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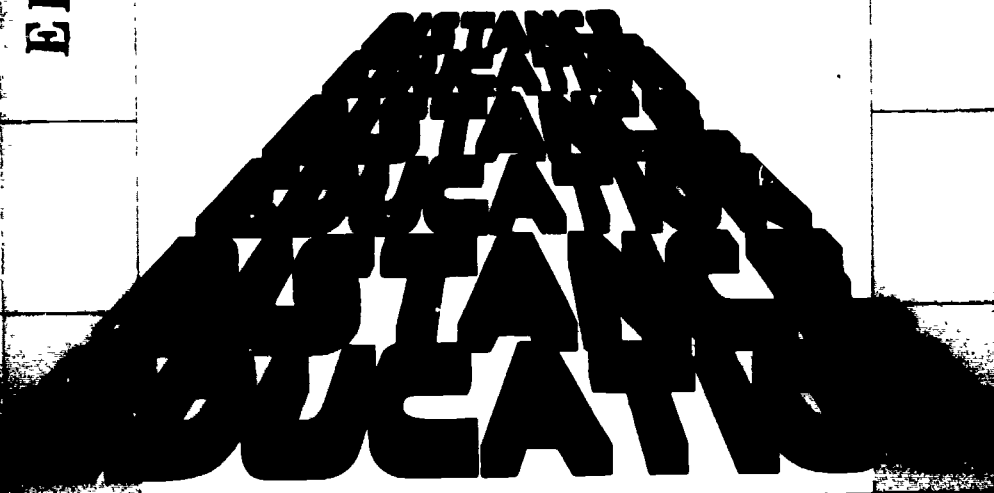
ABSTRACT

This document begins with an introduction followed by a list of recommendations that were an outcome of the conference. The core papers included are "Liberation of the Learner: A Self-Reliance Strategy for Education" (Sharma); "Distance Education in South Asia: Problems and Strategies for Cooperation" (Taylor); "Cooperation in Distance Education in South Asian Countries" (Marchl); and "Teacher Training and Staff Development" (Edington). Country paper summaries are provided for Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. The appendices contain: the opening address (Juneja); keynote address (Qazi); group reports; list of participants; list of observers; and a list of organizing and resource persons. (CML)



ASIAN DEVELOPMENT BANK

Distance Education in South Asia

PROCEEDINGS OF THE ROUND TABLE CONFERENCE ON DISTANCE EDUCATION FOR SOUTH ASIAN COUNTRIES

6-8 November 1989
Islamabad, Pakistan

ASIAN DEVELOPMENT BANK
Manila

Distance Education. Proceedings of the Round Table Conference on Distance Education for South Asian Countries, 6-8 November 1989, Islamabad, Pakistan, organized by the Asian Development Bank, Manila in collaboration with the Allama Iqbal Open Unviersity, Pakistan and in cooperation with UNESCO Regional Office, Bangkok.

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FOREWORD

The Round Table Conference on Distance Education in South Asian Countries is part of a series of Asian Development Bank initiatives in the distance education arena. The Bank's interest in distance education stems from a professional staff paper, written in 1985 by one of our education specialists, Dr. Motilal Sharma. This paper laid the groundwork for a major Regional Seminar on Distance Education, organized by the Bank in collaboration with the Sukhothai Thammathirat Open University in Bangkok where the Seminar was held. This Seminar brought together 40 participants representing 14 developing member countries (Bhutan, Burma, Fiji, Hong Kong, India, Indonesia, Republic of Korea, Malaysia, Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka and Thailand) as well as three other member countries of the Bank (Australia, Japan and New Zealand). The Bangkok Seminar also gathered together a group of internationally renowned distance educators and the seminar papers, now published in two volumes, are widely acclaimed as an important resource in the field. The present Round Table Conference represents another significant link in the chain of events that could lead to a major regional initiative in the development of distance education.

One of the major recommendations of the Bangkok Seminar was to give serious consideration to the establishment of a mechanism for engendering regional cooperation in distance education. The function, form, operational feasibility and financial viability of such a mechanism provide the central foci of the Round Table Conference. To establish a realistic regional context for the discussions, country paper presentations were made by official delegates from Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. I extend my thanks for these highly valued contributions. Similarly, I extend my gratitude to the following resource persons, whose papers provided an appropriate conceptual framework for the discussions: Dr. Motilal Sharma (ADB), Mr. A.B. Edington (British Council), Mr. H. Marchl (UNESCO), Professor Javed Iqbal Syed (AIOU) and not least Dr. James Taylor (University College of Southern Queensland), who acted as both principal consultant and rapporteur for the Conference. With the support and advice of Dr. Sharma, the present volume was also edited by Dr. Taylor.

My special thanks go to Dr. S.M. Qureshi (Secretary of Education, Pakistan) who acted as Conference Chairman; Ms. Shahnaz Wazir Ali (Minister of State for Education, Pakistan), Mr. Javed Jabbar (Minister of State for Information, Pakistan) and Dr. A.Q. Ansari (Chairman, University Grants Commission, Pakistan) who chaired major sessions of the Conference; the staff

of Allama Iqbal Open University and particularly the Vice-Chancellor, Dr. M.H. Qazi, who presented the keynote address; and his colleagues, namely, Dr. S.A. Siddiqui and Mr. U.A. Danish among others for extending their cooperation in making the Conference possible.

Finally, I should also like to thank Dr. Motilal Sharma, who doubled as a resource person and chief organizer of the Conference; Mr. G.H.P.B. van der Linden, who closely supervised preparations for the Conference; and the secretarial staff for their unflagging support before, during and after the event.

S.V.S. JUNEJA
Director
Infrastructure Department

PREFACE

Distance education has grown so much over the past two decades that it is now an integral part of many national education systems throughout the world. It is already well-established in South Asia, especially in India, Pakistan and Sri Lanka. Plans to expand distance education operations in these countries, the projected establishment of open universities in Bangladesh and Nepal, and the development of distance education systems in Bhutan and the Maldives all serve to highlight the growing influence of this mode of instruction in the South Asian community. Many countries throughout the world have turned to distance education in efforts to ameliorate the urgent problem of educating large and growing populations. Through the increased use of distance education methodologies, both developing and developed countries are implementing policy initiatives aimed at providing fair and equitable access to educational opportunities to all sections of the population.

As a result of the escalating need to invest scarce resources in education, policy strategists became increasingly sensitized to the economies of scale inherent in mass distance education. This growing interest in the economics of national distance education systems has recently been extrapolated to analysis of the potential of international cooperation in the field to generate even greater benefits in terms of enhanced cost-effectiveness, increased capacity and consistent quality. Thus international cooperative ventures, such as The Commonwealth of Learning and the European Association of Distance Teaching Universities (EADTU), have recently been initiated in the distance education context. The underlying rationale for such ventures provides part of the stimulus for the present Round Table Conference, which seeks to investigate the potential benefits and possible pitfalls of endeavoring to generate cooperation in distance education in South Asia. Compared to the enormous scale of both The Commonwealth of Learning and the EADTU, the proposed subregional initiative is relatively modest. Nevertheless, it is an ambitious project which demands careful consideration.

In the Bank's view, it was therefore an opportune time to bring together officials of the Bank's developing member countries from South Asia to explore the potential for regional cooperation in distance education. Such a gathering, it was hoped, would be able to define alternative strategies for undertaking a multinational distance education initiative from which all might benefit. The participants included both technical experts and policymakers responsible for distance education activities in both the formal and nonformal sectors at all levels of education. During the Conference, they were able to exchange ideas

through the detailed analysis of a wide range of organizational, operational and financial issues pertinent to regional cooperation in distance education.

Five resource papers and seven country papers were presented at plenary sessions. These papers provided an appropriate framework for the discussion groups which considered the following major themes: definition of the objectives and scope of regional cooperation, modalities and institutionalization; the cost and financing of regional cooperation; and the role of international agencies in regional cooperation. Each of the three groups presented a report to a plenary session. Following the discussions, a number of specific recommendations were endorsed and subsequently adopted at a concluding plenary session. The Bank trusts that these recommendations will act as a catalyst for further action in our efforts to provide better access to educational opportunities, especially to the most deprived sectors of the regional population.

The Education Division of the Bank takes particular pleasure in presenting this Report. It is hoped that the papers and summary of proceedings herein will prove to be a useful resource, not only to those engaged in the planning and management of distance education in the South Asian region but also to our friends and colleagues in the international fraternity of distance educators.

G.H.P.B. VAN DER LINDEN
Manager
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PART I

SUMMARY OF PROCEEDINGS

A. INTRODUCTION

A Round Table Conference on Distance Education was convened at Islamabad from 6 to 8 November 1989 by the Asian Development Bank in collaboration with Allama Iqbal Open University (AIOU), Pakistan, and with the support of UNESCO and the British Council. The major aims of the Conference were to examine various issues associated with distance education activities in South Asia, and to subsequently recommend alternative strategies for achieving cooperation that could ultimately lead to higher efficiency and effectiveness of distance education in the region.

Although the Bank has not previously invested heavily in the development of infrastructure to support distance education initiatives, it has shown an increased interest in the potential of this mode of instruction. A professional staff paper (March 1985) by Dr. Motilal Sharma, Education Specialist, signalled the Bank's interest in the field, which resulted in a major Regional Seminar on Distance Education in Bangkok from 26 November to 3 December 1986. Sponsored by the Bank and organized in collaboration with Sukhothai Thammathirat Open University (STOU), Thailand, and in cooperation with the UNESCO Principal Regional Office for Asia and the Pacific, Bangkok, the Regional Seminar attracted the participation of senior representatives from over 20 countries in the Asia-Pacific region. The documentation of the Seminar Proceedings produced a comprehensive set of printed materials on distance education.

One of the major recommendations emanating from the Bangkok Seminar was aimed at investigating the most appropriate mechanism for engendering regional cooperation in distance education. It was in this context that the notion of regional cooperation was first mooted. The present Round Table Conference signifies the Bank's readiness to pursue the concept of a regional mechanism that could become the hub of distance education activities in South Asia. The establishment and operation of a regional mechanism for promoting collaboration in distance education could make a significant contribution to developing member countries striving to provide fair and equitable access to educational opportunities to rapidly increasing populations. It is equally apparent that the conventional approach to formal education will have great difficulty in coping with such demands, so it is indeed timely for policy strategists to consider distance education as a potential solution. This potential, however, will not be realized to the fullest extent without a significant degree of international cooperation. It was to possible alternative ways of engendering regional cooperation that most of the papers and much of the discussions were directed.

