle of secondary education and the end of the second cycle, but before the beginning of university preparatory courses. In 1959/60, the last year for which comparative figures could be obtained, the percentage of trained teachers in primary schools varied from 31 per cent in Cambodia and 40 per cent in Thailand and Viet-Nam to 83 per cent in Indonesia (including many teachers trained under an emergency programme) and 95 per cent in the Philippines.

(c) Higher education

By 1962/63, a total of 730 institutions of higher education giving instruction to students who had completed the secondary school course had been established in the region. Of these, 677 were to be found either in the Philippines (416) or in Indonesia (261). The total number included 62 universities, 14 technical institutes, 20 teacher training colleges and 634 other specialized institutions ranging from agricultural colleges to fine arts schools, religious universities,
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two-year liberal arts colleges and various types of private institutions. At the full university level this total included the two universities of Rangoon and Mandalay in Burma (recently split into a number of separate institutions); the Royal Khmer University in Cambodia (whose faculties are still in a process of unification); the universities at Saigon, Hué, and Dalat in Viet-Nam; the state universities of Singapore and Kuala Lumpur and the private Nanyang University, and Ngee Ann College in Malaysia; the eight universities of Thailand: the University of Medical Sciences, Chulalongkorn University, Thammasat University, Kasetsart University, Silpakorn (Fine Arts) University, the College of Education, Chiangmai University and the North Eastern University at Khonkaen; 28 state and 179 private universities in Indonesia (in 1964); and 2 state and 24 private universities (excluding private colleges) in the Philippines.

Enrolment figures are subject to a variety of qualifications, but even so, if part-time students, numerous in certain countries, are calculated on the basis of three to one whole-time student, it may be very roughly estimated that total enrolments in all institutions of higher education in the region in 1962 numbered approximately 446,000. Of these, 58 per cent were in universities, 4 per cent in teacher colleges, 3 per cent in institutes of technology and 35 per cent in other specialized institutions. Output figures are even more difficult to obtain and the rough estimate of 57,500 for 1961/62 (in comparison with the total enrolment figure of 446,000) is also subject to many qualifications. Wastage, particularly during the first year, is a major problem everywhere save in Malaysia where entrance standards are high. Little is known at present as to the fate of those who drop out.

In the region as a whole, enrolments show a bias towards arts subjects, the ratios for arts and social sciences, all scientific and technical subjects, and teacher education being 53 : 29 : 18. However, the first ratio undoubtedly conceals a large number of part-time enrolments and wastage is particularly high in the arts subjects. Information on post-graduate work is not sufficient to permit summary generalizations.

(d) Non-university technical education

The standards and organization of technical education throughout the region are subject to wide variations and it is frequently difficult to distinguish between second- and third-level institutions. All countries provide training facilities through various government departments as well as through technical institutes, colleges, or academies. In many, though not all cases, these programmes include provision for entry after the first cycle of secondary education, and certificates or diplomas are awarded basically at two levels—for technicians, after a total of from twelve to thirteen years of education and training, and for technologists or engineers, after a total of from fifteen to sixteen years. In addition, in most cases, provision is also made for short-term or ad hoc training courses. While in some countries post-secondary technological education is
provided both in universities and in specialized institutions as in the Philippines, Malaysia and Thailand, in others as in Viet-Nam and, since recent times, in Burma it is catered for entirely outside the university.

3. ECONOMIC PROBLEMS

The common basic features of the economic situation of the countries of the region are: (a) a high rate of population increase; (b) predominantly agricultural economies; (c) a low per capita income and a low rate of savings; (d) exports consisting almost entirely of primary products meeting with unfavourable terms and wide price fluctuations in the world market; (e) the recent development of an industrial sector; and (f) considerable dependence on foreign aid and on loans to help finance the purchase of capital goods and materials for industrial development.

In this situation two policies have emerged: the necessity for increasing the productivity of the agricultural sector and a broad development of industry and trade.

The former implies: (a) the diversification of crops; (b) the development of irrigation and flood control; (c) the substantial production and use of chemical fertilizers; (d) education and research in relation to problems of soil conservation, the improvement of crop varieties and seeds, disease and pest control, and the techniques of cultivation; (e) the reform of land-tenure systems; (f) long- and short-term agricultural credit schemes and promotional marketing schemes with adequate incentives to greater productivity; (g) regional cooperation in the co-ordination of production and of the general use of natural resources, as in the Mekong River Scheme.

Industrial development implies not only the substitution of local for imported consumer goods, but also the production of goods for export: the industries mainly concerned are textiles, cement, chemical fertilizers, the exploitation of mineral resources including petroleum, the manufacture of steel, and the development of power.

Such a policy implies the conversion of unskilled into semi-skilled and skilled labour and the provision of adequate productivity opportunities, including the necessary infra-structure, capital investment and the promotion of the skills of the entrepreneur and the manager.

In educational terms, the major implications of this situation are, on the one hand, the development of manpower, particularly at the high and middle levels and, on the other, the strengthening of the productive potential of the rural areas through community development, adult education, and other extension and health education services. The nature of such work ranges from research in many fields, technological and social, to enlisting the collaboration of all forms of skilled manpower in the countryside from primary school teacher to doctor, in the campaign for raising standards of living.
While the quantitative nature of such demands on education is discussed in Section III of this summary, the training of high-level manpower is only one aspect of the situation. The needs of the rural sector merge with those social and cultural calls upon educational services which cannot be quantified in terms of employment opportunities or material production but which no country can afford to ignore, or indeed dare ignore, in the face of popular pressure for increased educational facilities.

Thus, education is required both to develop the quality of its output in terms of administrators, technologists and professional men of the highest calibre, while at the same time it is required to extend its services both quantitatively in the numbers admitted to its various institutions, and in the wide range of its extra-mural activities. The reconciliation of these objectives, in so far as is permitted by the overwhelming urgency of the need to improve quality, is the theme of the remainder of the report.
II. Teacher training and educational research

I. TEACHER TRAINING

No system of higher education can flourish with an incoming student population poorly grounded in the primary schools or indifferently taught in the secondary schools. And at no level can either the intrinsic or the economic and social objectives of education be sufficiently realized if there is not an adequate supply of good teachers supported by a continuous flow of research into educational problems. Stressing the central and decisive role of teachers in the general education pattern, a national report in the region points out that ‘good school buildings, sufficient educational equipment and a perfect curriculum will be dead things if there are no educated teachers to give them life’. Nevertheless, the region in general suffers from serious shortages of qualified teachers, grave problems of quality and balance in teacher training, and inadequate professional, social and material incentives to attract able men and women to the teaching profession. It is not only that both the output of new teachers must be expanded and the further training of those already in service intensified to keep pace with constantly growing enrolments at all levels; the quality of teacher education and training must also be substantially improved, and a fair proportion of teachers at the various levels needs to acquire more than the stipulated minimum qualifications, which sometimes rise little above the level in which the teacher is to be employed.

As the highest centres of learning, and to the extent that they are to be not mere curators or critical observers of culture, but creatively involved in the evolution of society and its values, the universities as a whole, and their education faculties, schools, or institutes in particular, have a major obligation in the field of teacher training which does not always appear to be recognized. They must offer their support, co-operation and hospitality to teacher training colleges and programmes for teacher training not only at the secondary but
also at the primary level, and they must be strengthened and empowered to do so. The understanding of the child and the processes of learning are subjects of inquiry for specialists seldom to be found on the staff of a primary teacher training college.

Accordingly, universities must have an effective relationship both with the over-all national planning organization and all educational programming concerned with teacher training. Such a role must be worked out individually in each national situation; but in all cases it calls for a basic minimum of operational links between the universities and the Ministry of Education, the teacher training colleges, post-secondary technical and vocational institutions, schools and—at least as important—between the universities themselves. Again, the mechanics may vary, but (a) there must be a continuous channel of consultation between the various institutions; (b) courses assisting and supplementing each institution's programme should be organized, with a consequential regulated circulation of students between various specialized courses; (c) joint seminars and workshops should be conducted on questions of common interest; (d) to carry out research projects, the fullest use needs to be made of the potential contributions of the various institutions available, particularly in the case of secondary schools, where research as such is not likely to be initiated, save perhaps by a few individual teachers; (e) exchanges of teachers would be desirable for anything from a short series of lectures to stays of a term or more, preferably as part of an integrated programme involving university faculties of education, teacher training institutions and secondary schools; (f) special joint committees, with appropriate ministerial as well as university participation should be set up to inquire into administrative questions—particularly those dealing with problems of the movement of students between institutions—and to review the results of educational research and their application to the educational system as a whole.

University faculties of education should not only be in the vanguard of qualitative advance and creative innovation, but also able to supplement and orient their curricula and research to meet shortcomings or problems which, at a given moment, other institutions of higher teacher training are either not competent or not equipped to tackle. Indeed, university research in education needs to be fully comprehensive, extending all the way from the elementary to the highest levels of the educational process, which interestingly enough have been by far the most neglected.

Two specific fields of teaching in which universities must, because of their particular competence, bear special responsibility are in the teaching of languages and of natural sciences to teacher trainees—both to staff intended for teacher training colleges and to those destined for senior, if not all, classes in secondary schools. Here, apart from a constant effort to achieve the most effective training of specialist teachers, much could be done to relieve shortages, as well as to broaden the vision of all teachers, by giving them not only a basic command of the language of wider communication, but also some understanding
Teacher training and educational research

of the teaching of it; by giving them an insight into scientific method, and a fair grounding in at least one scientific subject.

Another set of special tasks for the university emerges from three current needs: (a) for periodical courses to keep teachers in touch with new developments in their subjects and in methods of teaching; (b) for the re-training of under-qualified teachers and the further education of able teachers; and (c) for assistance in meeting urgent teacher needs in the face of rapidly expanding enrolments. For the first, the universities, acting in collaboration with other relevant institutions, should play a leading role in planning, designing and setting up appropriate courses. Only some of these, particularly in the scientific field or in direct relation to on-going research, may be sited at the universities; others could, and indeed should, be given in teacher training colleges and extra-murally. In assisting to meet the last two demands, the universities should undoubtedly be particularly careful not to get directly involved in accelerated programmes to the point where, through over-taxed resources, their regular teacher training programme suffers. Their main task here may well be to restrict themselves to research and pilot projects to evaluate and improve different techniques under varying conditions, and to work out applications of these in consultation with other teacher training institutions. For all three purposes, universities may consider establishing correspondence courses for teachers in service which, where feasible, should be combined with short periods of residential training. In this connexion it would, however, be most important to make sure that the costs of such arrangements, including the demand on staff time, do not in the end exceed those of regular courses.

Finally, as an essential condition for the realization of their teacher training potential, the universities need to secure adequate numbers of high quality staff, and appropriate financial provision to do so: the requirement has organizational and administrative as well as educational implications.

2. EDUCATIONAL RESEARCH

No university will be able to meet its staff requirements and set high standards unless it pays adequate attention to the development of research—and this in particular to educational research, no matter how pressing the claims of training programmes.

Beyond various specialized questions of educational organization, psychometry, curriculum, methodology (including, in particular, language teaching), the evaluation of audio-visual methods and new teaching techniques, there are many issues that especially require interrelated and co-ordinated research carried out by the relevant ressources of a whole series of disciplines. Universities, collaborating with other appropriate national bodies, should be in a position to make a definitive contribution to such interdisciplinary educational research concerning, for example, the extent of academic wastage at all levels,
the educational needs of rural areas, the democratization of education, the education of women, the organization of science teaching, and the problems raised by a developing social mobility.

The issues involved cannot be studied solely from various educational angles, for they involve economic, social, political, cultural and psychological factors which must be studied by those with special competence in these fields. It is through such complementary studies that the extent of the need for change can be demonstrated and the best possible solutions under given limitations can be found to stimulate and support progress in this direction.

Some possible approaches to such questions have been suggested in different parts of the report, but these and their implications have to be investigated in the specific contexts of national situations. Results achieved and possibilities of improvements must be kept under constant and co-ordinated review. Only thus can educational policy, programme, and action gradually come to make the most effective use of available resources, which in turn should increase at a sufficient pace to make more adequate educational provision possible.
Manpower requirements in the terms of his study are defined by Hunter as: 'The minimum requirements of manpower trained in modern skills to make possible sustained economic growth and modernization and to provide a gradually improving health service.'

The proposed output figures of the report do not extend as widely as targets based upon educational, cultural or social requirements, i.e., targets such as the enrolment of specific percentages of appropriate age groups in secondary or tertiary education. The political and social necessity of meeting public demands for increased educational facilities will certainly require broader targets than those defined in this chapter.

However, save in Malaysia, and possibly Cambodia, the numbers entering higher education would satisfy minimum high-level manpower needs were it not for: (a) great wastage in the universities; (b) the attraction of the cities which starves the rural areas of young, able and energetic staff; (c) the academic bias of schools and colleges which affords an inappropriate background for the practical training of agriculturists, engineers and other technologists, further there is a great dearth of technicians of the second level to support the technologists;

1. STAGES OF EDUCATIONAL POLICY

Accordingly, three successive stages of educational policy are outlined: (a) Consolidation of the provision for higher education, setting output targets for a minimum production of high quality graduates; the improve-

1. The chapter of the report dealing with the supply of high-level manpower is based upon the monograph by Guy Hunter, the study's consultant, which though completed in 1964 had necessarily to take the year 1962 as its statistical base.
ment of secondary education to reduce high wastage rates; and a massive increase in post-secondary vocational training. These steps should take precedence over the quantitative expansion of primary education.