At the commencement of the Round Table Conference messages were read from both the President and the Prime Minister of Pakistan. His Excellency, President Ghulam Ishaq Khan, expressed the view that the system of distance education was of immense significance for developing nations and urged the delegates to formulate practical recommendations. Prime Minister Benazir Ali Bhutto praised the initiative of the AIOU and the Asian Development Bank in working together to provide an opportunity for the sharing of useful experiences. Ms. Bhutto spoke of the value of distance education in improving the quality of human life in South Asia and hoped that the deliberations at the Conference would provide new leads for the preparation of plans for further cooperation in the region. In his opening remarks, Mr. S.V.S. Juneja (Director, Infrastructure Department, ADB) stressed that the seven countries of the South Asian region, with a combined population of more than a billion, needed to examine alternative strategies such as distance education in order to cope with the demand for education and training in a situation of severe resource constraints. The official opening of the Conference was chaired by Dr. S.M. Qureshi (Secretary of Education, Pakistan) and the inaugural address was given by Mr. Al-Haj Sayid Ghulam Mustafa Shah (Minister of Education, Pakistan). The Minister highlighted his Government's plans to expand the distance education system and called upon delegates to work towards achieving effective cooperation in the South Asian region.

The initial session of the Conference incorporated papers by Dr. M. Sharma (ADB), Mr. M.H. Qazi (AIOU) and Mr. A.B. Edington (British Council). Country papers were subsequently presented by official delegates from Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. These papers were interspersed with further papers by Mr. H. Marchi (UNESCO) and Dr. J. Taylor. As a whole, the papers provided a conceptual framework for a meaningful dialogue on the main issue: regional cooperation in distance education.

Dr. Sharma set the scene for the Conference by highlighting the fact that despite major technological advances, the age-old problems of ignorance, poverty, malnutrition and disease continue to plague millions of villagers in developing countries. In his paper "Liberation of the Learner: A Self-Reliance Strategy for Education", Dr. Sharma put forward a lucid argument to the effect that traditional education systems were not sufficiently flexible to cope with the rapidly increasing demands for education and training that typify the needs of developing countries anxious to promote socioeconomic development. His main thesis is that the only viable way of achieving "Education for All" is for the policy strategists to limit investment in conventional education and to grasp the potential of multimedia mass distance education. This strategy, he claimed,

will not only provide a cost-effective means of reaching the most deprived communities in isolated rural areas but will also generate opportunities for self-determination which can effectively liberate the learner. Following a review of problems and issues associated with the development of distance education in South Asia, Dr. Sharma highlighted the potential benefits of regional cooperation in distance education and finally challenged the conference participants to generate precise answers to a series of specific questions pertinent to the structure, operational feasibility and financial viability of a possible Regional Resource Center to expedite the development of multimedia mass distance education in South Asia.

Elaboration of the need for an appropriate mechanism for generating effective and efficient regional cooperation was also a central theme of Dr. Taylor's paper "Distance Education in South Asia: Problems and Strategies for Cooperation". Dr. Taylor presented a review of existing and planned distance education operations in seven South Asian countries to highlight the fact that there existed an apparent overlap in course offerings and, more importantly, a significant commonality in outstanding manpower development requirements that could be potentially serviced by a regional distance education initiative. In examining the economics of mass distance education and in presenting evidence of successful international cooperation in distance education, Dr. Taylor outlined a rationale for the establishment of a regional institution, the South Asian Distance Education Center. Subsequent detailed consideration of possible organizational structures and operational costs of such an institution led Dr. Taylor to make a single major recommendation: to undertake a comprehensive feasibility study to ascertain the extent to which potential participating governments, institutions and international agencies might support the establishment and operation of a mechanism for generating regional cooperation in distance education.

Each of the country papers at some point addressed the central question of regional cooperation. Without exception, there was evidence of appreciation of the potential benefits of, and commitment to, the basic notion of regional cooperation. At the same time several presentations acknowledged the risks and constraints associated with efforts to achieve international cooperation in distance education – a complex exercise by any standard. In particular, Dr. Qazi in his paper "Issues and Problems in Distance Education" outlined a number of current limitations, including variation in academic standards, variable status and limited recognition of certain courses, lack of consistent quality in materials and services, and need for specialized training of staff at various levels which would need to be considered in any overall plan to achieve regional cooperation. The issue of staff training, not only in distance education but in other

occupational fields, was a central issue in Mr. Edington's paper "Distance Education for Teacher Training and Staff Development". In raising such issues as quality control, standards of performance and professional accreditation, Mr. Edington stressed the need to allow distance training projects sufficient time to achieve operational efficiency. He also proposed that perhaps the most appropriate solution to meeting human resource requirements would be a judicious mix of conventional and distance learning approaches.

Mr. Marchl, in his paper "Cooperation in Distance Education in South Asian Countries", emphasized the outcomes of previous discussions of cooperation in distance education and outlined a number of existing collaborative ventures. He reiterated an interesting hierarchy of collaboration in terms of increasing difficulty and risk of failure coupled with modest to major benefits. For example, the sharing of information and exchange of consultants were categorized as low risk/modest benefit activities, whereas collaborative course development and the establishment of credit transfer arrangements were characterized as high risk/major benefit initiatives. Mr. Marchl concluded by proposing that the basic components required for generating effective regional cooperation in distance education were already in place, but that further commitment from governments (possibly under the auspices of the South Asian Association for Regional Cooperation — SAARC) was needed before an effective mechanism could become a sustainable reality. The most appropriate form for such a cooperative mechanism also required more detailed investigation. Finally, the Conference was fortunate to be addressed by Mr. Hedayat Ahmed (Secretary of Education, Bangladesh) at the invitation of Dr. Qureshi. Mr. Ahmed outlined the work of the SAARC Technical Committee on Education, which he chairs, and endorsed the potential of distance education to make a meaningful contribution to the current major concerns of his Committee, including the universalization of primary education, women's education, and technical and vocational education.

To ensure a comprehensive review of the many issues emanating from the papers presented, a strategy was adopted whereby three groups of participants were formed which were required to give particular emphasis to one of three major themes as follows:

(i) objectives and scope of regional cooperation, modalities and institutionalization;
(ii) cost and financing of regional cooperation; and
(iii) role of international agencies in regional cooperation.

Additionally, each group was charged with the responsibility of answering the following questions posed by Dr. Sharma.

(i) What are the objectives and potential benefits of regional cooperation in the field of distance education?

(ii) What should be the form of regional cooperation? (a) Is there a need for a regional institution? or (b) Can cooperation be achieved through informal arrangements?

(iii) How can cooperation be achieved? The means of achieving (ii)(a) and (b) should be examined. If (a) is preferred, possible locations and the willingness of the government concerned need to be explored. If (b) is preferred, the frequency of meetings and the mode of coordination need to be specified.

(iv) Can some established distance education institutions be designated as regional resource centers? Do their facilities need to be upgraded?

(v) What should be the role of international educational institutions (e.g., UNESCO) and financial institutions (e.g., ADB, the World Bank)?

(vi) To what extent can the capital and recurrent costs be identified in the light of the specific objectives of proposed regional cooperation?

(vii) Who will finance the capital and recurrent costs of the proposed program? If it is to be financed under co-financing arrangements, who could be the co-financiers? Will governments be ready to contribute their share to such a program?

Although each of the three groups gave special emphasis to a particular conference theme, the aforementioned questions were considered by all groups and a degree of consensus emerged. There was consistent acknowledgement of the need for regional cooperation in distance education. The potential benefits likely to accrue from such cooperation were identified as follows: cost-effectiveness based on economies of scale and the sharing of both infrastructure costs and course development costs; enhancement of quality through the pooling of expertise; and increased capacity to respond flexibly to meet human resource development needs in a realistic time frame. Similarly, a reasonable degree of consensus was reached on possible areas for cooperation including such activities as: the collection and subsequent dissemination of information on existing distance education operations in the region, the sharing of existing course materials, study tours and associated staff exchange programs, and the

sharing of expertise in staff training. It was felt that it would be possible to initiate these activities in the immediate to short term (before the end of 1990), whereas a number of more ambitious cooperative ventures were considered feasible to implement in the medium to longer term (1991 to 1995 and beyond). The areas identified for longer-term cooperation included: joint design and development of new courses, the enrollment of students in the academic programs of other countries, joint efforts to design and develop evaluation systems and research projects, the transfer of credit between institutions, and joint efforts to investigate new technologies.

The successful implementation of such cooperative ventures would, however, be dependent upon the availability of sufficient financial resources, which one group suggested could be managed by the establishment of a "Common Fund" to which participating governments and international agencies could contribute. The question of detailed financial managements and the associated role of the international community were seen to be dependent on the actual form of the mechanism for regional cooperation. The possible form of the mechanism for cooperation was the subject of much debate in all three groups. A number of suggestions, including the establishment of a network of existing institutions, the use of existing mechanisms such as The Commonwealth of Learning, the development of centers of excellence, and establishment of a new centralized institution were all given due consideration. In the final analysis all three groups determined that there was a need for further investigation of this issue with the result that a proposal was put forth for the establishment of a working group to delineate alternative mechanisms in detail and to subsequently organize an appropriate feasibility study.

Presented by Dr. Shaukat Al Siddiqui (Conference Convenor), the recommendations of the Round Table Conference were officially endorsed during the closing session. This session also incorporated an address by Mr. Ahmad Saeed Awan (Minister of State for Information and Broadcasting) who highlighted the potential role of new communications technologies in distance education systems and the scope for their use in regional cooperation. In his concluding remarks, Mr. G.H.P.B. van der Linden (Manager, Education Division, ADB) reviewed the objectives of the Conference which he believed had been successfully achieved, and reiterated the Bank's continuing interest in supporting any government initiatives emanating directly from the conference proceedings. The Conference Chairman, Dr. S.M. Qureshi (Secretary of Education, Pakistan) in his final comments also expressed the view that the Conference had successfully achieved its objectives and praised the delegates for their consistent application to the task of laying a solid foundation for regional cooperation in distance education. Finally, in his note of thanks, Dr. M.H. Qazi (Vice

Chancellor, AIOU) expressed gratitude to the Asian Development Bank for its support, which had set an exemplary standard for all those who are genuinely interested in achieving meaningful regional cooperation in distance education.

B. RECOMMENDATIONS

The major aims of the Round Table Conference were to examine the issues associated with the development of distance education in Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka and to explore strategies for regional cooperation to enhance the efficiency and effectiveness of distance education in the region. In addition to the presentation of resource and country papers, a major strategy of the Conference was to allow sufficient time for detailed discussions among participants. To this end, three working groups were formed to focus attention on the following major themes:

(i) Objectives and scope of regional cooperation, modalities and institutionalization;
(ii) Cost and financing of regional cooperation; and
(iii) Role of international agencies.

While observing that the pursuit of regional cooperation should take account of the varying stages of development and differences in languages and culture, each of the three working groups regarded the concept of an interdependent network of professional support for the development of distance education in the region as a promising proposition, in terms of a phased development plan entailing a range of activities to be implemented in the short, medium and longer term.

The Round Table Conference, considering

(i) the potential of multimedia mass distance education to ameliorate in a cost-effective manner the problems of providing fair and equitable access to educational opportunities to rapidly expanding populations and to disadvantaged groups, including women and the rural poor; and
(ii) the benefits of regional cooperation in distance education through pooling of resources and minimizing duplication of effort by:
    (a) achieving significant economies of scale through reducing the need for individual countries to create costly specialized infrastructure or to develop expensive course materials;

(b) gaining access to a greater range of knowledge and expertise than exists within an individual country or its institutions which should lead to the consistent high quality of instructional materials and associated student support services; and

(c) developing greater capacity to respond flexibly to meet human resource development needs in a realistic time frame;

recommended to the Governments of South Asian countries that:

(i) *Short Term (by the end of 1990)*

(a) A working group comprising representatives of South Asian countries be established to report on the viability of, and recommend mechanisms for, the development of regional cooperation in distance education through the support of their respective governments and including the use of feasibility studies.

(b) An institution be identified[1] which will collect and subsequently disseminate information on existing distance education operations, including programs, expertise and courseware, currently available or in preparation, future plans, current and future research and development activities, capacities for training.

(c) Specific areas for short-term cooperation should include:

1. sharing of existing instructional materials at nominal cost on mutually agreed terms and conditions;
2. study tours by policymakers, planners, administrators and academic staff; and
3. sharing expertise for staff development in different areas of distance education, such as curriculum design, instructional design, media production techniques, and the management of student support services.

(ii) *Medium Term (two to three years)*

(a) South Asian countries should continue their efforts to strengthen national distance education infrastructures

1 The AIOU offered to undertake this initiative. The Government of Pakistan, through the Secretary of Education, also agreed to support this activity.

through an expansion of the role of multimedia distance education in present and future education and 'raining initiatives.

(b) Based on the recommendations of the working group, the participating countries in South Asia should seek to reach agreement on a mechanism for the development of regional cooperation in distance education through a memorandum of understanding.

(c) Specific areas for cooperation in the medium term should include:

1. joint efforts to design and develop new course materials in agreed areas;
2. enrollment of students in academic programs offered in other countries; and
3. joint efforts to design and develop evaluation systems for distance education operations in such areas as student support services, production and delivery subsystems, performance levels of students, etc.

(iii) *Long Term (five years)*

(a) Participating governments should establish suitable arrangements to implement the plans set out in the memorandum.

(b) Specific areas for cooperation in the long term should include:

1. joint research and development projects aimed at improving the efficiency of distance education systems;
2. transfer of credit between institutions; and
3. joint efforts to investigate the scope for the application of new technologies such as satellite and computer-based educational initiatives.

The Round Table Conference also recommended that the Technical Committee for Education of SAARC includes "Distance Education" as an agenda item for consideration at its next session.

Finally, the Round Table Conference called on the international community to support the implementation of the recommended phased development plan for regional cooperation through the provision of technical and other assistance for activities such as the preparation of proposals and the conduct of feasibility studies.

PART II

CORE PAPERS

Liberation of the Learner:
A Self-Reliance Strategy for Education

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CONTENTS

INTRODUCTION: A VISION FOR THE FUTURE

Without vision, the prophets say, a nation perishes. So it is with our global community. As we span the next 10 years towards the 21st century, decisions about our future must be made now. But these decisions must not begin with the traditional approach of designing and specifying physical targets or material wealth. Our global vision must start with the prioritization of the values that ensure the fullest development of mankind. The primordial beneficiaries of this values decision ought to be the most underprivileged members of underdeveloped societies: the poorest and the most destitute and deprived members of our citizenries – the rural poor, particularly children and women. We have learned from experience that the roots of the values of man are in man himself. Worthwhile human values do not come from external forces but from our evaluation of the fundamental values of mankind, which in enlightened societies are basically founded on precepts of self-reliance and self-esteem, not GNP or highways or supermarkets.

Within the next 55 days we enter the 1990s. Yet it is most painful to realize that the age-old problems of poverty, ignorance, malnutrition and disease continue to plague millions of villagers in developing countries. It is even more disturbing to note that these problems persist even as, within the past three decades, mankind has made some of the most tremendous advances in science, technology, genetics engineering, computing and mass media. Indeed, not only the current generation but the next generation and generations yet unborn will be hard-pressed to understand why almost three-quarters of the world's 4.5 billion people will see the year 2000 A.D. bringing with them these ancient handicaps. With a total population of about 1.3 billion of whom 900 million live below the poverty line, these issues are particularly pertinent to the seven countries of South Asia.

At the heart of this crisis is our inability to confront the issue of ignorance. It is accepted that the worst enemy of self-reliance and self-esteem is ignorance. It is ignorance that breeds poverty, disease, crime and runaway populations. These in turn spawn further ignorance and the vicious cycle goes on unabated for centuries. The most potent weapon for self-reliance therefore is the education of people in general – economic environments, traditions and cultures. Ignorance should be tackled with serious plans for action and not with empty rhetoric. The immediate challenge facing government leaders is to devise practical strategies, compatible with cultural norms that will motivate and prepare the rural communities to take this lead and to implement activities for growth. Furthermore, these strategies need to have appropriate resource support: men, money and media.

At present, up to 70 per cent of the about 1.3 billion people of the South Asian countries live in rural villages. Estimates suggest that up to 60 per cent of rural families in these countries are living below the poverty line. The most impoverished group of all is women. I will confine myself to four major problems of education and literacy confronting the South Asian countries at present: illiteracy, quality, relevance and efficiency. Without detracting from the achievements and usefulness of the schooling system, my overriding concern is how to promote self-reliance as a strategy for education thus liberating the learner to achieve the ultimate goal of education for all. Such liberation will ensure that once equipped with self-learning capabilities learners will become their own best teachers and will not be dependent upon the provision of a school and a teacher to acquire knowledge. Ignorance is the singular great enemy; liberation of the learner is the ultimate mission; and self-reliance is the strategy for education.

For educationists, it is difficult to accept the fact that traditional education systems which accomplished much of the progress and advances we enjoy today have not been able to cope with the vast, complex, ever-changing and constantly-expanding problems of the past 40 years. In the past when populations were small, costs for constructing schools and classrooms were relatively affordable and mass education not considered necessary; and the nation's brightest and best talents were either teaching or administering our schools. Certainly no one can deny the quantum leaps achieved by the traditional schooling system in bringing literacy, science, scholarship and professional disciplines to the nations of the world. Times have changed however. The education budgets available to governments of developing countries around the world have already been stretched beyond limits. Education resources, both human and nonhuman, have been increasingly diverted to other social, economic and political sectors. It appears that education no longer draws the most capable talents. Traditional formal education which is confined to the school, is locked in space, time and tradition. It is unable to draw on the full potential of modern technology since its basic resources – the teachers and school administrators – have become entrenched in the traditional environment of the classroom with its limited range of lectures, blackboard and chalk. When one talks about liberation of the learner, obviously this should also mean the liberation of the teacher and the school from old precepts and traditions. If we are to achieve the goals of "Education for All" by the next decade, we must begin to re-examine conventional ideas as the first step towards achieving genuine progress. Such progress depends on encouraging educators to break down traditional attitudes towards formal education and to encourage more flexibility in the use of space, time and modern technologies.

One of the new strategies of education could entail not having children come to the school, but having the school reach out to the children and enter their very huts. This is now possible because of the pervasive influence of broadcast media, particularly radio, which can reach virtually all corners of the world today. The means of listening to radio broadcasts is now almost universal. Farmers in tea plantations in Sri Lanka, in paddy fields in India and Pakistan, tending to sheep, cows and goats in the countryside, are now able to listen to radio broadcasts day and night at prices within their reach. The hut, the farm field, the fishing canoe, the village gathering place can all constitute the new classroom, the new school, and can create genuine access to educational opportunities. The use of radio for educational purposes allows students, especially girls, to continue their farm and home chores without disruption, while they assimilate lessons from broadcasts. With the additional provision of distance education support services, including print materials, scheduled tutorials and lectures on-site, groupwork sessions, etc., students can develop enthusiasm and commitment for learning with the ultimate goal of becoming self-reliant. Such a scenario need not be only a dream, it could be a reality even today.

It is essential that educational policymakers re-examine their commitment to traditional formal schooling and consider seriously the efficacy and cost-efficiency of multimedia distance education technologies. To take just one example, in order to achieve universal primary education by the year 2000, Nepal estimates that it will require the building of an additional 5,244 schools and will have to train a further 33,748 teachers, in addition to upgrading the 36,876 teachers who are currently untrained. Realistically, what are the chances of achieving this objective through the traditional formal school system? The financial resource implications alone are surely debilitating. With the economies of scale inherent in mass distance education, however, the achievement of universal primary education is within the bounds of reality, provided the policy planners are willing to consider alternative modes of instruction such as distance education, incorporating multimedia technologies.

PROBLEMS AND ISSUES IN EDUCATION

The educational systems of the countries of South Asia share many common problems including rising costs in the face of budgetary constraints, lack of curriculum renewal, lack of textbooks, lack of trained teachers, inadequate level of compatibility between education systems and the world of work, inadequate supply and use of teaching aids leading to low quality and low systemic efficiency of education, and inadequate access to good education for many

groups especially the rural poor and the disadvantaged, including women. Since 70 per cent of the populations of South Asian countries live in rural areas, DMCs are finding it difficult to fulfill the goal of universalization of primary education, and are also not able to meet the increasing social demand for education at all levels for all target groups through the formal structures of education. The illiteracy rate in the region continues to be high and education for all could well remain a distant dream for the region as a whole.

In the 1990s, distance education, based on the use of modern communications and multimedia materials, is predicted to be the major new movement in human resource development. The spiralling costs of formal education, including the hiring of full-time teachers, the construction of classrooms, the provision of furniture and equipment, and site-development of campuses, will force the governments of DMCs to turn to alternative educational systems. The inherent cost-effectiveness of multimedia, distance education suggests that this mode of instruction is the best, if not the only available alternative. The experiences of distance education institutions in Bangladesh, India, Pakistan, Sri Lanka and many other parts of the world support this conclusion. Furthermore, the scope for satellite-based distance education should be examined in this context since the space system offers vast advantages over that of the terrestrial systems, especially when warranted by the area and diversity of the country concerned. Also, the satellite media are ideal for implementing cooperative multinational programs in distance education.[1]

Through the use of new communications technologies, access to good educational programs can greatly be extended to large audiences in rural and remote areas. This can be done at low cost, with tremendous flexibility in subject matter content, in locations served, and with a choice of narrow or wide band formats. There are two new technologies, namely, satellite communication and fiber optic cable that have dramatically enhanced educational capabilities, but others such as the VHF terrestrial radio telephone, cellular radio technology, and various new mobile communications techniques are making important contributions. Tele-education is seen today as an enhancement and a supplement to conventional distance education systems. Satellite and fiber optic transmission technologies are in fact complementary. Satellites are still best for broadcasting to provide for rural and remote access, while fiber optics are well suited to linking centers of learning, university campuses, etc. Fiber optic-based educational networks can also be piggybacked on to public telecommunications networks at a modest cost. Today the future for educational trans-

1 Sundara Rajan, Mohan, "Satellite Applications in Distance Education Through TV and Radio", *Distance Education*, vol. 1, Asian Development Bank, 1987, pp. 421-491.

mission costs is very promising. Fiber optic cables can now be made for about $1 a foot, microterminals complete with microprocessors and printers can be purchased for about $2,000. Within the next 10 years, satellite transponders could probably be purchased for as little as $250,000. In short, the reduced costs of technology could make a large number of educational services available to more and more people on a global basis. Where appropriate we must examine, evaluate and utilize the many new transmission and programming capabilities that are now available from advanced communications technologies, especially satellites. Effective coordination through regional cooperation could help realize the potential of such remarkable technologies.