(b) When this has been achieved, and while the economy is adequately absorbing the educational output, primary education should be consolidated and extended to react effectively to the new leadership generated by the first stage.

(c) As the economy gathers pace towards 'take-off' and the need for technicians and technologists begins to rise steeply, priorities should again be allotted to the upper levels of the educational system.

2. BASIC PREMISES

The calculations upon which targets of high-level manpower are set up are based on the following assumptions and premises:

(a) High-level manpower will have to expand at a faster rate than the annual growth of Gross National Product.

(b) The proportion of technicians to university graduates should broaden from 3:1 to 5:1. Accordingly, the rate of growth of the higher group is calculated at twice the rate of growth of GNP, and of technicians at three times that rate.

(c) Wastage is calculated on an over-all basis of the loss of 40 per cent of the original stock in ten years.

(d) Targets can be roughly checked by calculating the ratios of total high-level manpower to total population (at present in the range of 0.2 per cent to over 1 per cent in South-East Asia).

3. MANPOWER CATEGORIES

High-level manpower is graded into two categories:

Category I. Top administrators, managers and technologists and professionals who need higher education (primary teachers are excluded).

Category II. Technicians with secondary education and two or more years of vocational training, i.e., radiographers, non-graduate teachers, second-level agricultural staff, fully trained nurses, senior clerks, assistant surveyors, small businessmen, etc.

Craftsmen, junior clerks, cashiers, and the third level of agricultural field staff are graded as Category III, and unskilled workers and peasant farmers as Category IV.

The term Category I is applied to posts likely to become available, not to men, in the case of countries with a surplus of graduates. In countries where requirements are greater than output, the target figure represents a maximal feasible effort to produce graduates rather than an optimum goal for posts.
4. GENERAL FINDINGS

On these premises, Hunter arrives at the following conclusions which are generally endorsed by the report:

(a) Save in Malaysia and possibly Cambodia, there is a tendency for university enrolments, but not output, to overrun requirements except in the case of graduate teachers, agricultural specialists and doctors. But there are heavy wastages and in some cases a poor-quality final product. Overloaded arts faculties might well concentrate on producing more teachers. Law faculties are almost everywhere overdeveloped. Targets should be set for a minimum production of high-quality graduates.

(b) Requirements for Category-II personnel can be substantially met if:
   (i) secondary school wastage is reduced; (ii) opportunities for post-secondary vocational training are considerably increased; (iii) the ten-year total of schooling at the first and second levels in Burma and the Philippines are increased, possible by as much as two years; (iv) much more attention is given to practical, on-the-job training as a major element of vocational education at the post-secondary level; (v) a general secondary education, with vocational training postponed until the completion of at least a total of nine years’ schooling; (vi) a larger and more continuous flow of trained manpower into the rural areas is assured. It is suggested that new institutions sited outside capital cities, such as diploma-level colleges with a rural and applied bias, and the development of adult education, might serve as effective means to this end.

5. THE MAIN FIELDS OF HIGH-LEVEL MANPOWER

The studies of individual countries are concentrated on four main fields—industrial growth, agriculture, medical services and the supply of teachers.

(a) Industrial growth

There is a great contrast between a few (often foreign-financed) high-technology undertakings and the disorganization of small local industries using local materials to meet local needs.

Commerce is centralized in the ports which are in general the capitals and seats of government. This has resulted in the excessive centralization of high-level manpower. The import-export trade is generally international and frequently in expatriate hands. This has inhibited countries from devoting resources to the development of trade.

In Burma, a recent tendency to focus on agriculture suggests that an increase in the production of non-agricultural technologists and technicians for the next cycle of industrial development will not be needed before 1970. Cambodia
Summary report

is at an early stage of industrial development and the need for technologists, although urgent, is still very limited. The target set for Indonesia is a modest one since an increase in agricultural production to earn foreign currency appears to be a prerequisite of further industrial advance. Viet-Nam has a heavy programme of industrialization but this is largely financed by foreign aid, and the targets are cautiously framed to avoid creating a top-heavy educational system which the local economy could not maintain under normal conditions. Much higher targets are set for Malaysia (particularly for Singapore), Thailand and the Philippines.

(b) Agriculture

In most countries of the region, over 60 per cent of the population is engaged in agriculture. The development of agricultural productivity to provide basic food supplies and surpluses convertible to earnings needed for investment in industrialization is essential to economic progress in the region. The consequential need for the production of high-level manpower in agriculture, health, education, technology and administration in the rural areas is the most important conclusion of the report.

In all countries a strong agricultural service is recommended with a heavy emphasis on Category-II field staff and a comparatively small number of graduate field staff who should be, however, supported by research workers and teachers with biological qualifications in the proportion of three research workers to one graduate field officer. This ratio, the importance of which is insisted upon by Hunter throughout his report, certainly emphasizes the necessary case for supporting research, too often neglected, and it will be appreciated that the research staff provide scientific backing for the whole agricultural field force, not merely to the graduate officers. The ratio may be queried, but the principle surely is impeccable. It is suggested that the composition of an agricultural staff, including workers in forestry, fisheries and veterinary science, might be, per ten million of population, 250 graduate field officers, 750 diploma-level field officers and 2,500 Category-III field staff—the whole force also having 750 graduates in research, teaching and support.

(c) Medical services

Over-all doctor-population ratios conceal serious maldistribution. Thus the proportion is better than 1:800 in Manila, but probably 1:10,000 or worse in various parts of the rural Philippines; the same kind of disproportion may be observed between Bangkok and the remoter areas of Thailand or between Singapore and Kuala Lumpur on the one hand and other parts of Malaysia. Table 1 shows the position in 1962 and the proposed output targets for 1970-75. The rate of growth has to be considerable in order to make any impact on a ratio severely affected by the high rates of population growth.
Table 1. Output and stock of doctors

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Output per annum</td>
<td>Proportion to population</td>
<td>Output per annum</td>
</tr>
<tr>
<td>Burma</td>
<td>166</td>
<td>1: 14 000</td>
<td>250</td>
</tr>
<tr>
<td>Thailand</td>
<td>230</td>
<td>1: 11 000</td>
<td>300</td>
</tr>
<tr>
<td>Malaysia</td>
<td>100</td>
<td>1: 5 500</td>
<td>200</td>
</tr>
<tr>
<td>Indonesia</td>
<td>(500)</td>
<td>1: 50 000</td>
<td>700</td>
</tr>
<tr>
<td>Philippines</td>
<td>(1 300)(^1)</td>
<td>1: 2 500</td>
<td>850</td>
</tr>
<tr>
<td>Viet-Nam</td>
<td>60</td>
<td>1: 20 000</td>
<td>150</td>
</tr>
<tr>
<td>Cambodia</td>
<td>(40)(^2)</td>
<td>(1: 36 000)(^2)</td>
<td>(120)(^1)</td>
</tr>
</tbody>
</table>

1. Not all those granted medical degrees pass the Government professional qualifying examination or practise in the Philippines.
2. No full doctors produced in Cambodia until 1963; figures are for officiers de santé in 1962, doctors and officiers together in 1970.

(d) Education of teachers

As a regional target it is suggested that some 60 per cent of the entrants to general secondary education should be enabled to complete a total of ten years of schooling and that of the remainder (less than 40 per cent of the initial entry owing to wastage) half should qualify for and proceed to university education. The main difficulty lies in the supply of teachers. Hunter suggests that arts faculties could make a much more generous contribution to the supply of teachers though this would not, of course, help to meet the special case of the shortage of science teachers. The report itself has suggested the introduction of a degree in education which would result in the production of a graduate teacher in three years instead of the usual four. The major factor in the situation is the question of incentives, a matter which is considered at some length in the report and outlined in Section VIII of this summary.

6. OVER-ALL MANPOWER

Table 2 shows the present position and the suggested targets for total manpower in Categories I and II, and the proportions of the high-level force to total population.

These targets, though often based on rough approximations and inclined to be conservative, indicate certain orders of magnitude and should not, if economic progress is maintained, involve serious over-production.
TABLE 2. High-level manpower—present position and 1970 targets

<table>
<thead>
<tr>
<th>Country</th>
<th>Stock Actual, 1962</th>
<th>Output per annum</th>
<th>Percentage stock per population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>University¹</td>
<td>Secondary²</td>
<td></td>
</tr>
<tr>
<td>Burma</td>
<td>60-80 000</td>
<td>2 260</td>
<td>(8 000)</td>
</tr>
<tr>
<td>Thailand</td>
<td>100 000</td>
<td>2 900</td>
<td>12 000</td>
</tr>
<tr>
<td>Malaysia</td>
<td>130 000</td>
<td>1 000</td>
<td>12 000</td>
</tr>
<tr>
<td>Indonesia</td>
<td>440 000</td>
<td>(2 750)</td>
<td>50 000</td>
</tr>
<tr>
<td>Philippines ³</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Viet-Nam⁴</td>
<td>—</td>
<td>(500)</td>
<td>(7 500)</td>
</tr>
<tr>
<td>Cambodia⁴</td>
<td>—</td>
<td>(50)</td>
<td>(550)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Output Targets 1970</th>
<th>Percentage stock per population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burma</td>
<td>165 000</td>
<td>0.6 (1972)</td>
</tr>
<tr>
<td>Thailand</td>
<td>256 000</td>
<td>0.7</td>
</tr>
<tr>
<td>Malaysia</td>
<td>274 000</td>
<td>2.0</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1 100 000</td>
<td>0.9</td>
</tr>
<tr>
<td>Philippines ³</td>
<td>650 000</td>
<td>1.7</td>
</tr>
<tr>
<td>Viet-Nam⁴</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Cambodia⁴</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

1. University refers to all forms of higher education, and its outputs are assumed to supply 80 per cent of Category I.
2. The secondary outputs are taken, at year 12 except for Burma at year 10; Viet-Nam and Cambodia at the first baccalaureate, at years 11 and 12 respectively.
3. No 1962 figures are given for the Philippines because it is impossible to know the quality of output. The 1970 figures are based on a calculation of the number of ‘high-quality graduates’ from universities and from the twelfth year of education (i.e., those who at present have completed the first two years of college) respectively who might be needed to man the Philippines economy.
4. Owing to lack of data it is not possible to indicate stock or targets for Cambodia or Viet-Nam.

7. EXPANSION OF HIGHER EDUCATION

The general conclusions of his survey were subsequently summed up by Guy Hunter in a paper on ‘Training for industrial development’ prepared for the Cambridge Conference on the Role of Industrialization in Developing Countries. ‘In South-East Asia as a whole there is not really a shortage of higher education in relation to the opportunities for employment at this level (save in Malaysia, where university output is still too low). There is, however, a con-
considerable maldistribution. First, the university provision tends to outrun
provision for technicians—there is sometimes a proportion of one university
graduate to two technicians instead of about 1:4 or 5. Secondly, there is
maldistribution between arts and science. Thirdly, there is a maldistribution
between agricultural and industrial training in which agriculture is far too
weak. Finally, in almost every field, preparation for economic life tends to
stop at the university degree or technical certificate. The overriding need is to
turn academic graduates into practical managers and technicians.

Accordingly, the number of new institutions, or indeed faculties, recom-
manded by Hunter is small, save in the following cases. (a) Malaysia, where
in addition to a group of institutions in Sabah and Sarawak ultimately envi-
saged as coalescing into the University of Eastern Malaysia,1 a new Malayan
university is recommended in the Penang-Ipoh region, and possibly a second
on the east coast. Additional technical institutes are also proposed in Singa-
pore and Malaya. (b) In Cambodia the fusion of the existing faculties into the
Royal Khmer University must be completed before it can be clearly seen whe-
ther the complex should further develop its own faculties, or whether additional
provision is necessary. (c) Burma seems to require either a third technical
institute or the expansion of the institutes at Rangoon and Mandalay. Greatly
increased teacher training facilities—possibly four residential colleges—are
needed for middle-school teachers. (d) Thailand may consider that a more
generous provision of doctors warrants a new medical school—possibly attached
to Chiangmai or the North-Eastern University; greatly enhanced facilities for
higher education and research in the natural sciences are also required.

On the whole, however, regional enrolments are at the level which could
supply an adequate output of high-level manpower until 1970. The difficulty
results from high wastage rates and a poor-quality product. The key to this
situation lies not in additional institutions, but first in raising the standards of
secondary school teaching, and then in eliminating wastage by requiring a
selective entry to the university—a form of entry by competition, not by basic
qualifications.

At the secondary level there are again high wastage rates, which may be
ascribed in part to poor teaching, lack of counselling, difficulties of language
and an inadequate supply of textbooks, in part to a concentration on university
preparatory courses at the expense of the large majority of pupils for whom
the course is terminal.

It is at this terminal stage that Hunter introduces a difficult element in the
training situation—the adequate preparation of Category-II personnel, men
and women who have had a full secondary education followed by two or
more years of vocational training.

There can be little doubt that national studies of needs, training facilities and

1. An agricultural college; a school of forestry, with research attached; a technical college;
an institute of education; and an administrative training institute.
output at this level are urgently required, particularly because, although the supply of trainees is easily located in the top forms of the secondary schools, the subsequent process of training is distributed far and wide between technical institutes, teachers' training colleges, hospital courses for medical auxiliaries, nursing schools, farm institutes and colleges, in all of which full-time training is given; or in evening classes or day-release classes where theory and practice are undertaken under two different sets of conditions; or by survival on merit in the world of commerce.

At present it is difficult to avoid the conclusion that Category II is largely composed of students who either cannot afford to stay on at school for the pre-university years, or those who, having done so, have either failed to secure admission to a university, or have already dropped out from an academic course.