In the school system, face-to-face teaching inevitably entails a complex mix of different levels of competence in instruction and wide variation in student performance. Different teachers with different preparation, background and motivation will provide different norms and standards of performance. Even if good teachers are available, one is never sure whether they are willing to teach in rural schools in the countryside. Improvement in the quality of education depends on making available to the poorest students and most far-flung schools the best available teaching talents of the country. This problem can be handled quite effectively through distance education since this mode encourages the mobilization of the best and most competent teachers in a given subject or discipline. School curricula, textbooks and instructional materials and practicum designs are made by experts sitting comfortably in air-conditioned offices in the capital city – far removed from the everyday problems and interests of students, parents, teachers and the community in the rural setting. As such, no distinctive curricular differentiations are made for male and female populations or for urban and rural situations. Distance education can accommodate this problem by placing the learner at the center of the curriculum development process. By focusing on the actual learning environments and specific needs of disadvantaged groups and by making the best use of today's technologies, we can make the necessary quantum leaps in education. There is much to gain from the intelligent use of appropriate technologies, especially broadcast communications based on satellite installations. Such technologies, when used in the context of well-structured distance education systems, can provide cost-effective delivery systems which can reach out to the most far-flung and deprived communities in the rural areas while at the same time enriching formal school systems.

DISTANCE EDUCATION: A PATHWAY TO THE FUTURE

Distance education, unlike formal schooling allows the educational system to progress without waiting for economic development. Traditionally expensive campuses and schoolhouses could not be built without first waiting for communities to advance in their economic and physical wealth. This approach led to policies that deprived remote and poor communities of basic educational facilities particularly in the rural areas where the largest number of people lived and worked. Distance education, based on the use of a multimedia strategy, can reach out to millions of poor families. It can help them in their livelihood and employment by providing them with livelihood skills, farm production technologies, fishing methods, food-processing know-how, and hundreds of other employment-enabling tools and techniques. Distance education has the capacity to reach thousands and thousands of poor communities, at costs much less than formal schooling.

Going beyond employment and livelihood, distance education could be used to teach dozens of relevant topics, including community mobilization and organization; rural leadership training; home industries; village-level planning and development; home food processing; backyard economic enterprises; environmental protection and conservation; family values and solidarity; population education; local government administration; setting up and managing farmers' credit unions and productivity cooperatives; and conducting local training programs using local people and local materials.

In gender-structured societies, education is crucial in ensuring that males and females achieve at least an equal share of economic rewards, power, prestige and authority. In this sense, distance education has powerful implications for women in development. It is particularly important for the liberation of women who continue to be more likely than men to experience severe limitations on personal time and freedom for a significant period of their adulthood. Women, particularly those who are disadvantaged by religious, socioeconomic and geographical conditions, find distance education an appropriate solution to their educational problems. Distance education allows women to study at home; at times and hours when they are free or at leisure. They do not have to go to a school every day since school comes to their doorsteps. They can listen to some of the best lecturers in the whole country on audio cassettes via inexpensive battery-operated radio sets. Occasionally, they can attend village study sessions where local women facilitators and local female teachers (trained in distance education) can conduct tutorials, show films and documentaries and slides using battery-operated projectors, movie equipment and sound speakers. The possibilities for promoting the liberation of women are so diverse, numerous and

relatively inexpensive compared to current practices that the limitations are set only by one's own imagination and creativity.

LIBERATION OF THE LEARNER

It is in this area where distance education is most potent. Distance education is directed towards the learner. Its focus of attention is the learner and the process of learning, unlike traditional pedagogy where the concentration is on the teacher and on teaching. This is because the elimination of a fixed time (daily classes) and a fixed space (the schoolhouse) enables learners to learn at their own convenience, without disrupting the everyday necessities of work, whether at home, farm, village, factory, school or office.

It is clear that the distance education materials, tools and technologies chosen must suit the needs of the learner – not the preferences of the teacher. Distance education encourages teachers to see that what really matters is facilitation of learning, not dogmatic instruction. Distance education informs learners that learning depends on themselves, on their own motivation to learn, on their commitment to learn the lessons on their own, with guidance and support from tutors and learning materials. Distance education requires an act of self-discipline. It is a purposeful testing of self-reliance and self-determination. It informs learners that not all knowledge and facts come directly from the teacher. It informs them that most knowledge, perceptions and insights come only from their own actions. In the end, the distance learner comes to realize that the best teacher is really oneself, and that personal efforts in this connection are the most important. In essence, distance education leads to the liberation of the learner, since liberation and knowledge are not only compatible but interdependent. It provides opportunities for self-determination which can lead to the development of self-reliance and thereby to the enhancement of self-esteem and personal dignity. And through the liberation of the individual comes the liberation of the nation.

NEED FOR REGIONAL COOPERATION

The expansion and diversification of distance education programs to meet the growing demand for education at all levels requires new strategies to minimize costs. There is a need for pooling expertise and sharing resources in the field of distance education in the South Asian region in order to maximize benefits. By the year 2000, the population of the region will far exceed the

current estimate of 1.5 billion. Such a high rate of population growth, compounded by the increasing cost of providing education, demands cost-effective solutions. Many countries are now faced with the complex task of dealing simultaneously with rapid educational expansion and the reshaping of their education systems in a context of increasingly severe resource constraints. The economies of scale inherent in distance education systems could make a significant contribution to educational development in the South Asian region. In sum, distance education presents new weapons to tackle old problems. As a movement, distance education can indeed go far in the war against poverty by improving the status and role of women in development and in the liberation of all learners. The establishment of a regional mechanism which could promote distance education by pooling expertise and by determining suitable country strategies through regional cooperation would be a timely step.

The major weakness of distance education in the South Asian region is the lack of consistent quality in educational provision. Institutions are not equally endowed in terms of physical facilities, professional staff, management systems and academic programs. The wide variety of geographical, social and cultural contexts in which distance education institutions must operate further exacerbates the problem of providing consistent quality across a wide range of academic programs. Another problem is the shortage of well-qualified staff in distance education since available human resources tend to be spread too thinly across a range of courses resulting in diminished quality. Institutions could well make the best use of their limited resources by specializing in a narrow range of disciplines while at the same time collaborating with other institutions through regional cooperation to provide a range of quality offerings to meet diverse needs.

Despite the logical appeal of sharing distance teaching resources, there is little evidence of extensive international cooperation in the distance education arena. Active collaboration between operators of distance education systems has the potential to make a significant contribution to cost-effectiveness through economies of scale. While there is little scope to achieve economies of scale in the processes of student assessment, student support or system evaluation, there is considerable scope for this in the cooperative design, development, production and use of instructional materials. Such a quest for increased efficiency could entail: (i) eliminating unnecessary overlap in the production of courses; (ii) ensuring maximum students for a common course acceptable to several countries; (iii) maximizing the use of existing sophisticated instructional materials design, development and production infrastructures; and (iv) creating a centralized curriculum and instructional materials development and production facility. A combination of such initiatives would lead to greater cost-

effectiveness, since the cost per student unit could be reduced while the total resources and effort dedicated to the achievement of instructional quality could be increased.

Most existing distance education institutions in the region are extremely busy and hard-pressed to meet local demands which often lead to a lack of consistent quality in educational provision. A regional approach could possibly help in providing consistent quality in education in a cost-effective way across a wide range of subject areas. Genuine regional cooperation is required to achieve this goal. Such a regional approach would enhance the prospects of genuine collaboration without prejudice to individual cultural aspirations; efforts could be coordinated to avoid overlap in courseware development, and a central database of instructional resources could be developed and maintained. The activities of such a regional institution, along with the training of trainers in distance education, would need to encompass curriculum design as well as instructional design, development and production. A regional distance education institution would also be responsible for dissemination of information, distribution of resource materials, conduct of training programs to meet region-specific training needs and the coordination of research activities. It would be economical to conduct research on the use of newly evolved teaching methods at a regional level for the benefit of all countries in the region, which may not be able to afford to do it alone. The setting up of such a regional mechanism for distance education would avoid the potential pitfalls arising from communication difficulties and capacity constraints. Further, a proposed centralization of instructional materials development on a regional basis could provide an appropriate agency for negotiating beneficial financial arrangements with government agencies (in relation to copyright and sales tax) and more particularly with the suppliers of production and delivery hardware (e.g., video systems, audiocassettes, satellite transmission systems and microcomputers). In short, regional cooperation would have three main thrusts of activity: (i) collection and dissemination of information regarding existing distance education materials and programs in the regional countries including the Asian Satellite service; (ii) client services in the areas of supply of materials, training of core staff and consultancy services; and (iii) research and development services for the improvement of learning materials and methodologies.

There are, of course, inevitable risks associated with the proposed development of a mechanism for regional cooperation involving up to seven countries. Such a project is extremely ambitious by any standard. Efforts to generate multinational distance education in the region have been tried before and have failed. Successful bilateral cooperation is difficult enough to achieve. The potential problems of engendering agreement between up to seven

participating nations would appear to present a major challenge to those involved. Difficulties will no doubt arise on a whole range of issues, including basic academic questions such as the content of the curriculum, the current level of achievement of prospective target groups in different countries, and the responsibility for the quality of the contributions to courseware development from various countries. Similarly, a number of legal issues relating to copyright, ownership, pricing policies and distribution of revenue from student fees all appear likely to cause headaches. Even the management skill and technical expertise to manage such a complex operation presents a major challenge which could put the project at risk.

The potential benefits of overcoming or at least ameliorating the massive problems of educational provision facing the governments of the region might well make the risk worthwhile. Perhaps there is no viable alternative. International financial institutions could well be persuaded that such an investment is worth the risk, given the sizeable investment by many countries to establish The Commonwealth of Learning (CL), which is attempting to generate multinational distance education on an enormous scale, literally worldwide. Comparatively speaking, the proposed regional mechanism for South Asia is of a relatively modest scale. The key point, however, is that the underlying rationale for these cooperative initiatives is essentially the same. This rationale is basically a function of the economies of scale inherent in mass distance education and the associated benefits of increased capacity to produce relevant courses of consistent quality in a reduced timescale. This is not to deny the existence of genuine problems and potential pitfalls. Most of these issues, however, can be reduced to either matters of attitude or a question of resources. Most of the previous efforts aimed at multilateral cooperation have failed due to lack of financial resources, not because of a lack of motivation or goodwill among potential contributors. Indeed, previous efforts are symptomatic of the positive commitment to cooperation that appears still to exist in the countries of the region. Further, the potential benefits are so significant that it is difficult to see the project failing due to lack of commitment. Similarly, it is difficult to avoid the conclusion that there is now sufficient experience and expertise in the management of large-scale distance education operations in the region and other parts of the world to ensure a reasonable chance of success for the project. While acknowledging the potential pitfalls, it seems reasonable to suggest that there is a sufficient chance of success to warrant taking the first step.

SPECIFIC QUESTIONS

In the light of the great benefits to be derived from the expansion of multimedia, mass distance education, this Conference could usefully examine, among other issues: (i) changing trends in education and training to identify opportunities for engendering genuine regional cooperation; (ii) institutional capabilities and expertise available in national agencies to identify those institutions which can contribute much-needed inputs for evaluating the potential for a regional mechanism and delineate areas in which each institution/country could make a useful contribution to active collaboration in distance education; and (iii) alternative international, regional and national organizational structures appropriate for regional cooperation, including the financial contributions and inputs of participating agencies and governments.

The major questions which need to be examined in the context of the establishment of the proposed regional mechanism are:

(i) What are the objectives and potential benefits of regional cooperation in the field of distance education?

(ii) What should be the *form* of regional cooperation? (a) Is there a need for a centralized institution? or (b) Can cooperation be achieved through informal arrangements? To what extent is it necessary for governments to be involved?

(iii) Will the initiative for cooperation come from governments or from the institutions? How can cooperation be achieved? The means of achieving (ii) (a) and (b) should be examined. If (a) is preferred, possible locations and the willingness of the government concerned need to be explored. If (b) is preferred, the frequency of meetings and the mode of coordination need to be specified.

(iv) Can some established distance education institutions be designated as regional resource centers? Do their facilities need to be upgraded?

(v) What should be the role of international educational institutions (e.g., UNESCO) and financial institutions (e.g., ADB, the World Bank)?

(vi) To what extent can the capital and recurrent costs be identified in the light of the specific objectives of proposed regional cooperation?

(vii) Who will finance the capital and recurrent costs of the proposed program? If it is to be financed under co-financing arrangements, who could be the co-financiers? Will the governments be ready

to contribute their share to such a program? (Here you may like to consider financial arrangements in various regional institutions such as the Asian Institute of Technology, Bangkok, the Asian Institute of Management, Manila, and the Colombo Plan Staff College, Manila.)

Only through gaining specific answers to these questions can we make progress towards our goal of providing education for all. It is clear that traditional education systems alone have not even the remotest chance of achieving this goal. Distance education offers perhaps the only alternative means of achieving fair and equitable access to educational opportunities for all sections of the populations of South Asia. It is only through distance education that governments can overcome the financial and resource constraints that bedevil their efforts to promote social and economic development through education. It is only through distance education that the individual learner can be given the opportunity to overcome traditional social, economic and religious constraints, and thereby become a liberated, self-reliant person who can make a useful contribution to national development. If such ideas are to become realities, it is imperative that we make a concerted effort to define the precise parameters for the facilitation of effective and efficient regional cooperation in distance education. It is, therefore, with genuine sincerity that I ask you to give serious consideration to the issues and questions that I have raised in our endeavors to combat ignorance through distance education initiatives that have real potential to achieve education for all.

Distance Education in South Asia: Problems and Strategies for Cooperation

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CONTENTS

INTRODUCTION

Despite the fact that distance education programs have been operational for over 250 years, discussion of various definitions of the term "distance education" is continuing even today (e.g., Garrison and Shale,[1] Tight[2] and Rumble[3]). It is generally acknowledged, however, that the essence of distance education entails an education process in which a significant portion of the teaching is conducted by someone removed in space and/or time from the learner. Within the scope of this functional working definition of distance education, it is nevertheless acknowledged that distance education systems have evolved in a somewhat diverse fashion around the world. This diversity reflects differences in socioeconomic circumstances, educational and political philosophies, the availability of communications technologies, and the predilections and associated expertise of certain individuals.

The origins of distance education lie in the private sector where enterprising business people exploited the development of cheap and efficient postal services during the nineteenth century, mainly in Europe and North America. Around the turn of the century, a number of publicly funded institutions began to use distance teaching as a means of reaching disadvantaged individuals in society. Such universities as the Illinois Wesleyan University and the University of Chicago in the United States, and the University of Queensland in Australia, set out to meet the needs of students who were unable to attend classes on campus through the provision of correspondence courses. The first half of the twentieth century was characterized by a gradual expansion of both the commercial correspondence schools and publicly funded institutions embarking on correspondence-based tuition programs. The early part of the twentieth century also saw the extension of postal tuition to children living in remote rural areas in such countries as Australia, Canada and New Zealand. Most of these schools began by offering primary level courses and later expanded their provision to cover secondary education.

The establishment of the United Kingdom Open University (UKOU) in 1969 created worldwide attention and its success stimulated a surge of interest in distance education which led to the establishment of a number of other open universities throughout the world. The term "distance education" gradually superseded the use of "correspondence education" when, in 1982, the Interna-

1 Garrison, D.R. and D. Shale, "Mapping the Boundaries of Distance Education: Problems in Defining the Field", *The American Journal of Distance Education*, vol. 1, no. 1 (1987), pp. 4-13.

2 Tight, M., "Defining Distance Education", *ICDE Bulletin*, vol. 18 (1988), pp. 56-60.

3 Rumble, G., "Open Learning, Distance Learning and the Misuse of Language", *Open Learning*, vol. 4, no. 2 (1989), pp. 28-36.

tional Council for Correspondence Education, which was established in 1938, changed its name to the International Council for Distance Education. This switch in emphasis was partly a result of the recognition that distance education no longer depended primarily on the use of written instruction in the form of printed study guides, but also made extensive use of a wide range of other instructional media including broadcast radio and television, audiotapes, videotapes, telephones and computers. Distance education is now an integral part of many national education policies and, as the twentieth century draws to a close, there are signs that distance education will continue to expand its influence as a result of collaboration at an international level.

The growing interest in distance education by national authorities of both developed and developing countries has been primarily stimulated by evidence and/or belief that distance education is a cost-effective means of meeting the demand for education. This is especially the case in the developing countries of South Asia where the cost of expanding primary, secondary and tertiary provision to meet the needs of rapidly increasing populations has strained the economies of many countries. Spiralling population growth is placing increasing pressure on already stretched education resources, both physical and human. According to Haub and Kent,[1] of the world population estimated at 5.1 billion at mid-1988, inhabitants of the developing nations outnumbered those in industrialized countries by more than four to one. Further, the estimated population growth rate of developing countries is three-and-a-half times faster than that of developed countries. For example, the projected population doubling time of both Pakistan and the Philippines is 24 years compared to that of the United States (99 years) and the United Kingdom (408 years). The economic reality of trying to provide universal education is further highlighted by the fact that the population of India is expected to reach one billion by the year 2000. It is therefore not surprising that the search for cheaper, more efficient ways to provide access to education has led to a burgeoning investment in distance education in many South Asian countries.

Distance education is now an essential feature of the national education systems of many countries in South Asia. Indeed, some of the most impressive achievements in the field have occurred in the region. Open universities are now well-established in India, Pakistan and Sri Lanka. Additionally, in 1984 a survey conducted by the International Center for Distance Learning[2] at UKOU established that there were at least 25 institutions offering distance education

1 Haub, C. and M. Kent, *World Population Data Sheet*, Washington, D.C., Population Reference Bureau, 1988.

2 Perry, W., *The State of Distance Learning Worldwide*, International Center for Distance Learning, UKOU, 1984.

courses in 13 countries throughout Asia. The proliferation of courses now available to be offered via the distance education mode is staggering. For example, in Australia alone, more than 800 accredited award courses in a diverse range of discipline areas, including computer science, microbiology and medical nucleography are now available in the form of multimedia, self-instructional packages. Such educational resources represent both a significant investment and a valuable asset. Recognition of the potential contribution that such existing courseware could make to the amelioration of the education problems of Third World countries has partly contributed to the establishment of The Commonwealth of Learning, a new mechanism for engendering cooperation in distance education.

INTERNATIONAL COOPERATION IN DISTANCE EDUCATION

Under varying degrees of sponsorship from the 48 countries of the Commonwealth, The Commonwealth of Learning was inaugurated at Vancouver, Canada, in November 1988. Its main purpose is to strengthen the capacity of member countries to develop the human resources required for their social and economic development. Particular emphasis is being placed on assisting distance education institutions to become more effective, especially through the exchange and development of teaching resources. It is now widely acknowledged that the economies of scale inherent in large-scale distance education operations apply equally well to international as well as national initiatives. What is emerging is a shared perception of international need and international opportunity. International cooperation seems likely to become the most significant feature of the expansion of distance education in the 1990s.

The creation of The Commonwealth of Learning is an extremely ambitious project. Its future success will depend to a large extent on the compatibility of existing distance education systems and the consistency of manpower development needs of member countries. It could well be that a series of regional, or even subregional initiatives, based on sociocultural homogeneity, could well have a more immediate impact on the problems of educational provision than potentially complex global initiatives with long development times. For example, the recently established European Association of Distance Teaching Universities (EADTU) has made a promising start in such areas as course and credit transfer, as well as in the joint development of courses in such fields as business administration, law and language teaching. Similarly, the Asian Association of Open Universities (AAOU) has recently

been established to promote a range of cooperative distance education initiatives among the following institutions: Sukhothai Thammathirat Open University (STOU), Thailand; University of the Air, Japan; Indira Gandhi National Open University (IGNOU), India; Universitas Terbuka, Indonesia; Air and Correspondence University, Korea; Allama Iqbal Open University (AIOU), Pakistan; and the Open University of Sri Lanka. While the AAOU was instrumental in the setting up of a Regional Resource Center at STOU on 1 July 1988, and has already initiated conferences, workshops and the exchange of student and faculty members, such organizations are inevitably somewhat limited in the scope of their activities by lack of resources, especially funding. Because of the ongoing expansion of distance education infrastructures to overcome local capacity constraints in order to meet immediate demands, it seems that the influence of the AAOU's Regional Resource Center, while desirable, could well be somewhat limited by lack of financial resources.