The maldistribution of recruitment between universities and diploma-granting institutions will probably not be solved until incentives to enter technician-level training are strengthened.

It is not that there are not sufficient applications for the few Category-II training institutions, but rather that pressure will continue for the development of more university education rather than for technical training at the post-secondary level. Something can be done with terms of service, but the major incentive should surely be a clearly discernible path to promotion and Category-I status by a combination of meritorious service, experience and subsidized opportunities for further study. With this path clearly marked out it should be possible for the secondary schools to exert considerable influence—if again they will, as they should, consider vocational guidance a vital aspect of their functions—on recruitment to the various types of available training at the right moment in a student’s career.

Hunter has advanced a step further in this study of Category-II training by suggesting, without elaboration, that diploma-granting colleges with a rural and applied bias in country areas could solve a large number of training problems and assist in the essential and very difficult task of distributing trained manpower throughout the countryside. Due account is taken of this proposal in Section VIII of this summary, devoted to the future structure of higher education.
IV. Social and cultural role of the university

Economic development requires as well as generates social change. In the transitional social and economic stage at which the countries of South-East Asia find themselves, it is not surprising that various national policy statements put special stress on the social responsibilities of universities. On the other hand, the claims of social development, stretching far beyond the economic minimum, are a matter for political decision in which finance will play a major role. They are likely to be met to the extent to which it is considered politically expedient to satisfy public demand, rather than upon any assessment of stages of desirable social progress, and they will meet strong competition from the claims of other aspects of development—agriculture, health, communications—and, it is to be feared, defence. However, in preparing the educational planning brief, it is necessary to supplement the case for quantitative development by certain qualitative implications which have a significance both in their effect upon output and their influence upon concepts of university organization and expansion. In this context, the issues raised by teacher training and educational research have already been considered in Section II and problems of language will be discussed in the following Section V; here the three main qualitative aspects considered are: (a) the significance of inter-disciplinary research in strengthening the over-all contribution of higher education to the planning as well as the operational aspects of development; (b) the desirability, through extra-mural and similar activities, of broadening the university’s field of influence, particularly in the rural sector, and including adult education and community development; (c) the universities’ contribution to the development of the cultural aspects of the newly emergent countries’ national identities.
1. INTER-DISCIPLINARY RESEARCH

The under-developed countries are obliged to assimilate decades of technological innovation without adequate preparation or respite. Consequently, they must diagnose what is happening and study how to reconcile economically necessitated social change with the transmutation of cultural values. It is the failure to achieve this synthesis—to bridge the gulf between modern processes and traditional attitudes—that is perhaps the greatest single obstacle to social and economic progress in the region. To this end, universities must become dynamically involved, preparing critical analyses and submitting constructive ideas for the resolution of social and cultural problems. Next to the quality of their teachers, the most important single factor enabling them to perform such a function is the extent and depth to which they engage in inter-disciplinary research.

While undirected and specialized research on isolated problems must remain a basic method, it also needs to be supplemented by a synthetic approach that in various crucial areas co-ordinates the selection of problems and correlates the results of research on these—both to provide comprehensive data for balanced action and to discover mutual implications for further research. From the socio-cultural viewpoint, this in general terms means that not only various social science departments, but also those in other faculties—in particular the humanities, medicine, agriculture, and technology or engineering—need to combine resources and conduct team research to understand what is happening in current social situations. Thus they will be able to diagnose tendencies, and give a prognosis of the future; to determine desirable directions for change and suggest the scale and kind of action and further research that their achievement seems to require, and to work out feasible measures to promote selected development goals, although these will be chosen on the basis of national policy and therefore also involve political factors. In the broad social field, the success of policy relating to such crucial matters as family planning, agricultural productivity, social mobility, community development, urbanization, the geographical distribution of high-level manpower, national identity and language, in each case requires that various relevant disciplines carry out studies in a variety of fields—custom and tradition, attitudes and motivation, technology, economics, mass communication, administrative organization, and education.

But if the needs for such research are great, the difficulties are great too, and it would be a major error to think that all that is required to establish an inter-disciplinary approach is appropriate organizational and administrative action, which can, in fact, be effective only where the enthusiasm of academic staff is aroused and committed to active co-operation.

Within the region the fact that the development of research is still largely in its initial stages, while creating its own difficulties in terms of finding adequately trained staff, also presents an opportunity to introduce and consolidate
inter-disciplinary approaches and procedures while patterns of research are still fluid. On the other hand, while the general need for co-ordinating research has been recognized by all countries in the region, this on the whole has expressed itself more in action taken outside the university and in forms which, apart from promoting collaboration between specialized disciplines in major fields like the social sciences, agriculture, technology, and medicine, mainly concentrate on a national research machinery to determine and integrate administrative arrangements and financial allocations.

The need to act quickly in setting and promoting the right directions and trends for research at the universities cannot therefore be over-emphasized. From its very initiation, the inter-disciplinary research undertaken should begin to influence the orientation of university education as a whole, which in turn should produce more and more university teachers imbued with the desire and the ability to investigate the inter-relationship of their special interests with other areas of inquiry and to participate in inter-disciplinary team work. While such a process would become cumulative, it need not, and indeed should not mean that all research would fit into co-ordinated plans, let alone being adjusted entirely to social needs. Research dictated solely by specialized interests following up promising leads to new knowledge without immediate concern for its implications must clearly also continue if the spirit of free inquiry is to flourish; what, apart from balance according to priority areas of urgent national needs, is important here is that the results of research should not remain isolated, that there should be a continuous process of examining their wider implications, and, where appropriate, incorporating them into planned inter-disciplinary research as subjects of further inquiry.

For this purpose, universities will need to work in consultation and co-operation with other national research bodies and institutes. The process will involve both a study of appropriate roles for graduate schools, university institutes, faculties, departments, inter-disciplinary academic committees, and inter-university collaboration in planning research projects. It also implies a definition of the relative spheres of inter-disciplinary research within and outside the university, the possibilities of these effectively complementing each other, and suitable forms of co-operation between them.

2. UNIVERSITY EXTENSION AND EXTRA-MURAL WORK

The potential field for service to the community is very wide and the resources of the university limited—often to the point where its internal teaching, training and research functions suffer in their quality and scope. It is not, then, surprising that universities are wary in undertaking additional responsibilities and programmes. There are two areas in which they may determine their proper role for the mutual benefit of society and their own work: (i) the selection of fields of action in which the university can be uniquely or at least particularly effec-
tive; (ii) the integration of extension work with other university programmes in such a way that it becomes an essential part both of the training of students at all stages and of basic research activities.

(a) Adult education

Two aspects of this issue seem in particular to offer opportunities for universities to make specially useful contributions: (i) research into the inter-disciplinary as well as the educational and methodological aspects of adult education and literacy campaigns; (ii) the provision of special post-secondary courses in professional and cultural fields directly related to adult needs and demands.

First, in addition to the whole range of considerations emerging from the discussion of inter-disciplinary research, the following problems facing literacy campaigns offer a clear challenge to the expertise, the resources and the capabilities of university staffs and students: problems of language, teaching media and techniques; motivation; the training of staff; the preparation of material and equipment; the continual evaluation of results; the development of follow-up reading material. This together with research into various aspects of community development as a whole calls for the deployment of the full resources of a university.

Second, universities must themselves provide, and assist other institutions of higher education to offer, appropriate post-secondary opportunities for capable adults to improve their professional competence and enlarge their cultural background which, for one reason or another, they have been unable to do by taking up or completing full-time university-level studies. A large number of students completing secondary education are unable to enter the university and many of those who do, drop out before completing their course. Vast potentials of skill are thus wasted and the educational investment already made in them is left relatively unproductive.

To some extent the need is met by existing evening and other part-time study facilities available in the region, but these are usually patterned on normal curricula and full-time teaching methods. On the basis of explored needs of both employers and employees, there is a case for establishing both general and specialized courses tailored to specific types of requirements and suited to adult experience. In devising such courses, it is essential to secure the close co-operation of business and industry as well as various government departments, with a view to the co-ordination of university instruction with on-the-job training facilities.

Two general basic questions need to be resolved in determining budgetary policies and limitations to the extramural programme. First, if university-level adult education is to be given a high priority—and there are good social and economic reasons for this—then the government must make adequate financial provision, and the best way of utilizing this is to place it at the disposal of institutions of higher education together with substantial free time on govern-
Social and cultural role of the university

ment radio and television stations. Second, in counting the cost, it is appropriate to consider extra-mural studies as a means not only for adult education narrowly defined, but also, through part-time and correspondence study, as a pathway toward full university degrees and diplomas, by the establishment of which pressure on the expansion of full-time study facilities can be reduced.

In reviewing the value and relationship of the different channels of extra-mural work, it is evident that without branch centres at strategic points in various parts of the country, the scope of extra-mural courses must, even with the provision of all other facilities, be severely restricted—at least excluding all natural science subjects. Even for other subject fields, the absence of an adequate library and facilities for occasional consultation with tutors make proper study a near impossibility. It should, however, also be noted that for the establishment and operation of branch centres, the co-operation of school or government laboratories may be sought and facilities supplemented through the book-box, the bookmobile, and perhaps even mobile demonstration laboratories. Insofar as finance and staff limit the distribution and scope of branch centres, correspondence and radio must be utilized to the fullest extent to support extra-mural studies.

(b) Community development

That universities and other institutions of higher education should contribute to community development in direct as well as indirect ways is recognized in principle throughout the region; but action to put this principle into practice, while varying in scope, has mostly been limited and, with the exception of some agricultural extension work—particularly in Indonesia and the Philippines—of an ad hoc occasional nature rather than planned and continuous.

There are, in addition to research, obviously three major opportunities for higher education institutions: (i) the training of community development planners and leaders; (ii) the general provision of an understanding and appreciation of community development, so that all graduates who ultimately come to occupy positions of authority and leadership may help in promoting it as an important instrument of economic and social progress; (iii) field work involving student participation, aimed particularly at bridging the gap between the common man and the university.

(i) The first, at the highest level, is clearly a responsibility of the university, for such leaders must combine professional competence with a wide cultural background, a basic understanding of the principles underlying the thinking and operations of a wide variety of disciplines, and of the interrelations of their operations, and an intensive knowledge of human nature.

(ii) Much can be done through a new orientation that makes extension work become an integral part of the various disciplines, rather than something added on to the regular curriculum: the principles involved would not be
basically different from those governing the provision of field and practical work in the curricula of such subjects as agriculture, engineering, and social welfare. Thus, students of medicine and nursing could for the completion of their public health course be required to spend some time working in rural areas and devote part of their internship to assignments in rural clinics; under the direction of their teachers, students in the social sciences may be required to form teams to carry out socio-economic surveys and studies in rural areas; those studying industrial technologies would by no means waste their time in gaining a first-hand acquaintance with the development problems of rural industries and demonstrating the use of relevant new tools and techniques; each of the humanities students would complete a more rounded education by spending some time in working and living with village communities—studying folk culture and art.

(iii) A wider range of student involvement in economic and social development, both in the countryside and in the growing conurbations, should be encouraged as part of extra- or co-curricula activities. The latter could be developed either as a form of combined training and service during the long vacations or, more seriously, in the form of a requirement that all students should, at some appropriate stage of their studies devote, say, a year to training and work in the field of community development and social welfare. A similar practice, it might be recalled, has been far from unknown in the field of compulsory military service.

If dispersal and duplication of effort are to be avoided, institutions of higher education must not only ensure co-ordination between the work of their own colleges or departments and individual consultation with relevant government agencies, but also help to set up the appropriate machinery to bring about continuing consultation among themselves, government agencies, institutes, and voluntary bodies active in community development. This may in some cases lead to joint support not only for certain extension-research projects, but also for establishing multi-purpose rural institutions in various regions of the country. These could provide universities working in a given area with a centre for their adult education and their extension work, and enable them to expand their activities as circumstances require and permit. The proposal is developed in Section VIII.

3. CULTURAL DEVELOPMENT

All countries in the region are concerned to develop a national identity which, through the promotion of a common national language and a unity of purpose in social action, involves, as part of this process, a flowering of literature and other creative arts and the adaptation of traditional aesthetic and moral values to economic exigencies in such a way that they retain their essential spirit and
yet interact constructively with the needs and impacts of technological and social change.

The approach to such objectives may be—in education as in other fields of social behaviour—more or less politically and centrally determined—more, for instance, in the case of Burma and Indonesia, less in the case of Thailand and Malaysia. But whichever of these approaches is adopted and despite the different influences they exert, certain general questions on the cultural role of universities remain to be considered on their own merit. How far and in what ways should universities, apart from the specialized interests of their various disciplines, attempt to disseminate cultural values? In what sense can the university be a creative centre of culture as well as of knowledge and research? How can the university help to integrate traditional cultural values with the new demands of social and technological progress? In what ways can it contribute to the formation of a national identity and the solution of the language problem?

There is throughout the world a growing concern for the liberal education of the university student, but often, if not always, this has implied that time available for specialized learning is reduced. It is also as yet not clear how far a general curriculum, apart from its remedial functions, may not be merely informative, whereas the problem is to enable the student to integrate his knowledge, to understand his specialty in a wider cultural context, and to play an active part in the total cultural process.

A somewhat different emphasis and approach is suggested by those who feel that each special discipline has its own social, cultural and aesthetic context, and that the teaching and study of it can be so conducted as to make the student conscious of the discipline’s inter-connexions with other streams of knowledge, and its philosophical, historical, and cultural implications. Such a view demands a size and quality of teaching resources which South-East Asian countries can hardly secure in the foreseeable future.