Professional regional networks such as AAOU certainly have a contribution to make to the promotion of the efficiency and effectiveness of distance education activities, but without a major influx of funding to support the development of a comprehensive infrastructure, they are unlikely to have a major impact on social and economic development in the region. The scale of the problems facing several developing countries in attempting to provide universal education will not be overcome without a major initiative. The success of the AAOU, even in such a short period of operation, demonstrates that the preconditions for genuine cooperation in the field of distance education do exist. There is now in the South Asian region a sufficient pool of experience and expertise in the development and use of specialized distance education infrastructures to suggest that the time is right to mount a large-scale initiative aimed at having a significant impact on social and economic development in the region.

The notion of engendering international cooperation through the establishment of a mechanism for subregional collaboration in distance education was discussed at some length during a major seminar convened at Bangkok (26 November-3 December 1986) by the Asian Development Bank (ADB) in conjunction with STOU, Thailand, and in cooperation with UNESCO Regional Office, Bangkok. Originally initiated by a professional staff paper on distance education by Dr. Motilal Sharma, ADB Education Specialist,[1] this regional seminar led to the generation of probably the most comprehensive documenta-

1 Sharma, M., "Distance Education", Professional Staff Paper, Asian Development Bank, Manila, 1985.

tion on distance education ever assembled.[1] Apart from extensive printed materials, the interaction at the seminar attended by senior representatives of more than 20 countries laid a solid foundation for genuine international cooperation between distance educators in the Asia-Pacific region. Among the major recommendations emanating from the seminar was the following:

> "The Bank, UNESCO and other multilateral agencies could consider providing technical assistance in the form of (a) pre-project planning studies, and (b) exploratory studies to determine the most appropriate mechanism for regional cooperation in distance education. There may be a need to establish a regional institution for distance education. It was suggested that the Bank conduct a feasibility study to determine the most appropriate form of regional cooperation."[2]

The present paper, prepared on behalf of the ADB, seeks to provide the foundation for further detailed analysis of the rationale for subregional cooperation in distance education in South Asia. While the paper examines a range of issues associated with problems and strategies for cooperation, it gives particular emphasis to the potential value of establishing a regional institution as first mooted at the Bangkok seminar in 1986.

There is an apparent need to examine the feasibility of attracting international agency funding for the establishment and operation of a comprehensive distance education infrastructure, the South Asian Distance Education Center (SADEC), to facilitate collaborative course development, to engender the sharing of existing courseware, to better coordinate research and development in educational technology applied to distance education, and to provide a range of sophisticated professional services to enhance the quality and efficacy of existing operations or to support new developments in the field, especially perhaps in those parts of the region that have not yet developed fully operational distance education systems. The value of such a proposal would be significantly enhanced if it could be demonstrated that there existed common manpower development needs in several countries in the region such that the potential economies of scale inherent in distance education could be fully exploited. To this end, a brief review of existing distance education operations in the region

1 *Distance Education in Asia and the Pacific*, vols. 1 & 2, Manila, Asian Development Bank, 1987.

2 "Summary of Proceedings", *Distance Education in Asia and the Pacific*, vol. 1, Manila, Asian Development Bank, 1987, p. 39.

should help identify the potential viability of the concept of a subregional mechanism for the promotion of cooperation in distance education.

DISTANCE EDUCATION IN SOUTH ASIA

The main purpose of this section is to examine selected, existing distance education operations in South Asia. This review focuses primarily on the fundamental characteristics of the distance education system in a number of countries in the region. These characteristics include range of courses offered, target populations and apparent manpower development needs. This brief review of selected features of a number of existing systems will endeavor to demonstrate that an overlap exists in a variety of manpower development needs across a number of countries in such areas as teacher training, rural development, community education and various types of vocational and professional education. The evidence for such commonality (almost universality) of certain manpower development needs highlights the potential scope for the proposed mechanism to orchestrate subregional cooperation in such a way that the benefits of economies of scale inherent in distance education could be optimized.

A. Bangladesh

The Government of Bangladesh is currently giving serious consideration to the establishment of a national open university. At present, however, the only system of formal distance education is that of the Bangladesh Institute for Distance Education (BIDE) aimed primarily at the in-service training of school teachers, leading to the award of Bachelor of Education (B.Ed.). As reported by Sirajul Islam,[1] the first two intakes in July 1985 and July 1986, respectively, led to an enrollment of 6,498 students from a pool of applicants of more than 20,000. Of the initial two intakes, 4,319 have completed the course successfully. Admission of the next batch of students is scheduled for January 1990. It is estimated, however, that over 70,000 secondary school teachers remain untrained. There is an obvious need for the expansion of such an operation.

The syllabus for the B.Ed. is the same as the conventional on-campus course and covers such compulsory subjects as principles of education, educational psychology, history of education, evaluation, counselling and guidance,

1 Sirajul Islam, M.K., "Distance Education in Bangladesh", *Distance Education in Asia and the Pacific*, vol. 2, Manila, Asian Development Bank, 1987.

education and national development, and the following electives: mathematics, science, Bengali, English, geography and social science. The majority of these subjects would be found in almost every secondary teacher education course anywhere in the world. Apart from Bengali and elements of the history of education, and education for national development, it would seem reasonable to suggest that the BIDE course could benefit from having access to existing courseware in the other subject areas. Alternatively, the BIDE course could make a useful contribution to a pooling of educational resources in the field. Such resources include print-based materials, audiocassettes and video-cassettes.

The potential scope for the development of distance education in Bangladesh is evident not only in the field of teacher training, but also in other areas of tertiary and vocational education. The unmet demand for places in university courses is estimated to be in the order of 100,000 qualified applicants per year.[1] A similar situation exists in the fields of technical and vocational education. The potential of such unmet demand to create frustration in the minds of younger citizens and the subsequent potential for social unrest is clearly evident.

Problems also exist at the other end of the educational scale. Literacy in the population as a whole (approximately 110 million) is estimated to be 24 per cent, while the dropout rate at primary school level is approximately 70 per cent. The enormous scale of problems associated with education and training provision is further exemplified by estimates of manpower requirements projected in recent development plans,[2] which include significant shortages in such fields as agriculture, industries, public utilities, construction and public services amounting to almost 20 million man-years. That these problems could be somewhat ameliorated by the availability of a major subregional distance education infrastructure is self-evident.

B. Bhutan

The concept of distance education on a large scale is relatively new in Bhutan. Apart from a number of nonformal correspondence courses and radio programs on health education, family planning and animal husbandry, Dukpa[3] reported that distance education activities in the formal education sphere were

1 Sirajul Islam, M.K., *op. cit.*, 1987.

2 Third Five-Year Plan (1985-1990), Education Sector Document, Ministry of Education, Dhaka, Bangladesh, 1985.

3 Dukpa, Z., "Distance Education in Bhutan", *Distance Education in Asia and the Pacific*, vol. 2, Manila, Asian Development Bank, 1987.

the result of an appreciable number of teachers and civil servants undertaking correspondence courses offered by colleges and universities in India solely at their own initiative and expense. Despite the lack of comprehensive distance education operations in Bhutan, the concept is growing in acceptance and support. For example, a three-member team from the National Institute of Education (NIE) recently spent time undertaking a distance education training workshop at the Darling Downs Institute under the auspices of UNESCO. The major focus of the workshop was the potential contribution of distance education to in-service teacher education, an acute manpower development need in Bhutan.

The commitment of the Bhutanese Government to education is unquestioned. Despite some impressive achievements, especially over the past 30 years, a significant percentage of school age children still do not have access to formal education. This is largely due to an acute shortage of qualified teachers. Thus a major focus of any distance education initiative in Bhutan would be teacher education. Recognition of the potential of distance education in this field is reflected in the fact that, for the first time in Bhutan, a distance education workshop was organized at the NIE in July 1989. As a result of this initiative, the NIE (through its Department of In-service Education) plans to implement a distance education program which will entail the establishment of an instructional materials production unit, the use of mass media (radio and the national newspaper), the operation of a mobile unit and the development of up to six resource centers to act as distribution points for materials and to support face-to-face tutorial sessions.

Other potential target populations for distance education programs include early school dropouts and nonschool entrants (functional literacy and numeracy), extension workers (agriculture, veterinary science, health, etc.) and farmers.[1] In addition, there is a strong commitment to the teaching of the national language, Dzongkha. It is apparent that Bhutan, with a population of approximately 1.4 million people widely dispersed throughout mountainous country, could benefit from access to a professional infrastructure that could be provided by a subregional mechanism for engendering cooperation in distance education.

1 Dukpa, Z., *op. cit.*, 1987.

C. India

Faced with a huge unmet demand for distance education, India turned to distance education with the creation of the Correspondence Institute of the University of Delhi in 1962. Daniel[1] highlighted the fact that 20 per cent of India's 133 universities now have correspondence institutes but with programs limited mainly to arts and commerce. More significant was the establishment of a number of open universities beginning in 1982 with Andhra Pradesh Open University which had 40,000 full-time and part-time students enrolled after only four years of operation. Since then, other open universities have been created in the states of Rajasthan (Kota) and Bihar (Nolanda), while the possibility of setting up others has been discussed in a number of regions including Gujarat, Maharashtra, Tamil Nadu, Orissa and West Bengal. Such state-based initiatives have been complemented by the establishment in 1985 of the Indira Gandhi National Open University (IGNOU) which, according to Mullick,[2] has been empowered to supervise the functioning of all the distance education institutes throughout the country. IGNOU was regarded by many people as a means of democratizing Indian education through, in Prime Minister Rajiv Gandhi's words, "extending educational opportunities to all corners of the country".

IGNOU's brief is indeed monumental when one considers that the Indian subcontinent covers an area of almost 1.3 million sq m through which is distributed a population of approximately 800 million people. The scope of IGNOU's task is further complicated by the fact that almost 40 per cent of the population is under 15 years of age, 75 per cent of the population lives in rural areas, the overall literacy rate was estimated in 1984 to be about 40 per cent, and there are 14 recognized official languages apart from Hindi and English.

The main facilities of IGNOU are located throughout New Delhi and its environs. A new centralized facility is expected to be completed by 1991 in Saket, a suburb south of New Delhi. Additionally, by June 1989 the University was operating through 115 study centers established in areas of high population and "educationally backward areas".[3] The number of study centers is expected to expand to 300 in the next few years. Most of the study centers located in local colleges and universities have small libraries, audiovisual and computing equipment, as well as classroom and office space. The courses are based

1 Daniel, J., "Distance Education and National Development", Paper presented at the 14th World Conference of the International Council for Distance Education, Oslo, 1988.

2 Mullick, S.P., "Distance Education in India", *Distance Education in Asia and the Pacific*, vol. 2, Manila, Asian Development Bank, 1987.

3 Chaturvedi, S.N., and M.L. Koul (eds.), "Manual for Academic Counsellors", New Delhi, Regional Services Division, Indira Gandhi National Open University, 1989.

primarily on print materials designed to be sufficiently comprehensive to stand alone, with audiovisual and computer-based materials acting as a supplement, since many of the planned study centers are not yet operational.

Because of its commitment to provide educational opportunities to all sections of the population, including the disadvantaged, IGNOU has relaxed entry requirements for specific groups identified by the Government as deserving special consideration. For example, a certificate course in Food and Nutrition was designed specifically for women. According to Miller,[1] enrollments for courses in 1988 included 1,480 for the Diploma in Distance Education; 10,626 for the Bachelor's Degree Programme; 372 for the Diploma in Creative Writing in English; and 3,717 for the Diploma in Management. Decisions on which courses to offer first were based on a needs assessment conducted by the University. Other courses offered in 1987/88 included a certificate course in rural development. Courses to be launched in 1989 include a Bachelor of Library and Information Science. The following courses are in various stages of planning: Master's Degree in Distance Education, Bachelor's Degree (Science), Diploma in Higher Education, Diploma in Rural Development, Diploma in Food and Nutrition, and a Diploma in Child Care and Education.[2] Projected enrollment for the Bachelor's Degree Programme is 50,000 students for 1989. It is also worth noting that the Certificate Course in Food and Nutrition is offered in five languages: Assainese, Telugu, Gujarat, Hindi and English, with others to be added in due course.

The manpower development needs reflected in the proposed expansion of the range of courses is further emphasized by the estimated growth in enrollments projected at a minimum of 20,000 new students on an annual basis and a potential ultimate enrollment of approximately 700,000 students each year.[3] The potential scope for the expansion of distance education activities at school level has also been documented. Mullick[4] reported that correspondence education at the secondary school level needed to be significantly enlarged since it constituted only 0.31 per cent of the enrollment in formal schools. Participants in such education were primarily school dropouts from formal schools with extremely limited participation of disadvantaged groups. The potential clientele for such courses is extensive, given the dropout rates in classes I-VIII of more

1 Miller, J.K., "Indira Gandhi National Open University", *Open Learning*, vol. 4, no. 1 (1989), pp. 53-55.
2 Chaturvedi, S.N., and M.L. Koul (eds.), *op. cit.*, 1989.
3 Miller, J.K., *op. cit.*, 1989.
4 Mullick, S.P., *Distance Education in Asia and the Pacific*, vol. 2, Manila, Asian Development Bank, 1987.

than 75 per cent. Mullick[1] highlighted further development needs which could be at least partly ameliorated through distance education initiatives, including the lack of compatibility between various parts of the education sector and the job market and the associated lack of appropriately trained manpower.

In 1984, Reddy[2] listed reasons why correspondence education did not enjoy high credibility in India, but this situation will no doubt change as high quality courses and in time high quality graduates are gradually produced. Similarly, the Indian Government's commitment to The Commonwealth of Learning will serve to enhance the reputation of distance education in the region. This commitment to international cooperation signals a change of orientation since IGNOU at first resisted the idea of looking to other open universities for existing courseware and developed its own instructional materials. Such a change of attitude could mean that IGNOU and other open universities in India could not only make a useful contribution to a subregional mechanism for cooperation in distance education especially in relation to systems and economic considerations associated with the translation of courses into a number of languages, but could also contribute a growing range of courseware and related distance education expertise.

D. Maldives

According to Selim,[3] there is no formally established system of distance education in the Maldives although some distance learning activities had been incorporated into both formal and nonformal education. For example, a series of radio programs on the teaching of English for Grades I and II is broadcast on a regular basis. These programs are intended primarily for pupils on remote islands. In the field of nonformal education, a daily radio program instructs the general public on such subjects as agriculture, fisheries, health, history and tradition. Further, some programs are also broadcast to upgrade in-service teachers.

With UNDP support, however, a pilot project under the auspices of the Non-Formal Education Unit (NFEU) of the Ministry of Education is currently in progress. Initiated in 1988, enrollment of 90 participants from three atolls commenced later that year and the program, a post-beginners' level English course, began in May 1989. Course completion is scheduled for March 1990. The target population consists of in-service teachers, in-service government

1 *Ibid.*

2 Reddy, R., "Distance Education in India: A Profile of Andhra Pradesh Open University", *Evaluation of Higher Education Results*, Madrid, UNED, 1984.

3 Selim, M., "Distance Education in Asia and the Pacific", *Distance Education in Asia and the Pacific*, vol. 1, Manila, Asian Development Bank, 1987.

officials, and a variety of persons suitable for upgrading in such areas as health and vocational sectors. Fifty per cent of the course participants are women. While it is clearly too early for evaluative data to have been collected, initial feedback has been positive.

The present commitment of the Maldives Government to distance education is reflected in the fact that a five-year plan has been developed in order to establish a distance education center. Financial support for the first two years of this initiative has been guaranteed by UNDP. The NFEU is to become the Department of Non-Formal Education, wherein a Distance Education Center will be established. It is intended that a comprehensive infrastructure for distance education to service all atolls will have become fully operational by 1995. As well as the present English language teaching program, the following programs have been identified as necessary to meet manpower development requirements: teacher education (especially middle and secondary levels), health education, technical and vocational education, population-education, and early childhood education.

Given the fact that the population of the Maldives consists of approximately 200,000 people scattered through 200 islands, there is clearly considerable scope for the expansion of distance education activities. Such initiatives could probably benefit from the use of a variety of technologies, including radiovision as outlined by Sharma.[1] Given the limited scale of current investment in distance education in the Maldives and the relatively small though widely dispersed population, there would appear to be extensive economic benefits to be derived from the sharing of infrastructure and course development costs through the establishment of a subregional mechanism for engendering international collaboration in distance education.

E. Nepal

Similarly, Nepal is a relatively small country apparently well-suited to distance education with its population dispersed through a mountainous country, one-third of which is officially declared as remote area districts. Selim[2] pointed out that the Government of Nepal had recognized the potential of teacher training by radio and, with the assistance of USAID, began planning an initiative to meet an increase in school enrollments in 1972. The subsequent launching of the Radio Education Teacher Training Program (RETTP) in 1978

1 Sharma, M., "Technologies to Improve In-Class Instruction", a resource paper presented at the Seminar on Using Technologies for Education and Training: An Economic Perspective, World Bank, Washington, D.C., 1988.

2 Selim, M. *op. cit.*, 1987.

entailed the supply of over 25,000 radios to untrained, rural primary school teachers. In the beginning, the broadcast was limited to 117 participants in five districts. Later on the program covered 69 districts, enrolling 1,934 participants in 1982. The program was further extended to 72 districts enrolling 6,424 in-service primary school teachers by the end of 1987. To date, 5,371 participants have taken the trial examination and 65 per cent of them have graduated from the program.

The Nepalese Government is currently implementing a number of developmental projects in the field of education and training. The potential success of these projects, however, is constrained by a shortage of qualified staff. It is clear that distance education initiatives could make a significant contribution to these projects which include the achievement of universal primary education by the year 2000 (requiring the training of an additional 34,000 teachers), the implementation of functional literacy programs, the enhancement of technical and vocational education, and the improvement of the participation rate of women. The Government has recognized the value of distance education and has recently appointed a task force of senior educationists to prepare a comprehensive plan for the development of a distance education system in Nepal. There is no doubt that Nepal could benefit from participation in the likely proliferation of cost-effective distance education activities that would inevitably accrue from the establishment of a regional distance education infrastructure.

F. Pakistan

In a country of over 100 million people, the Allama Iqbal Open University (AIOU) was established in 1974 to provide "Education for All".[1] The functions of AIOU were reiterated in the Fifth Five-Year Plan (1978-1983)[2] which included reference to the employment of multimedia distance learning techniques to offer in-service training courses for primary and middle school teachers, general foundation courses and functional education courses, thus highlighting the University's role in nonformal, as well as formal, education. The emphasis on nonformal education is reflected in a number of AIOU projects such as the Integrated Functional Education Project, the Civic Education Project and the Women's Education Project. The apparent acceptance of AIOU programs is reflected in the fact reported by Siddiqui[3] that annual enrollments

1 Siddiqui, S.A., "Distance Education in Pakistan", *Distance Education in Asia and the Pacific*, vol. 2, Manila, Asian Development Bank, 1987.

2 Planning Commission, *The Fifth Five-Year Plan, 1978-83*, Islamabad, 1978.

3 Siddiqui, S.A., *op. cit.*, 1987.

had increased from only 1,000 students in 1976 to almost 120,000 in 1986, while cumulative enrollments are in the vicinity of 850,000.

The success of certain aspects of the nonformal educational program was recognized in 1988 by the presentation to AIOU of the prestigious Noma International Award at UNESCO Headquarters in Paris for the promotion of literacy in Pakistan. The University has also tried novel methodologies for target populations such as the rural masses who lack literacy skills. For example, the Basic Functional Education Programme (BFEP) uses audiocassettes, flip charts, and discussions led by a group leader to cover such topics as child care, poultry-keeping, electricity in the village, and livestock management. The BFEP program is aimed at both men and women, whereas the Women's Education Project (matric level) recognizes the extremely low level of literacy and overall educational attainment among the female segment of the population. Such nonformal education initiatives are, however, balanced by the availability of an extensive range of formal courses leading to academically recognized awards at the bachelor's degree and master's degree levels.

The academic functions of AIOU are managed through three major faculties: Basic and Applied Sciences, Social Sciences and Education. The range of programs offered by the University includes the M.A. (Educational Planning and Management), M.Sc. (Pakistan Studies), M.B.A., B.A., and Teacher Education at various levels, as well as the aforementioned nonformal education courses. Major enrollments in 1986[1] included almost 15,000 students in Teacher Education, nearly 22,000 students in General Education (F.A.), and over 15,000 students in General Education (B.A.). The Teacher Education Programme covers a wide range of courses including the Bachelor of Education (B.Ed.) aimed at secondary level specializations, the Certificate of Teaching (CT) aimed at middle school teachers, the Primary Teacher's Orientation Course (PTOC), the Primary Teacher's Certificate Course (PTCC), and the Arabic Teacher's Orientation Course (ATOC). The PTOC of one semester's duration is one of the University's most successful courses, having serviced about 85,000 teachers from its launching in 1976 up to April 1985.[2]

Despite the relatively rapid success of the AIOU in developing and offering a wide range of multimedia courses over an extensive spectrum of educational levels, Siddiqui[3] outlined a number of major problems in the education and training sector in Pakistan, including low levels of literacy (estimated at 30 per cent), low levels of participation in schooling (especially among females), a lack of emphasis on technical and vocational education, and the need to uplift

1 Siddiqui, S.A., *op. cit.*, 1987.
2 Allama Iqbal Open University, *AIOU: The First Ten Years, 1975-85*, Islamabad, 1986.
3 Siddiqui, S.A., *op. cit.*, 1987.

and strengthen professional education. He nominated the following manpower development areas to be given priority treatment: literacy, in-service teacher training (especially in industrial arts, agriculture and commerce at the secondary level), technical and vocational education, as well as the provision of professional education in the following sectors: agriculture, law, health including the training of paramedics, and the training of distance education personnel.