Opinion is divided on how far the universities can engage in promoting creative pursuits in the fine arts, music, and literature—in all exercises of the human spirit which transcend material concepts. With few exceptions, training and work in these fields usually goes on outside universities. Nevertheless, overseas examples both of lively fine arts and music academies of universities and of ‘resident’ poets, musicians, and dramatists indicate possible new directions for the future. How far universities in South-East Asia should try to follow these is a question of crucial importance, since here cultural values are in a state of flux, new art, architectural and musical forms are emerging under strong but perhaps not the most happy Western influences, and even the wide use of the national language is mostly in its initial stages. In these circumstances, there appears to be a serious mutual loss when universities and academies or schools of art and music lead separate lives and cannot find ways of establishing close practical associations which go beyond the occasional visiting lecture.
Finally, while there are various types of specialized institutions concerned with research into cultural matters, there are a host of questions with historical and educational contexts and implications to which universities certainly may, and perhaps should, help to find answers. In what ways do religious and other cultural traditions affect modernization in rural areas? How might some of these be used to support rather than retard change? How far do folklore, art and music influence new creative forms directly or indirectly? In what forms are mass media influencing aesthetic appreciation and moral attitudes? In what ways might the development of fine arts and music help in bringing about a deeper mutual understanding between diverse linguistic, religious and ethnical groups? What obstacles stand in the way of the development of a modern literature in the national languages in which it is at present largely lacking? All such questions must be studied in various specific contexts if there is to be form and significance in cultural development: development, not planned progress, for culture does not take kindly to regimentation.

The heavy cost implications of trying to realize the university's various potentials in meeting social and cultural needs and aspirations cannot be shirked. The cost of quality—of more and better teachers, equipment, and facilities—is undoubtedly high in education as in everything else: the universities can improve themselves, but can do no more than is permitted by the means they are given.
v. Language policy and higher education in South-East Asia

1. THE LINGUISTIC BACKGROUND

In the first four chapters of his monograph, Dr. Richard B. Noss defines the assumptions on which his argument is based, sets out the language problems common to the region, describes the current solutions and predicts the situation likely to evolve in the future. The last eight chapters, as in the Hunter report, are detailed country studies; they are not considered in this summary.

Defining the national language of a country as the indigenous standard dialect, both spoken and written, which has the official sanction of the government of the country, the national languages of the countries in the region are as shown in Table 3.

The public education policies of the countries in the region with respect to the medium of instruction up to and including higher education, are summarized in Table 4.

2. UNIVERSITIES AND THE PROBLEMS OF LANGUAGE

The following assumptions have been made about the universities in the region:
(a) The university is not simply an upward extension of the educational system from the secondary level. Whatever it is, it is more than that.
(b) The university is not solely a training ground for certain occupations and professions, although it may include faculties or departments conceived for such specific purposes.
(c) Universities have variable curricula, elective subjects, expandable libraries, and syllabuses not aimed at specific terminal examinations.

1. The chapter of the report dealing with language questions is based upon a monograph by Richard B. Noss, the study's consultant.
TABLE 3. National languages in the region

<table>
<thead>
<tr>
<th>Country</th>
<th>National language</th>
<th>Affiliation of spoken language</th>
<th>Affiliation of written language</th>
<th>Literature¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burma</td>
<td>Burmese</td>
<td>Tibeto-Burman (Sino-Tibetan)</td>
<td>Indic</td>
<td>RCT</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Khmer (Cambodian)</td>
<td>Mon-Khmer</td>
<td>Indic</td>
<td>RC</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Indonesian</td>
<td>Malayo-Polynesian</td>
<td>Roman</td>
<td>MT</td>
</tr>
<tr>
<td>Laos</td>
<td>Lao (Laotian)</td>
<td>Tai (Sino-Thai)</td>
<td>Indic</td>
<td>R</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Malay</td>
<td>Malayo-Polynesian</td>
<td>Roman</td>
<td>RC</td>
</tr>
<tr>
<td>Philippines</td>
<td>Tagalog (Pilipino)</td>
<td>Malayo-Polynesian</td>
<td>Roman</td>
<td>C (Tagalog)</td>
</tr>
<tr>
<td>Thailand</td>
<td>Thai (Siamese)</td>
<td>Tai (Sino-Thai)</td>
<td>Indic</td>
<td>RCMT</td>
</tr>
<tr>
<td>Viet-Nam</td>
<td>Vietnamese</td>
<td>Mon-Khmer, Austroasiatic, or unknown</td>
<td>Roman</td>
<td>RCM</td>
</tr>
</tbody>
</table>

1. Heavy concentrations of literature in certain fields are shown by the following symbols: 
   R = religion, philosophy and history; C = classical literature; M = modern literature 
   (including newspapers and magazines); T = technical and scientific.

(d) From the linguistic point of view, universities treat languages not only as 
media of instruction and academic subjects, but also as research tools. 
(e) Elementary instruction in spoken language is not properly a university 
matter, but must be considered as a factor in the selection and preparation 
of students for the university. 
(f) National academies and national language development programmes 
therefore have a direct bearing on the universities, whether or not there 
is any formal relationship between the universities and the governmental 
agencies involved, and whether the national language or a language of 
wider communication is used as the medium of instruction.

3. COMMON PROBLEMS OF THE REGION

(a) Every country has by now adopted as its own a national language which to 
some extent is replacing the language of wider communication. One such 
instance is the use of this new language in university-level education with the 
result that: (i) courses taught in a language of a wider communication by 
expatriate professors will presumably soon have to be taught in the national 
language; (ii) foreign texts will have to be translated; (iii) a large new vocabulary
TABLE 4. The medium of instruction in public educational policies

<table>
<thead>
<tr>
<th>Country</th>
<th>Vernacular</th>
<th>National</th>
<th>‘World’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burma</td>
<td>Grades 1-3</td>
<td>Grades 1-HE</td>
<td>HE — Eng (LF)³</td>
</tr>
<tr>
<td>Cambodia</td>
<td>(minimal)</td>
<td>Grades 1-4</td>
<td>Grade 5-HE — F</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Grades 1-2</td>
<td>Grades 3-HE</td>
<td>(minimal) — Eng</td>
</tr>
<tr>
<td>Laos</td>
<td>(minimal)</td>
<td>Grades 1-6</td>
<td>Grades 7-13 — F (LF)</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Grades 1-12</td>
<td>Grades 1-12²</td>
<td>Grades 1-HE — Eng (LF)</td>
</tr>
<tr>
<td>Philippines</td>
<td>Grades 1-2</td>
<td>(Grades 1-2)</td>
<td>Grades 3-HE — Eng (LF)</td>
</tr>
<tr>
<td>Viet-Nam</td>
<td>Grades 1-3</td>
<td>Grades 1-HE</td>
<td>HE — F or Eng</td>
</tr>
<tr>
<td>Thailand</td>
<td>(minimal)</td>
<td>Grades 1-HE</td>
<td>(minimal) — Eng</td>
</tr>
</tbody>
</table>

1. Refers to Chinese and Tamil streams.
2. Eventually, Grade 1-HE (Higher Education).
3. Eng (English) or F (French) indicates which ‘world’ language is officially recognized—LF indicates that the world language also serves as a usual internal lingua franca for some segments of the population. In all eight countries a third world language (Mandarin) has the unofficial but powerful function of binding the Chinese segments of the population to each other and the outside world.

of staggering size in the physical sciences will have to be created: in so doing it is suggested that the often sought quality of uniqueness in vocabulary construction is a false goal;¹ (iv) library facilities will have to be considerably expanded; (v) where teachers speaking the national language are not available, and at the moment the instances are many, the situation demands either that the foreign teacher must learn the national language, that he has to teach through an interpreter, or that he has to teach a junior with whom he can communicate, who then teaches the class. The first option is clearly the most efficient, but it is difficult to conceive that there are many specialists prepared to spend at least a year on language study which may prove quite useless on their next assignment. The other more practical options have often been tried, seldom with any success.²

(b) The role of a world language: all countries in the region, in addition to having established a national language from among their vernaculars, have also made use of at least one world language. Here an embarrassing dilemma presents itself; if the national language is emphasized in higher educa-

1. Presumably English offers an outstanding example of the assimilation of a wide number of foreign terms.
2. Where no other solution is possible, perhaps the most effective procedure is to combine the methods: the lecture being actually delivered by a junior colleague with an understanding of the content of the lecture as well as its form of expression—subsequent questioning being handled by the expatriate teacher through the interpretation of the lecturer assistant.
tion graduates will tend to become isolated from world literature and global contacts. If, on the contrary, the world language is emphasized, the effect will be disastrous upon students whose only weakness may have been lack of language aptitude or lack of learning opportunity at the earlier stages of education. Where there are parallel secondary streams, one taught in the national language, one in the world language, those studying in the national language may have better earlier results; those working in the world language are more likely to be successful at the university, thus securing the job at which both have aimed. Where both languages are required, as in the Philippines, the general educational results are likely to be indifferent.

(c) The problem of translation: the frequently canvassed solution of the translation and adaptation of texts from various languages is more easily promulgated than effected. Such a solution can at best only apply to education at the secondary level or to some forms of technical education with a prescribed content where a few basic texts will serve and research is not required.

Even were an expensive crash programme for the preparation of basic university texts to be put into operation, it would scarcely cater at all for the real needs of higher education which involve an ever-growing spate of journals and a vast collection of books which may never be reprinted in their own language, to say nothing of achieving translation into another.

(d) The necessity of retaining a world language as an element in university work: the experience of the academically more ‘developed’ countries of which the national language does not happen to be a world language is extremely relevant here. The Scandinavian countries, certain East European countries and such disparate nations as Brazil, Japan and the Netherlands: all have established universities of the highest repute. None of these universities would entertain for a moment the notion of dropping their requirements in such languages as English, Russian, French, German, or Spanish for nationalistic reasons, because the moment they did so they would effectively cut off large portions of their academic and research activities and throw themselves, at the same time, out of contact with most of the world.

4. SPECIAL PROBLEMS OF THE UNIVERSITY

Among the more specific problems, other than those already set out above are:

(a) The relationship between the universities and the academies or other ad hoc organizations set up to implement language policies. Difficulties arise

1. The consultant’s chapter on Burma traces the evolution of a translation machinery from the Burma Book Society (1933), through the Translation Bureau, the Literary and Library Bureau of the Education Department, the Burma Translation Society, the Directorate of Textbook Production, the Union of Burma Literary and Translation Commission, and the Translation and Publications Department of Rangoon University, until its most recent emergence (1964) as a Textbook Committee.
through parallel projects and staffing and restrictions on research, including delays in publication through the slow official approval of essential vocabulary development.

(b) Strong efforts to promulgate the national language often result in the admission of students whose background, apart from proficiency in the national language, is inadequate or the exclusion of those whose language problems may be their only weakness.

(c) Where universities require compulsorily a third language course other than the national language and the first world language, as in the Philippines, this may in fact be a fourth language for some students who started with instruction in the vernacular; motivation and objectives are likely to be quite remote for students who are already overburdened.

5. THE INSTRUMENTS OF POLICY

Language policy is implemented by a wide variety of bodies: from ministries of education to public relations organizations (as in Malaya), the media of mass communication, planning boards, research bureaux, teacher training institutions, materials development centres, translation centres, and foreign cultural organizations. In this welter of authorities, the universities appear to play only a marginal role in the formulation and implementation of policy. Their indirect influence can be strong, but in no country are they clearly a part of the process. Nevertheless, the influence of professors and of those of their pupils who subsequently occupy influential posts is a factor which must be reckoned with to an extent which does not appear to have been appreciated.

6. REGIONAL PROJECTIONS

A group of projections based upon the regional population projections for 1980 and the assumptions that by that year (a) 100 per cent of the population will be speaking the national language; (b) in countries where there is a policy of conducting secondary education in a world language, users of this language amounting to one-third of the total population (modified to one-sixth for Malaysia) will have been produced; (c) the alternative policy of required courses in the world language and their usage in higher education will have produced in the appropriate countries users amounting to 10 per cent of the total population (split into 6 per cent for French and 4 per cent for English in Viet-Nam); (d) the practice of promoting the use of Mandarin for Chinese private schools will have produced users equivalent to one-third of the present ethnic Chinese population of the region; applied to 1980 national projections results in the following estimate of users of national and world languages in 1980 (Table 5). There appears to be little of a conclusive nature here, although
### Table 5. 1980 projection of national and world language users by language

<table>
<thead>
<tr>
<th>Language</th>
<th>Burma</th>
<th>Cambodia</th>
<th>Indonesia</th>
<th>Laos</th>
<th>Malaysia</th>
<th>North Vietnam</th>
<th>Philippines</th>
<th>South Vietnam</th>
<th>Thailand</th>
<th>Total (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burmese</td>
<td>32.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>32.0</td>
</tr>
<tr>
<td>English</td>
<td>3.2</td>
<td>15.0</td>
<td>3.2</td>
<td>16.6</td>
<td>0.9</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td>43.9</td>
</tr>
<tr>
<td>French</td>
<td>3.0</td>
<td>1.3</td>
<td></td>
<td></td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.6</td>
</tr>
<tr>
<td>Indon/Malay</td>
<td>15.0</td>
<td></td>
<td>20.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>170.0</td>
</tr>
<tr>
<td>Khmer</td>
<td>9.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9.0</td>
</tr>
<tr>
<td>Mandarin</td>
<td>0.2</td>
<td>0.2</td>
<td>1.2</td>
<td>2.5</td>
<td>0.2</td>
<td>0.4</td>
<td>1.5</td>
<td></td>
<td></td>
<td>6.2</td>
</tr>
<tr>
<td>Pilipino</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50.0</td>
</tr>
<tr>
<td>Thai/Lao</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.0</td>
<td></td>
<td></td>
<td>50.0</td>
<td></td>
<td>54.0</td>
</tr>
<tr>
<td>Vietnamese</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22.5</td>
<td>21.5</td>
<td></td>
<td></td>
<td></td>
<td>44.0</td>
</tr>
</tbody>
</table>

Indonesian/Malay would have by far the largest number of users in the region, they will be confined to two countries. Pilipino, though a related language, does not support the propagation of Malay; Thai/Lao has the disadvantage of two scripts; Mandarin, though ubiquitous, has a comparatively small number of users. Thus English is left as a strong candidate for an inter-regional means of communication in 1980.

### 7. Specific Solutions

The following solutions to language problems may be expected to appear:

(a) National languages will eventually achieve total acceptance among the people of each country.

(b) The principal medium of instruction in education will be the national language in every country. In some countries it will be supplemented by vernaculars in the very early grades, and in most countries by world languages in higher education, for many years to come.

(c) World languages will continue to be used as research tools in higher education, and for outside communication. If only one world language is so used, it is likely to be English.

(d) The larger regional languages, e.g., Indonesian/Malay, will assume some kind of role in education, at first only as optional subjects, but perhaps eventually as widely used tools of research and communication.

(e) Some kind of second language teaching will always be a component of the educational system. The second language may be the national language, or a world language, or a regional language.
(f) When a second language must be taught as a new medium of instruction early in the educational system, it will probably be consciously taught through the medium of general subjects, perhaps by repeating each lesson first in the familiar language, then immediately in the new language. When second-language courses as such are offered at this level, they will be taught by specialists, and will concentrate on structure of the spoken language and literacy in the written language, not vocabulary.

(g) When second-language instruction can be delayed until late in the educational system (as in the case of preparation of students in a world language for higher education purposes), it will probably be removed from the general curriculum entirely, and taught intensively by specialists in programmes specifically designed for the purpose. Such a programme might consist of six months to a year of full-time pre-university language training, or be spread out over several years of extra-curricula sessions, for example after hours or during week-ends.¹

(h) Courses in foreign literature and culture will be taught only to students specializing in those subjects.

¹. In the report of the study the point is developed that whilst the strength of the arguments for postponing second language training are overwhelming, full consideration has possibly not been given either to the neurological view of the optimum ages for learning new languages or to the effect of concentrated language study at a time when specialization and the pressure of vital examinations are making great demands upon the student.
VI. The student body and problems of selection, curricula and welfare

Entry to higher education is not determined only at or after the terminal stage of secondary education, but also by a series of academic and non-academic selective processes operating at each earlier level of schooling. From the viewpoint of education as a whole, all these factors require study; but the report limits itself to those that determine the transition from secondary to higher education and those which influence early drop-out or ultimate failure to complete requirements for a first degree or diploma. In this context, study and welfare provisions as well as selection objectives and procedures are examined.

1. SELECTION

In the last decade both expanding demands for higher education—which it has not been possible to match with an equivalent increase in facilities—and high wastage rates, often also coupled with a decline in the quality of graduates, have led to the introduction or development of various measures to control entrance to higher education. Such increasing selectivity is intended to control admissions in accordance with available places and limit overcrowding, to eliminate unsuitable candidates, and to ensure that less able students are not admitted at the expense of others with more ability.

Three main types of selection procedures are current in the region, though they are sometimes used in combination, and their nature and application varies within the country as well as between countries: (a) performance in the final secondary or pre-university examination; (b) university or faculty entrance examinations; and (c) propaedeutic years in which students must pass a series of qualifying examinations to proceed to the next stage of higher education with a limited number of chances for doing so—usually not more than one to two failures being permitted.
The Unesco-IAU study *Access to Higher Education*\(^1\) distinguishes three generally recognized selection criteria: (a) performance in examinations administered either at the close of secondary school or at entrance to institutions of higher education, the latter including a system combining subject-matter and academic aptitude examinations; (b) academic achievement as established by secondary school performance; and (c) judgements as to the candidate's potential based on ratings from his secondary school or on interviews. The study goes on to observe that: 'It has been amply demonstrated that a combination of all three types of criteria produces the most successful selections. However, applying them requires a complex decision-making process for each individual candidate, which makes for an expensive and time-consuming selection.'

However, an expensive selection system is more than justified if it reduces the ultimate cost per graduate and at the same time also diminishes the chances of error in selecting the best available talent, giving an equal opportunity for all candidates to demonstrate their capacities.

Furthermore, where there is a choice of institution, it is evidently desirable that there should be some form of clearing-house admission system (towards which Thailand at least has taken a first step) which, in addition to its prime objective of assisting in the selection of students for different institutions, might well have three other basic functions: (a) it should not merely disqualify the student for entry to a particular institution or course, but also, where his abilities warrant it, inform him of alternative opportunities—including correspondence courses—and assist his placement; (b) it should ensure that whatever other disadvantages may be suffered by students from comparatively backward geographical areas and lower income groups, the selection system should be so organized—with appropriately dispersed examination and admission centres—that all candidates, at this stage at least, have a full opportunity to show their capacity; (c) it should promote constructive collaboration between higher education institutions and secondary schools. This involves a complex and costly operation—particularly in countries like Indonesia and the Philippines—and requires considerable government support as well as institutional co-operation. But beginning modestly as an advisory and facilitating service, such a system could ultimately embrace both the machinery for a nation-wide provision of financial assistance for needy students, and a consistent and organized attempt to guide suitable students into areas of study in which there is a shortage of graduates.

2. COURSES AND CURRICULA

The extent to which universities and other institutions of higher education can reform their courses and curricula to bring them in line with changing educa-

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tional needs and also with the maintenance of high quality, will in large measure depend on what is achieved at the secondary level through various processes of improved co-operation and selection. For instance, the universities cannot, at the moment, afford to give up remedial general education, language, and science courses, until basic secondary level deficiencies in these areas have been removed.

(a) Co-operation between secondary and higher education

In order that university entrance requirements and examinations may exercise a beneficial rather than distorting influence on secondary curricula and teaching, they need to be kept under review by competent university and secondary school teachers and administrators acting in concert with employers of all types.¹

(b) Duration of studies

Among factors to be taken into account in deciding the duration of studies for a first degree, three are of general importance: (i) the extent to which remedial courses usurp time available not only for specialization but also for a higher level of general education; (ii) the total duration of pre-university education, and (iii) the length of the academic year and the intensity of work carried out in it.

In Burma and the Philippines, with their totals of ten years of schooling, one or two years might well be added to pre-university education. In other cases, time and expense might be saved by drawing most, if not all, of the required additional study period from a lengthened academic year. At present, the academic year, with some variation, roughly ranges around thirty weeks, with an average weekly formal instruction requirement of from fifteen to twenty-five hours—the load being noticeably greater in courses involving laboratory work. The total number of such working hours could obviously be increased, for it is far from evident that the leisure at present allowed is appropriately utilized for independent study and extra-curricula activities. However, in many cases staff strength would need to be increased to compensate for the additional total teaching load.

(c) Levels of higher education

Far from sufficient consideration seems to have been given to the balance of enrolments at different levels—pre-degree diploma, first degree, and postgraduate studies. Where an intermediate diploma exists, it mainly marks a transitional stage and thus has an administrative function instead of being

¹ See above, Section II, 1.

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The student body and problems of selection

...conceived in terms of satisfying certain limited individual capacities suitable for the lower echelons of high-level manpower requirements. The effectiveness of the holders of such qualifications depends on the relevant courses and curricula being organized in a form as appropriate to the respective demands of the labour market as to an introduction to further study—the two are not incompatible.

At the other end of the scale, the provision for post-graduate study is far from adequate. Where comparative data are available post-graduate enrolments in various fields generally form considerably less than 4 per cent of their total enrolments.

Many of the most able students prefer to go abroad; others choose or are obliged to take up more or less attractive employment opportunities. A partial solution to the first difficulty can be found in improving the quality and reputation of the home universities, notably their special competence in particular fields. The second obstacle may be tackled by providing special support for post-graduate students and offering the holder of post-graduate qualifications significantly better employment opportunities.

(d) Extent and stages of specialization

The over-all case for general education has been made; but at the first-degree level there still remains the question of the extent to which curricula should concentrate on honours and other forms of specialization in one or two subjects. That there are some jobs as well as temperaments to which such specialization is suited is evident: it is, however, equally clear that, particularly in a developing country, with its limited number of highly educated personnel and its rapid process of technological change and innovation, there is also a great need for the adaptive generalist. In countries and/or disciplines where a total of from sixteen to eighteen years of education are involved for a first degree, adequate opportunities for specialization can clearly be afforded. When the total period of study for a first degree involves no more than from fourteen to fifteen years and the emphasis is on general education rather than specialization, this must be counterbalanced by adequate provision for larger enrolments and output at the post-graduate level.

(e) Organization of curricula

The organization of curricula ranges from the completely free study of the Continental system to the traditional specialized studies in depth of British university curricula, through the intermediate American credit or unit system, combining great flexibility with controlled study. Each, of course, has its own virtues, but some one or another variant of the American system appears to be gaining ground in the region; and there seem to be good reasons for considering such an adaptation, provided that sufficient care is taken to avoid the
pitfalls of the system—particularly an overwhelming proliferation of courses (as has happened in the Philippines) and a piecemeal form of instruction and learning.

3. STUDENT WELFARE

In the provision of student welfare, regarded as those non-academic facilities that not only help a student to make the most of his opportunity to pursue higher studies but also reduce the restrictive influences of socio-economic conditions, limited resources again impose cruel choices of relative emphasis or priority. Thus the more that is done to provide residential facilities, the less the resources remaining for financial aid to students or, for that matter, the improvement of ill-housed laboratories with inadequate equipment. On the other hand, financial aid spread thinly to meet a variety of objectives is likely to be ineffectual.

(a) **Financial aid**

Apart from its insufficiency, available financial aid to students generally lacks any coherent policy to guide allocations in such a way that they make some tangible difference. Resources should be increased, and there are various ways of doing this; but even at their limit, in present circumstances of national financial stringency, they will remain small. It is therefore quite essential to establish a policy to make the most effective use of such resources as are available. Thus, any national policy must compromise between social demand and national manpower requirements by awarding financial aid to deserving candidates in particular fields of study and at appropriate stages, so as to (i) help fill high-level manpower shortages not only in subject but also in geographical areas (here selection of persons with the right kind of temperament and aspiration will be important); (ii) protect educational investments already made in capable individuals who might leave or fail in their studies for economic reasons; (iii) reduce the possibilities of error in selecting able students, so that, other things being equal, full financial aid would be available mainly during later rather than initial stages of study.

Administratively, it is clearly most desirable that there should be some kind of co-ordinating agency for all forms of student aid—private and state, ranging from loans to full scholarships—preferably at the national level.

(b) **Residential facilities**

In so far as special residential facilities are provided on the campus with educational as well as economic objectives, apart from such questions as first-priority places for out-of-town and women students and the desirability of
giving a maximum number of students the opportunity to spend some time in residence, the following other practical considerations need to be borne in mind: (i) the hostel unit should belong to a larger complex, so that certain facilities, including canteens, reading rooms, and recreation centres can be provided on a large-scale basis to reduce per-student costs; (ii) to achieve an academic spirit of community, two conditions in particular need to be met—there should be an adequate number of resident and associate tutors, so that, at least in principle, there is a proper opportunity for students and staff to encounter each other in daily life, and there should, wherever possible, be an intermixture of students from different faculties, as well as levels of education, to promote both contact between different disciplines and different stages of academic maturity and experience.

(c) Health and guidance

Within the last fifteen years, increased recognition has been given to the importance of guarding student health, particularly through preventive measures. The value of guidance is recognized not only as a benefit to individual students, but also as a means to achieving a more rational balance in higher education enrolments and graduate employment objectives in terms of national manpower needs. These two areas of concern require the fullest consideration as part of the total student welfare provision—this is generally recognized in principle, but not yet by positive action made possible by financial provision.

(d) Student activities

There are three distinct areas of student activities: (i) those, athletic, social and cultural, that are a proper supplement to the curriculum, and without which all general education becomes meaningless; (ii) those seeking to secure what students as an organized body consider their rights within the university, and (iii) those aimed at helping to meet the material needs of the university community on a co-operative basis, and of the surrounding community at large through participation in extension services.

In South-East Asia where, while students have been involved in partisan politics, they have also contributed significantly to constructive national movements, the university authorities bear a special responsibility for guiding students' energies and enthusiasms into constructive channels through an authority exercised by understanding and a trust and respect established through mutual confidence.
vii. Staff, teaching and research

The spirit of a university is reflected in the enthusiasm of its staff and the liveliness of its traditions. The traditions of universities within the region have been largely adopted from outside or are in the process of establishment, and for this reason and because of the difficulty of providing a full and satisfying undergraduate life in a time of national absorption in the struggle for economic development, the burden cast upon university staffs of promoting the concept of university ideals and standards is indeed heavy. Moreover, this responsibility is at its most acute at a time when, whilst there is a constant demand for new staff with the expansion of university education, there is also a steady loss of scholars and senior staff both to meet the many calls of new nationhood and as a result of the natural desire of countries to staff their universities with their own nationals.

1. Recruitment

It is therefore clear that infinite care must be taken to develop the capacity of the university to recognize and train its future staff from amongst its own best graduates. This in turn implies that university teaching and research must be made an acceptable career in the face of external competition for their services, both from the public and the private sector. Accordingly, the scale of salaries must, so far as possible, be made commensurate with external scales for similarly qualified personnel, and where salaries perforce remain modest, a generous provision of fringe benefits—pension and provident funds, medical insurance, family and educational allowance, subsidized living accommodation, sabbatical leave, and assistance for the publication of studies and research—could do much to reconcile the scholar to his comparatively unattractive basic salary in relation to salaries offered in the commercial world.
With generous conditions of service should go favourable conditions of work—the provision of good libraries, well-equipped laboratories, adequate teaching accommodation, a work load which does not impede research, the recognition of good work and a clear avenue of promotion, not controlled by seniority. Cumulatively, it is essential if standards are to be maintained that conditions of service should be such as to attract a surplus of candidates for posts at all levels, resulting in appointments effected through the process of rejection and selection. An examination of conditions of service throughout the region suggests that there are few countries where such conditions obtain. For adequate selective appointment it is necessary to safeguard universities against appointments made on any other than academic grounds. In a number of countries final appointment remains outside the university which acts as a nominating rather than a selective body. The goal should be a process of appointment by an academic board in the case of major appointments, by a faculty board for other appointments, in either case with the advice of external assessors and with ratification by the senate or the equivalent body.

2. THE RECRUITMENT OF EXPATRIATE STAFF

Despite language difficulties, it is likely that the services of foreign teachers will be required for a considerable time to come. The normal channels of recruitment are either (a) direct action by the university or the responsible ministry, generally through an appropriate organization in the country of recruitment, (b) technical assistance from the international agencies or (c) bilateral aid schemes and ‘cultural agreements’.

One major problem affecting the recruitment of such staff is the necessary provision of incentives without arousing the hostility of locally employed staff, for whom such an incentive cannot be justified or afforded and which, if universally paid, would inflate salaries beyond reason. Such an incentive in the form of an allowance to cover the costs caused by the disruption of a household in the home country and possible loss of promotion, originally known as an expatriation allowance, but subsequently disguised under such euphemisms as an ‘inducement allowance’, is a frequent source of difficulty and it has been suggested that it should in fact be paid by the contributing country: in practice this is not yet common, though such a differential has been instituted in some forms of staff recruitment by the United Nations and its agencies.

As for the actual method of recruitment, it is suggested that despite the cost of the periodical dispatch of a small recruiting mission from the university to the sources of recruitment, this is considerably more effective than recruitment through an agency and by correspondence. The system of supplying teachers as technical assistance on a short-term contract, offered by various international and other agencies, avoids the difficulties of a selective process of recruitment and offers ways of minimizing resentment against special privileges offered
to foreign staff—indeed it obviates the difficulty of making any form of salary payment—but such appointments are a method of offering a particular stimulus rather than ensuring steady development and they are generally of an ad hoc nature. Possibly the most effective technique of all is the ‘contract’ system, well developed in Indonesia and Thailand, where a strong link is established between a university in the recruiting country (this is largely a methodology employed by the United States) and the faculty of a university in the country to be aided. The contract generally includes the services of a team of staff brought into the receiving country; the provision of necessary equipment; and, perhaps most valuable of all, the subsequent training of national staff at the contracting university abroad.

3. TEACHING IN THE UNIVERSITY

The report pays considerable attention to the studies of the structure and nature of university teaching recently published in the reports of the Robbins¹ and Hale² committees in the United Kingdom, relates these findings where possible to university teaching in the region and considers the relevance of various indicators and findings to regional planning and teaching problems. Thus, for example, the over-all student/staff ratio in the United Kingdom, improving from 9.18 in 1938/39 to 7.5 in 1962/63, is contrasted with the opposite process shown by the University of Malaya, where the original student/staff ratio was 8.0 but had already reached 12.0 by 1963. Similarly, the balance of staff gradings with the weight in the United Kingdom in the intermediate grades, 12.5 per cent senior lecturers and 47.1 per cent lecturers, is contrasted with the balance in five Indonesian universities where the percentage at the lowest level ranges from 59.6 per cent to 80.6 per cent—a clear indication of the pressure of expansion on staff resources.

The comparison can be extended to the qualifications of staff: 47 per cent of university teachers in the United Kingdom hold a doctoral degree, as compared with 30 per cent in the University of Malaya, 17 per cent in certain schools of the University of the Philippines, 20 per cent at Kasetsart University in Thailand, 7 per cent at the University of Mandalay.

An analysis of work-loads indicates that 34 per cent of full working time is spent by university teachers in the United Kingdom on research—the total time thus spent, including private study and administration attributable to research is calculated as 48 per cent of all working time: the significance attached to research at all levels of university teaching is thus made clear. Comparisons within the region are quantitatively difficult to make owing to the large number of part-time staff. It is, nevertheless, quite evident that whereas in the United

Kingdom the teaching load is fairly evenly spread throughout the academic grades, in South-East Asia the load is lessened with seniority, so that the younger faculty members who might be expected to develop their own research are in fact the most heavily occupied with teaching duties. Indeed, it is difficult to avoid the conclusions that in the region as a whole research is considered as a luxury rather than a necessity, a view which is reflected in the paucity of the funds made available.

It is suggested that within the region the importance of research should lie not so much in basic inquiries on which technological development is subsequently based as in its value as an element in the teaching process and as a contribution to the solution of some of the wide problems confronting the developing countries. The point is illustrated by an account of the methodology of a research project on the fragmentation of rubber estates carried out by the Department of Economics of the University of Malaya, involving students, the staff of the department, other university staff, and the professor responsible for the report, and involving innumerable contacts between the research team, technical bodies in the public and private sectors and some 1,700 members of the general public. No better method of projecting the image of the university as well as giving reality to the training of its students and support to the interests of its major industry could surely be devised.

This section of the report concludes with the view that at the present stage of development the tendency to develop or establish specialized research institutes having little or no contact with the university is a policy to be deprecated. No policy could be better calculated to increase the difficulties attending the recruitment and retention of first-rate scientists.

4. THE ORGANIZATION OF TEACHING

The lecture and cyclostyled lecture notes remain the basis of university teaching in the region, and though Western student audiences have recently been highly critical both of the lecture as a teaching method and of the techniques of lecturers, the Asian student appears to be a better and more passive listener whose sense of propriety would be offended at the thought of cross-examining a lecturer at the conclusion of his performance. Notwithstanding this traditional approach to the teaching process, however, it is doubtful whether the passivity of either the method or the student is suitable to the needs and demands of present education, and it is desirable that a wide variety of approaches—tutorials and seminars, directed reading, laboratory and field work, together with an equally wide variety of illustrative techniques within each approach—should be considered in planning future courses.

The tutorial, a teaching group—as usually defined not exceeding four persons including the tutor—concentrating basically on the problems of the student, and the seminar, a larger group concentrating mainly on the subject
under discussion, are methods bringing students and staff into a closer and more active relationship than is possible under the lecture system. Both are admittedly expensive in their consumption of staff time, a grave objection in the present staffing situation in the universities of the region, but a considerable amount of time can be saved by the elimination of lectures whose substance is already available in print. The method need not at first extend throughout the course and it might be most appropriate within the first year when the freedom of university life is novel and puzzling to the freshman recently released from the constriction of cramming courses to secure admission to the university and before he is mature enough to profit from a course of directed reading. There is little doubt that a reappraisal of teaching methods would make a valuable contribution to the solution of two problems current in the universities of the region—it would provide a new series of approaches to problems of student indiscipline, often provoked by laissez-faire methods of teaching and almost non-existent pupil-teacher relationships, and contribute by its increased efficiency and its general principle of making opportunities for student participation, to the increased productivity of the university.

5. TEACHING AIDS

Despite the attractions of closed-circuit television and language laboratories, the major teaching aid in any university remains its library, the basis of all teaching and study and the essential prerequisite of research.

For comparative purposes, an assessment of library needs based on a student and staff body of 3,000 is included in the report, together with details of the book-stock, annual additions and over-all and per capita expenditure of a number of university libraries in the United States and the United Kingdom.

It is then suggested that the university library should not be occupied with the demands of students for standard textbooks. These should be provided from other sources—scholarship funds, a loan collection or a secondhand university book store—incidentally a useful co-operative venture for students.

It is further suggested that where departmental libraries are also established, which will certainly be the case with the medical and legal faculties, the staffing and administration of such collections should be the responsibility of the university librarian. This form of centralization will prevent mal-administration by amateur librarians, contribute to the essential tool of a union catalogue, promote the interdisciplinary concept and enable the developing use of electronic systems for the storage and retrieval of data to be concentrated in one area and under one group of personnel.

Education cannot be accused of neglecting the application of modern technology to the teaching process and the metropolitan secondary school almost anywhere in the world is likely to be equipped with some, if not all, of the new standard audio-visual aids—language laboratories, projection rooms, public
address systems, lessons by radio and early forms of programmed instruction: even closed-circuit television is, after a period of experiment in the teacher training colleges of technologically developed countries, on its way into their classrooms.

There is no evidence that recourse to mechanical aids has been spectacularly rapid within the universities of the region. Neither can it be confidently asserted that such aids will undoubtedly make a considerable contribution to solving staffing problems. The potential of many forms of aid, particularly programmed instruction and closed-circuit television, remains to be evaluated and related to their most efficient teaching contexts. But it is clear that a wide range of experiments in these media should be undertaken and evaluated by the universities without further delay, and that the results of the experiments should be widely communicated.

6. The Training of University Teachers

It appears to be a principle of the teaching profession that the lower the level and the lesser the knowledge of the teacher, the more need there is for training, though there is still a major confusion between training for content and training for method. At the first and second levels of education, training is recognized by appropriate salary scales and it is a prerequisite of promotion. There is, on the other hand, no recognized form of training for the university teacher.

The position can to a certain extent be controlled when graduate students are acting as demonstrators or assistants under the supervision of a senior staff member. A more conscious appreciation of the potentials of this relationship, since it is at this stage that future university staff are in the process of being selected, would certainly repay attention provided that the senior staff member himself has a clear understanding of the demands and pitfalls of university teaching and a knowledge of the means whereby the one can be developed and the other avoided.

Were a further specific period of training to be prescribed as a condition of employment as a university teacher, it could scarcely be regarded as one of those incentives to teaching which have been so earnestly recommended earlier in this section. The modest conclusion of the report is that internal research and discussion within the university, possibly but not necessarily, sponsored by the Department of Education, which might result in voluntary courses, experimental studies or self-analysis, is as far as it is possible to go in the present circumstances of staff recruitment. A proposal for extending such activity on a regional basis is outlined in Section IX of this summary.
VIII. The structure of higher education

All countries in the region possess State institutions of higher education which, despite varying degrees of autonomy in the case of universities (a very high degree in the case of the universities of Malaya and Singapore), seek objectives and standards determined by or in accordance with the States's educational policy. They are primarily financed by the State and are subject to at least indirect control in matters of policy. With the notable exceptions of the State universities in the Philippines and Malaysia, the Staffs of these institutions are civil servants; the same is true of the other third-level institutions.

1. PRIVATE INSTITUTIONS

In four of the eight countries there are also private institutions of higher education licensed by the state. They may be denominational as the Catholic University of Dalat in Viet-Nam, the Protestant Silliman University in the Philippines and several Islamic universities in Indonesia. (There is also the special case of the Chinese-language institutions in Singapore—Nanyang University and Ngee Aun Liberal Arts College.) They may be assisted by Government, as in the case of the registered private universities in Indonesia. They may be commercial ventures, as in the case of many private universities in the Philippines. In the Philippines and Indonesia private institutions account for over 85 per cent and 20 per cent respectively of the total enrolment in higher education. Thus it is in fact possible to meet much of the consumer demand for higher education through private initiative, though difficulties in ensuring the attainment of the necessary standards in achievement, policy and planning cannot be discounted, as has for example, also been shown in the United States and in Japan.
2. TYPES OF INSTITUTION

The following categories of institutions may be found within the region:
(a) Universities in the sense of multi-faculty institutions combining research with teaching—of which at least six of the eight countries offer examples.
(b) Technological institutes covering a wide range of subjects, including some of the pure sciences, and with possibilities of developing some coverage of arts and/or social sciences. The Institute of Technology at Bandung and the developing Thai universities at Chiangmai and Khonkaen seem at present to be the principal, if not the only, examples.
(c) Engineering, agricultural, medical, and other professional institutions. These exist in all countries, are well defined in Thailand and are gaining a new importance in Burma. The Singapore Polytechnic and the Malayan Technical College fall into the same category.
(d) The training college for teachers intended for post-primary schools which at the higher level is to be found in all countries except Laos, the Philippines and Viet-Nam.
(e) The private college in the Philippines offering two-year Associateship (Diploma) courses, generally in the liberal arts or commercial subjects.
(f) Specialized training facilities of government departments which again are common to all countries.
(g) The independent research institute.

3. THE OPTIMUM SIZE

There is a built-in growth factor in universities which fosters expansion, but whether the development of higher educational facilities should aim basically at the enlargement of existing institutions or the establishment of new ones is a question on which there are few international norms to offer guidance.

The case for developing existing institutions relies heavily on the initial costs of establishment and the desirability of making the fullest possible use of the existing range of staff, buildings, equipment and ancillary services. On these grounds the Robbins Committee, for example, strongly advocated developing multi-faculty universities to accommodate between 8,000 and 10,000 students. It appears certain that unit costs decrease proportionately up to an optimum point estimated variously at from 3,000-5,000 students (at a recent conference on higher education in Africa) to 25,000 students (in American experience). In this situation local cost factors are clearly of great significance.

1. That is, those institutions which include the training of teachers intended for post-primary education.
On the other hand, regional or national sentiment combined with practical needs, such as the provision of agricultural institutes and extension services in rural areas and institutes of technology in industrial centres has led in the Philippines to the establishment of a second State university at Dansalan in Mindanao, followed by legislation to set up two more full-fledged universities, and in Indonesia seventeen more provincial universities have been created between 1958 and 1964. Apart from the question of expense and the possible duplication of facilities, this type of development involves the difficulty of finding staff willing to work in isolated areas without an infra-structure of the amenities to which they are accustomed: schools for their children, adequate housing, medical services and the stimulus of international visitors and contacts.

An allied question is whether or not separate institutions—teacher training colleges and agricultural and technical institutes, for example—should not, when questions of development arise, be gathered within the university complex. Again both internationally and regionally opposite tendencies are to be found. But two considerations are perhaps particular to the region: (a) if quicker results can be obtained by developing existing institutions, a long-term policy can scarcely, in view of the pressure of present needs, be justified at the moment; (b) if absorption into a university means the loss of valuable contacts with local authorities, industry and commerce, and the secondary schools, the price paid may be too high.

4. THE ORGANIZATION OF TECHNICAL EDUCATION

Yet a further problem of this nature is posed by the rapid expansion of facilities for technical and technological education. The trend hitherto has understandably been for technical institutes to be created on the bases of secondary technical schools or government training institutions until they have been able to offer professional training as well as the lower levels of vocational training. Where this has been accompanied by an adequate provision of additional facilities the development of technical standards has been gratifying, but the danger of this type of advance is that through a process of inbreeding the purely professional training content of courses tends to predominate and little or no provision is made for education either in the basic sciences or the humanistic-social context of technology.

An element of confusion in the organization of technical education has been the large number of interested parties actively concerned, ranging from the Ministry of Labour and its problems of employment to Ministries of Aviation with their specialist technological training requirements, from the small manufacturer looking for cheap semi-skilled labour to public utilities with apprenticeship and other in-service training schemes. There is only one factor common to the policies of all the parties: an emphasis on the acquisition of skills, not on the development of personality.
The following model of a possible organization of a system of technical education is put forward, not as an answer to the problems of any particular country, but as offering a basis from which developments or adjustments in existing systems might be made. This system envisages technical education as organized in two tiers. (a) The first covers all forms of vocational and technical education up to the end of what is generally regarded as the second cycle of secondary education, i.e., the terminal point before admission to a course for university entrance. Over-all responsibility at this level, it is suggested, should be vested in the Ministry of Education. (b) The second tier would cover all forms of post-secondary training and would become the responsibility, not of one among a number of competing ministries, but of the governing councils of appropriate technological institutes, colleges or universities.

The key element in the two tiers is that in each tier there should be a number of central nuclei surrounded by groups of satellite institutions. In the first tier, the nucleus would be the appropriate secondary school which would exercise general supervision on surrounding trade or vocational schools and junior apprenticeship schemes. Deputy principals from the secondary schools would be charged with the responsibilities of safeguarding teaching standards and methods and, ensuring a basis of general education, pupil welfare and counseling. The aim would be to integrate the special schools into a general educational complex, both to share its full life and to foster the two-way transfer of pupils when this appears to be desirable. In the second tier, the technical institutes, colleges or polytechnics would assume responsibility for similar satellite groups such as specialized technical institutions, 'sandwich' courses (as in Singapore) or types of training needing 'on-the-job' instruction, such as locomotive engineering. The controlling body would be the governing council of the senior institution with its wide industrial representation. It would also be represented on a national consultative body for over-all planning purposes.

This enlarged role of senior technical institutions involves further consideration of the most desirable form of growth of technological education at the third level. There are two clear possibilities: (a) to concentrate the development of technological education and research so far as is possible within the universities; (b) to develop existing technical institutions into technological universities.

The common factor must be to ensure that the pattern of technological education should include a scientific training, not restricted to the basic elements of practical disciplines but sound enough to enable students to recognize and work out new implications of the principles they have come to recognize.

The advantage of alternative (a) is of course that natural and social science faculties and an engineering faculty are already in existence in a number of universities, and further development in technological fields or even the integration of nearby developing institutes into the universities would have some clear benefits in staff, buildings and equipment over building non-technical faculties into technical institutions.
In the case of (b), the division of labour between multi-faculty universities and technological universities may make it easier for both institutions to concentrate on their own forms of research and to offer a wider field of training than might be available in a more concentrated organization.

The Singapore Polytechnic and the Malayan Technical Colleges have advanced far along the road to full university status and the existence of such specialized institutions would undoubtedly do much to facilitate the organization of the second tier of technical education outlined above.

Where this second alternative exists or is being developed, however, a close connexion with the university as well as with industry must be maintained for the sake of the university just as much as for the technical institution, and a joint committee from both bodies might well be established to ensure that the planning of first-year courses in both institutions reflects something of the contribution that the other is able to give to the development of the full personality.

5. SPECIALIZED INSTITUTIONS

The problem of integration or independent development arises again in the case of the agricultural college or institute. A strong case can be made out for at least affiliation with the university, to the end that students, as well as becoming good farmers and technicians may also become good citizens and active scientists. Both approaches may be found within the region—the essential need is for the co-ordination of the extension activities of the agricultural colleges and with research into rural problems by the universities on the one hand, and for a sound scientific training to be made available for the young agriculturist on the other.

The case of specialized research institutes has already been discussed and it is only necessary to stress here three points in relation to their development, since teaching and training are not normally their primary objectives: (a) it is essential that the terms of service are not designed to draw off from the universities many of their best research workers; (b) every effort needs to be made to co-ordinate the research work of the universities with that of independent institutions; (c) where institutions possess unique facilities, co-operative arrangements should make it possible for relevant university research to be carried out at the institute.

A general conclusion seems to be that on the whole it is easier to maintain quality with an expansion of existing structures than by a multiplication of independent institutions. But whatever the policy, the institutional system must fulfil two basic functions: (a) it must ensure that the widest possible opportunities are offered to talent throughout the country; (b) it must make a more balanced use of this talent so that all parts of the country benefit from subsequent development.
6. AN INSTITUTIONAL PATTERN FOR THE FUTURE

A very broad institutional pattern based upon trends within the region is here outlined. The system is based upon the premise that it is sound practice to develop a general primary and secondary education over ten years before commencing specialized training. Consequently, institutional training given before ten years of general education is not included in the patterns since it is envisaged as leading directly, at least for a period, to employment rather than to a continuing process of education.

Thus the model is based upon the final four years of a period of ten years general education, including in the last two years a number of alternative courses covering a wide range of activities from the scientific background of agriculture to the beginnings of specialization in language study or from manipulative work with a wide variety of tools and media to the development of mathematical skills. A major administrative requirement in this secondary course, seen as basic to all forms of uninterrupted and continuing education, would be a well-planned system of student guidance.

The pattern after the first four secondary years would be based upon the following four components which offer both alternative and consecutive courses:

(a) Post-secondary technical training

Professional, technical and vocational post-secondary training at Category-II level, including teacher training for primary education, and combining instruction with on-the-job training. Such courses would be centred on institutions which might or might not also house a Category-I training institution whether technological, as in cities, or possibly agricultural in the countryside.

(b) Pre-university course

University or technological college preparatory classes as an alternative to (a), based on a careful selection procedure and organized probably, but not necessarily, in the original secondary school as sixth form or baccalaureate classes. Such classes might also be found in the diploma institutions mentioned under (c).

(c) Multi-purpose rural centres

The development of multi-purpose institutions in centres far from the few metropolitan areas combining a wide variety of functions of which a few possible combinations are sketched: (i) an adult education centre, the headquarters of an extension programme and an agricultural college offering both diploma courses and a degree course; (ii) a training college for primary school teachers.
combined with a research institute for social scientists, a regional headquarters for further education or a literacy campaign and a programme for training youth leaders; (iii) a small liberal arts college offering a diploma course in the arts and drama, a social science diploma and a degree in rural sociology, a degree course in the national and other languages and a B.Ed. course for secondary school teachers.

These institutions, however varied their functions, would, it is expected, be affiliated to one or other of the major universities of the nation. The obvious weaknesses to overcome are the staffing problem, residential costs, a considerable initial capital cost and the output in relation to the demand for trained workers in the countryside. Among the advantages are the dissemination of institutions of higher education throughout the countryside, the creation of what might be termed cultural islands which will offer refreshment to all professional staff living perhaps in some intellectual isolation, and in general the development of a powerful agency for raising standards of living in the countryside.

(d) **Multi-faculty universities and technological universities**

At the apex of the system would be the multi-faculty or technological universities in the metropolitan regions. These major universities and institutes would be expected to develop at higher levels particular areas of specialization whether in nuclear physics or marine biology, Islamic law or linguistics to avoid duplication in the use of limited resources without impoverishing the total concept of 'universitas'.

The model is based upon principles of vertical and horizontal mobility and inter-communication within the system: it is offered as a point of departure for planners seeking to integrate the development of the second and third levels of education and to make these developments as widely available to the whole country as is possible.
IX. Regional co-operation and higher education

While the report frequently notes the desirability of regional co-operation in meeting a variety of national needs, politically the outlook remains bleak. However, as the Conference of Asian Economic Planners at a session held at Bangkok in October, 1964, agreed, 'planners should look beyond the temporary political difficulties that stood in the way of co-operation, and prepare comprehensive studies of possible forms of co-operation on a long-term basis. Faith in the imperativeness of such co-operation was as much necessary for success in that endeavour as detailed and painstaking work.'

1. REGIONAL CO-OPERATION—EXAMPLES IN VARIOUS FIELDS

There are a number of concrete projects and technical assistance and training schemes that amply prove the possibility as well as the efficacy of co-operation; the Mekong Project, the Asian Highway, the regional surveys and seminars of Unesco, FAO, WHO, and ILO, the ECAFE Asian Development and Planning Institute, the Colombo Plan, and the co-operation between institutions of higher education being promoted by the Association of South-East Asian Institutions of Higher Learning (ASAIHL). It is neither possible nor desirable to try to cast all forms of regional co-operation in any simple and uniform mould. It is impracticable to start from a geographical concept of regionalism, and proceed to fit all co-operation to it; the varying objectives, resources, and practical requirements for each sphere of international action must also determine the nature and number of co-operating countries.
2. REGIONAL CO-OPERATION IN EDUCATION

In the field of education, apart from the Unesco Meetings of Asian Ministers of Education, with their Asia-wide programme of development and implications of co-ordinated action at all levels of education, there are, among others, the following types of project which involve a number of South-East Asian countries:

(a) The second course (from November 1964 to February 1965) of the Asian Institute of Educational Planning and Administration at New Delhi (established in 1962 by the Government of India with assistance from Unesco) received participants from eleven countries, including Cambodia, Indonesia, Laos, Malaysia, Philippines, Thailand and Viet-Nam.

(b) The Asian Institute for the Training of Teacher Educators at Quezon City (established in 1962 by the Government of the Philippines with assistance from Unesco), at its third training course received participants from nine countries, including Indonesia, Malaysia, Philippines and Thailand. By the beginning of February 1965, thirteen Member States had nominated 'Associated Institutions' in their countries.

(c) Under its Cultural Relations Programme, SEATO has brought about consultation between heads of universities from Laos, the Philippines, Thailand and Viet-Nam, and has initiated steps to negotiate university equivalences between Pakistan, the Philippines and Thailand. In accordance with its policy of supporting exchanges of students, teachers and information, and raising standards of scholarship in South-East Asian universities, it helped in 1959 to establish the SEATO Graduate School of Engineering in Bangkok. To promote the study of South-East Asian languages in universities of the area, it has undertaken to support investigations concerning possibilities of setting up either an institute for this purpose at a suitable place, or individual centres in each of the countries of the area.

(d) The only regional attempt to set up machinery for the exchange of information and experience within a major discipline, the Economics Liaison Centre, established in Singapore in 1956, came to an end after seven years of operation in December 1964, due to lack of sufficient financial support. However, while it lasted, its work was appreciated, and replies to a survey showed that, in principle, there was great interest in co-operation between economics departments and the exchange of mutual information on their current research activities. In practice, however, it appeared that none of the departments possessed the funds with which to support the continuation of such a centre.

(e) The Association of South-East Asian Institutions of Higher Learning was established in 1956 and at its Fifth General Conference at Bangkok in December 1964, sixteen universities were represented by forty-three participants from the following territories: Hong Kong, Indonesia, Malaysia, Philippines, Thailand, Viet-Nam. Seminars held in recent years under its
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Auspices include: University organization and administration; Customary law in South-East Asia; Philosophy in South-East Asia; Mathematical education; Library science; South-East Asian languages. Plans for 1965/66 include seminars on: the Role of universities in social and economic development in South-East Asia; the Role of universities in human resource development; Language problems in South-East Asian universities; the Role of universities in South-East Asian societies; and follow-up seminars on mathematics, sociological jurisprudence, and the teaching of philosophy. However, the working papers for the seminars and their published reports contain descriptive material, rather than analyses of regional problems. The Association does not yet appear to have enlisted sufficient active support from colleagues throughout the region.

3. PRACTICAL SUGGESTIONS FOR CO-OPERATION—1961

Among the more specific recommendations of a Regional Meeting on the Teaching of Basic Sciences in Universities of South-East Asia, held at Manila in November, 1961, were a number which indicate practical ways and means of co-operation between institutions of higher education in the region:

(a) The dissemination of information including data on the teaching of sciences, e.g., curriculum content and course organization, methodology of teaching, status and development of science education, textbooks for science teaching in Asia, sources of materials and books for science teaching.

(b) The encouragement and facilitation of (i) exchange between member states and their scientific institutions of specimens and examples of local products and natural resources for the purposes of teaching or research, and (ii) the local production and exchange of materials—e.g., chemicals which are rare, difficult to prepare or costly to procure—and organization of regional schemes for storage and dispatch.

(c) The sponsorship and organization of courses in leading universities of the region, upon a regular and integrated plan, providing opportunities for training and study in summer schools (especially technician courses and academic courses of a refresher type for secondary school science teachers and university science staff).

(d) Collaboration in setting up regional or national scientific centres for research and advanced training, including provision for post-graduate students as well as for scientific workers and their further training, and to provide essential scientific services.

4. SPECIALIZED REGIONAL CENTRES

The case for fostering regional collaboration in higher education is surely irrefutable—whether stated in its broadest context as one means, through the minds of men, of reducing political tensions, or as a professional approach to
problems involving the interchange of data, information, ideas, experience, facilities and people, and the possible concentration of resources where they can be most effectively deployed in the common interest. University departments of outstanding strength should be encouraged to develop as regional post-graduate centres. Such concentrated forms of research, study and training, apart from reducing costs for individual countries and maximizing the effectiveness of limited resources for the region as a whole, should also increase the prestige of universities in the region and attract scholars from abroad. Apart from political problems, those of language, standards, equivalences, and recognition of qualifications would arise, but these are not serious obstacles if the desirability of such co-operation is adequately recognized.

5. A PROPOSED SOUTH-EAST ASIAN INSTITUTE FOR HIGHER EDUCATION AND DEVELOPMENT

It yet remains to devise a regional machinery to promote effective collaboration which will yield steady and cumulative results rather than generate temporary and limited enthusiasms which are too often the only and intangible result of conferences and seminars.

To this end, and also as an effective instrument for pursuing and assisting the solution of numerous problems, possibilities and alternatives raised in general terms by this study, it is recommended that there be set up a South-East Asian Institute of Higher Education and Development. The institute is seen as being in special relationship with one of the universities of the region, but with its own regional council, and a staff drawn from all countries within the region. Funds to establish and support such a project would have to be sought from a variety of sources—governmental and inter-governmental contributions, bilateral and international sources, and the private foundations.

The functions of such an institute would be two-fold, and mutually supporting: (a) to promote, either through its own activities, or by sponsored national or international projects, the study of the contribution which can be made by higher education to economic and social development; and (b) to foster the co-operation of all types of third-level institutions within the region—university, technological or technical institute, training college and specialized college and institute—in order that the potential of their contribution to development may be fully realized.

6. PATTERN OF THE INSTITUTE

A possible pattern of the services which might be offered by such an institute is here summarized:
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(a) Research and training

A department of the institute designed to undertake inquiries of a regional and comparative significance not requiring large-scale organization, and to formulate the methodology of major projects requiring wide participation. Operation would be so designed as to provide a training course in research techniques, as applied to higher education and development, for research fellows from the region. The department would, of course, rely heavily upon the services provided by other departments of the institute.

(b) Clearing house

The organization and co-ordination of all documentation; the publication of lists of study and research opportunities and of current research projects; the abstracting of major unpublished theses; the collection and circulation of information on activities in higher education and the maintenance of liaison with universities and university groups outside the region.

(c) Promotional services

The organization of external activities in the form of studies, seminars or workshops, the initiation of co-ordinated research projects or inquiries by member institutions, and assistance with the establishment of and subsequent services to groups and associations devoted to subject studies.

(d) Teaching and exchange service

This would have two distinct but related functions: first, initiating inquiries into methods and techniques of instruction at the third level, and building up a collection of information both on new methods and on evaluations of these; second, facilitating the recruitment and exchange of teachers and students within the region and also with neighbouring and more distant countries.

(e) Statistical service

With the collaboration of institutional or national members, the basic task would be to devise the nature and form of the statistical information on higher education to be collected, analysed and published, and the machinery to be established for this purpose. The service would itself collate and disseminate statistical data on a regional basis directly and as required by other services of the centre.
Certain dominant themes will have been detected running through the report. Firstly, emphasis has throughout been placed upon quality of education, and the belief reiterated that further quantitative advances should be preceded by the output of well-trained staff. It has been everywhere stressed that the personal qualities and training of the teacher are the first requisites in qualitative advance.

This leads to the second theme, the necessity for developing an intimate and happy relationship between secondary education and the universities and technical colleges; a relationship which is as much concerned with advanced secondary pupils who do not propose to enter the universities and colleges as those who do. It is accordingly suggested as one of the means to this end that the universities should assume the over-all responsibility for the professional aspects of teacher training for all levels of education.

In the third place, the report has everywhere stressed the importance of a general education in the secondary schools and a liberal element in all branches of higher education. The most significant application of this principle should be found in the educational background of students on entry to universities and colleges: university entrance requirements should not restrict the field of higher secondary studies, and the first year of higher studies should be framed with a full knowledge of the approach and content of the higher secondary course. The importance of a general education is of particular significance to the framing of courses in technology.

Within the universities the importance of post-graduate studies and the need for the development of inter-disciplinary research based upon local opportunities and needs has been referred to on many occasions—research as a contribution to national development, as a means of training future university staff, as essential to developing the full competence of the university and, within inescapable limits, as making the best possible contribution to the general advancement of knowledge and mutual understanding.
Finally, and it is perhaps the clearest single note of the report, emphasis has continually been placed upon the need for the university to extend its thinking, its teaching and its influence beyond its own campus, whether in associating its competence in almost every field with the planning activities of the government, in developing its relations with the general public, or in bringing its resources to bear upon the problems of the agricultural sector. In this context a concept of satellite institutions has been developed, which may offer a variety of solutions to meet particular situations.
The director's draft report of the study was considered at the final meeting of its International Commission of Experts which took place at the University of Malaya, Kuala Lumpur, from 2 to 15 April 1965. A number of conclusions emerged from the discussion and the following statement of them has been prepared on behalf of the commission by its chairman, Sir John Lockwood.
1. Universities and other institutions of higher education in South-East Asia have a particular duty to make the greatest possible contribution to the development and progress of their countries.

2. They must therefore plan their courses of teaching and their research with a special responsiveness to the needs of their peoples.

3. National development needs should not be construed in purely economic terms.

4. Social and cultural aspects of development must attract vigorous attention and appropriate provision.

5. A deliberate concentration of effort on meeting national needs should not involve any diminution of the generally accepted autonomy of universities.

6. In pursuing the satisfaction of national needs, the universities should work in close co-operation with official planning agencies.

7. Universities should focus their research on the major problems of the region, and governments should, as far as possible, utilize the intellectual resources of the universities for essential research projects in the fields of planning and development.

8. It is important that a close working relationship should exist between universities and independent research institutions or organizations, whether governmental or private, both for the initiation and conduct of research essential to national development and also to make optimum use of the limited supply of skilled research workers.

9. Universities should collaborate with governments in the investigation and establishment of manpower targets for country-wide requirements.

10. Such collaboration is to the advantage of governments in enabling them to prepare properly evaluated policies and beneficial to universities in their construction of academic programmes to assist the effective realization of those policies.
11. In formulating their measures to assist in the meeting of national manpower targets, universities should be alive to the traditional, world-wide responsibility of universities to aim at the highest level of academic excellence.

12. These measures should not exclude provision for the training of middle-ranking persons essential to the development process, e.g., accountants, nurses, radiographers, agricultural field staff, surveyors and technicians in the various branches of engineering.

13. Since higher education relies for its success and growth upon the quality of school education, universities and, where necessary, other institutions of higher education should seek to build up a close liaison with the schools.

14. This association will help to ensure a more co-ordinated approach to solutions of the problems of gearing education at all levels more substantially to recognized and known national needs, and would offer the flexibility suitable to progressive adaptation of educational programmes to changing situations.

15. While in most countries of the region quantitative expansion in secondary and higher education is recognized as an urgent necessity, qualitative improvement is especially important, if the vicious circle of poor education, shortage of good teachers, inadequately prepared university students, and a high rate of wastage is to be broken.

16. As national development very largely depends on the character, quality and skills of the human resources of the country, and these in turn depend on the ability and competence of the nation’s corps of teachers, special emphasis must be placed in governmental and academic planning on the improvement of the education of teachers at all levels.

17. Universities should give high priority to teacher education and, in cooperation with other institutions of higher education, assume intellectual leadership in promoting a great increase in the output of teachers of good quality.

18. They should be ready to provide opportunities for teachers already in post to upgrade their qualifications by the introduction of special in-service training courses.

19. If adequate numbers of the best qualified students are to be attracted to employment in the teaching profession in schools and institutions of higher education, it is essential that salary scales and career opportunities should be comparable to those offered by government for equivalent talent and qualifications.

20. Developments in technical and technological education should, as far as possible, be designed to produce specialists in accordance with planned manpower requirements, and (cf. 12) be organized in such a way as to ensure that systems of training are sufficiently flexible to be capable of variation as industrial needs demand.
21. In view of the rapid changes at present taking place and to be expected in the technical and technological field, it is of prime importance that institutions of higher education should devise courses for the retraining of people employed in this field so as to bring them up to date in the latest techniques and to counter the dangers of obsolescence.

22. Since agriculture is the biggest factor in the economy of the countries of the region, universities should train an increasing number of agriculturalists and the scientists needed to support them in advisory services as well as in teaching and research.

23. In order to enrich the life of the rural community culturally and socially and to provide a better basis for mutual understanding between rural and urban populations, universities should undertake interdisciplinary research in such fields as sociology, agricultural traditions, languages and customs.

24. Universities should be encouraged to establish, with government assistance where necessary, affiliated centres in the rural areas to offer facilities for continuing education, research, and cultural development.

25. Universities could perform a useful service in the evaluation of community development programmes and in training community development leaders.

26. Since in all developing countries there is a reservoir of human talent which has hitherto remained untapped owing to the inadequacy of the educational system in the past or for other reasons, the universities should energetically promote programmes directed towards the utilization of this talent, in the interests of the countries and of the individuals themselves.

27. These programmes, besides the conventional part-time degree courses, which could well be increased, broadened and improved, the orthodox extra-mural and extension schemes, should include the establishment of university-based correspondence courses aimed at a wide variety of qualifications offered by the universities.

28. If the many teaching objectives of the universities are to be achieved, the almost certain expansion of existing institutions and the creation of new institutions in every country of the region offer an exceptional opportunity for innovation in teaching methods along the most modern lines.

29. Research and experiments should be initiated without delay in universities and in the institute mentioned in 45 ff. to investigate and evaluate methods of teaching appropriate to the region based on the use of such techniques as programmed instruction, closed-circuit television, the use of tape-recordings, assistance in instruction by senior and graduate students. It would be useful also to examine the optimum sizes of teaching groups in various subjects and teaching situations.

30. The significance of national languages in countries of the region and of their desired use at all stages of education present challenges which the universities must face with imagination.

31. Universities should be encouraged to play an active role in the develop-
32. Since, for some time to come, especially in the fields of science and technology and in many fields of post-graduate study, the printed materials for study will largely be in the languages of international communication, it is essential to institute and develop appropriate programmes of language instruction in one or more of these international languages for intending university students.

33. Recruitment of staff to universities and other institutions of higher education, apart from the incentives mentioned in 17, will be assisted by the improvement of facilities for research, such as libraries, special scientific equipment, and the provision of good laboratory technicians.

34. Since universities will wish to increase the number of local staff appointments, they should develop in-service programmes for the purpose of helping the ablest young members of their staff who are likely to be retained and promoted, to become more effective teachers and research workers.

35. In addition to these programmes, the value of post-graduate experience to be gained by study at other universities in or outside the region should be stressed.

36. Young men and women who show promise and the capacity for post-secondary education should, where family circumstances require, receive financial aid to enable them to continue their studies in the latter years of secondary school and during the period of higher education in universities or other institutions.

37. Where funds within the national economy are limited, special attention in the allocation of such grants should be given to those areas of study which are regarded as necessary for the execution of national development plans.

38. To afford students the fullest assistance and to prevent unnecessary wastage of ability, counselling and guidance services should be available to all students, not only in universities and institutions of higher education, but also in the latter years of secondary education.

39. As students greatly benefit from the provision of residential and study facilities, such provision should be made on as large a scale as possible. Limitations of finance will necessitate that the facilities shall be of as simple a nature as is consonant with hygiene, sound diet, and a quiet atmosphere.

40. Students should not be offered awards for study abroad until they have obtained a first degree in their own country, except in cases where suitable undergraduate courses are not available in their own country.

41. In educational planning in all countries the growing importance of the education of women must be recognized by universities and other institutions of higher education.

42. Students who enjoy the opportunity and privilege of higher education
should feel and show a consciousness of their responsibility to contribute to the welfare and successful development of their national community.

43. In all universities provision should exist for consultation between students and members of the staff in matters of mutual concern.

44. Universities within the region which have special facilities or departments of outstanding strength or promise should be encouraged to develop them as regional postgraduate centres of high international standing.

45. Steps should be taken as soon as possible to establish, in close relationship with one of the universities of the region, an Institute of Higher Education and Development.

46. The institute would work in continuous co-operation with other universities of the region.

47. The institute would be designed to follow up by research and further study the recommendations embodied in the report of this study with regard to higher education in the region as a whole.

48. In order to promote and strengthen regional academic co-operation, members of the staff of the institute and its research students should be drawn, as far as is practicable, from all the countries of the region.

49. Funds to establish and support the institute should be sought from governmental and inter-governmental sources, and from private foundations.