It seems reasonable to suggest that the expansion of a wide variety of distance education activities could make a significant contribution to the aforementioned education and training priorities. This expansion could no doubt be facilitated by the existence of a professional, well-funded regional center for the coordination of distance education initiatives. While Pakistan could gain benefit from such an organization in gaining access to a wide range of existing course materials and in the training of specialist technical staff, AIOU could also contribute a wealth of experience, especially in nonformal education and literacy programs which could contribute to the expansion of educational opportunities and subsequent socioeconomic development of the whole South Asian region.

G. Sri Lanka

Because of Sri Lanka's universal free education policy introduced in 1945, there has been little need to use distance education techniques among the school age population, except for the deployment of television to teach certain specialized subjects at the secondary level. The unmet demand for tertiary education, however, led to the establishment of the Sri Lanka Institute of Distance Education (SLIDE) in 1976. This institution was absorbed into the Open University of Sri Lanka (OUSL) which was created in 1980 to augment the work of eight conventional universities. At its inception, OUSL took over the activities of the External Studies Agency of the former University of Sri Lanka which had been set up in 1972 to enrol and conduct examinations for persons not formally instructed at the University.

Kotelawele and Samarasundara[1] reported total enrollments of about 9,000 students in 1986. Current enrollments in the major programs offered by OUSL are as follows: Certificate in Pre-School Education (590), Certificate in Entrepreneurship (344), Certificate in Professional English (2,468), Foundation Science (1,067), Postgraduate Diploma in Education (2,727), Bachelor of Laws (2,156), Bachelor of Science (714), Diploma in Management (736), and

1 Kotelawele, D.A., and N. Samarasundara, "Distance Education in Sri Lanka", *Distance Education in Asia and the Pacific*, vol. 2, Manila, Asian Development Bank, 1987.

Diploma in Technology (1,844). The total enrollment has thus grown to almost 13,000 in 1989. The academic credibility of the courses at OUSL is reflected by the fact that the Bachelor of Laws (LL.B.) degree is recognized by the Sri Lanka Council for Legal Education. Similarly, the Universities Grants Commission of Sri Lanka has recently granted OUSL permission to award the Bachelor of Technology degree in addition to the Diploma in Technology. Apart from OUSL, the National Institute of Education is currently offering in-service teacher education to more than 10,000 teachers.

The aforementioned certificate programs provide for open entry with no specific entry qualifications. In the case of other formal programs at the level of bachelor's degree, the minimum entry requirements are the same as those for the conventional universities. The target population for the University has recently been extended by the registration of a new category of students known as the Associate students who participate in nonformal continuing education courses, which do not necessarily lead to formal qualifications.[1] The distance education target population also includes more than 28,000 untrained teachers under an initiative taken by the Ministry of Education with support from Swedish International Development Assistance. As with OUSL programs, course materials include printed study materials supplemented by audiovisual initiatives (radio, television, slides, etc.) and some face-to-face interaction with tutors.

Despite the apparent success of distance education in Sri Lanka, Kotelawele and Samarasundara[2] believe the potential of this mode of instruction to resolve pressing large-scale education and training problems is not fully realized. They argue that inadequate funding and the lack of training in distance education techniques, especially educational technology, have somewhat limited the contribution of distance education. The potential for the expansion of the scope and range of courses available to service manpower training needs in teacher education, technical education and professional updating in a variety of fields was also outlined by Kotelawele and Samarasundara. The support of a subregional mechanism for promoting distance education could probably provide an added stimulus to such initiatives. Equally, the existing wide range of multimedia courseware available at OUSL, including several foundation level courses for bridging the gap between secondary and tertiary education, could make a valuable contribution to the further development of distance education in South Asia.

1 AAOU Update, "Open University of Sri Lanka", *Never Too Far*, vol. 11 (1988), pp. 5-10.
2 Kotelawele, D.A., and N. Samarasundara, *op. cit.*, 1987.

H. Review: Towards International Cooperation in South Asia

Apart from establishing the fact that distance education operations in South Asia are currently servicing the needs of almost 400,000 students in a wide variety of courses at levels ranging from literacy programs to higher degrees, this brief review also indicates that there exists a significant degree of overlap in course offerings and, more importantly, an apparent overlap in manpower development requirements. While not denying the existence or importance of national diversity, there would seem to exist an opportunity for reviewing existing courseware in order to ascertain the extent to which it could be used or adapted to meet the manpower development requirements of countries in the region which might not yet have invested resources in the development of certain courses. For example, the existence of distance education courseware in science, engineering and technology in Sri Lanka could well be of great value to countries in the region that have so far concentrated their efforts in the humanities, social sciences and education. Notwithstanding language and cultural differences, there appears to be an opportunity to investigate the possible cost benefits that could emanate from exporting or importing educational resource materials that have been developed as a result of investing many thousands of hours of manpower and extensive investment in associated physical infrastructures. Similarly, the joint development of new courseware to service common manpower development requirements through the establishment of international course teams could well benefit from the economies of scale inherent in large distance education operations. For example, the overview of manpower development requirements (Table 1) demonstrates that common needs exist in several countries in such areas as teacher training, various aspects of technical and vocational education, health education, agriculture and rural development, to name but a few.

If it were possible to create an appropriate mechanism for facilitating collaborative ventures in sharing expertise and resources in distance education to optimize potential economies of scale, the cost benefits accrued from educational expenditure could be significantly enhanced, not only in terms of efficiency through the lowering of per student costs, but also in terms of effectiveness through the enhancement of instructional quality and subsequent upgrade in student learning outcomes. The ultimate aim, of course, is the promotion of individual well-being and socioeconomic development at the national level for which an improvement in educational efficacy is essential. The proposal for setting up a mechanism to engender international cooperation in distance educa-

tion is certainly ambitious, but powerful initiatives are needed to combat the problems associated with providing access to education to rapidly increasing populations in times of variable economic stability.

In competition with education for limited national resources are needs for economic investment, national health programs, transportation and communication systems, and the numerous other activities necessary for national development. Such competing needs intensify the pressure to limit expenditure on education and to seek means of providing education more efficiently. The investment by various governments in the region in distance education operations suggests that the potential contribution of distance education systems to cost-effective educational provision is widely acknowledged. Certain economies of scale at the national level have already been exploited, but the even greater economies of scale potentially emanating from cooperative distance education on an international basis are still to be recognized. The following discussion of advantages and disadvantages of distance education and the subsequent discussion of various social, pragmatic and economic justifications for distance education will serve to highlight the potential benefits of cooperation at the international level.

ADVANTAGES AND DISADVANTAGES OF DISTANCE EDUCATION

It is somewhat problematic to comment on advantages and disadvantages of distance education in any categorical definitive sense since a wide variety of models of distance education have evolved to a point where diversity is a key aspect of distance education. The diversity is a reflection of economic circumstances, the availability of communication systems, and differences in political and educational philosophies between countries. Despite such diversity, certain common features among distance education systems do exist. For instance, most governments now acknowledge that education is critical to socioeconomic development. The perceived cost benefits of mass distance education have attracted the focus of educational planners since global economic instability has made the efficiency with which educational resources are used as a fundamental consideration in both developed and developing countries. From a government perspective, distance education appears to offer certain benefits.

Table 1: Overview of Distance Education Operations in South Asian Countries

Country	Existing Distance Education Operations	Courses	Estimated Annual Enrollments	Manpower Development Requirements
Bangladesh	BIDE	B.Ed.	6,000+	Teacher training, agriculture, industries, public utilities, construction, public services, literacy.
Bhutan	Minimal	Nonformal	Unknown but limited	Teacher training, agriculture, veterinary science, health, teaching of the national language (Dzongkha), literacy.
India	IGNOU, Open Universities, Correspondence Institutes, Secondary Education	B.A., DDE, CRWE, CPFN, ADM, M, B.Com., M.Com., M.A.	400,000	Teacher training, technical and vocational training, primary and secondary education, rural development, health, child care.
Maldives	Minimal	Nonformal education. Upgrade of teacher training. School broadcasts.	Unknown but limited	Teacher training, technical and vocational education, health, early childhood education, population education.
Nepal	Minimal	Teacher training.	1,000+	Teacher training, technical and vocational education, literacy.
Pakistan	AIOU	M.A., M.Sc., M.B.A., B.A., B.Com., B.Ed., etc. Nonformal	120,000+	Teacher training, technical and vocational education, agriculture, law, health, literacy.
Sri Lanka	OUSL, Institute of Distance Education	LL.B., B.Sc., B.Tech., Grad. Dip. Ed	23,000+	Teacher training, technical and vocational education, professional updating.

A. Equity and Access

Commitment to fair and equitable access to education has long been an objective of most national education systems. It was the potential of distance education to promote universal access to education that first interested national governments. Access refers to the proportion of a target population participating in the educational system while equity is concerned with the degree to which participation is restricted by factors beyond the control of the individual. As Rumble[1] has indicated, government interest in distance education as a means of reaching target populations has included a desire to extend access to the following groups:

(i) disadvantaged individuals who cannot attend a conventional school of higher education institution;
(ii) previously disadvantaged people who could benefit from a "second chance" of access to education; and
(iii) working people who could benefit from retraining, professional updating, or personal development.

In the first instance, government authorities were not primarily interested in the economics of mass distance education but were motivated to use this mode of instruction to provide educational opportunities to those who were of appropriate age but who, for a variety of reasons, were unable to attend conventional schools, colleges or universities. This concern for equality of access was often extended to older people who had been unable to attend conventional institutions when they were younger. For this "second chance" target population and for the aforementioned group disadvantaged by geographical, social or economic reasons, distance education was often the only means of access.

Countries such as Australia, Canada and New Zealand used distance education to reach geographically isolated individuals. For example, the Australian Correspondence School was initiated in 1914 when teaching by correspondence was made available at the primary school level. This was later expanded to the secondary level, and the introduction of two-way radios, which allowed for two-way communication between teachers and students, led to the development of the Schools of the Air in 1951. Development of distance education at the higher education level had preceded school level initiatives by five years when, in 1909, the University of Queensland was required to provide

1 Rumble, G., "The Role of Distance Education in National and International Development: An Overview", *Distance Education*, vol. 10, no. 1 (1989), pp. 83-107.

correspondence courses so that those living in remote areas could gain access to university courses. Originally intended for geographically isolated individuals, these distance education courses have also provided access to other disadvantaged groups, including disabled students, those incapacitated through illness and itinerant populations. The underlying commitment to access and equity is evident today in distance education initiatives aimed at school dropouts, illiterates and the needs of women. The commitment of AIOU and IGNOU to service the needs of such target populations is well-known. The principle of egalitarianism is also evident in programs of distance education aimed at the "second chance" target population consisting of adults who missed out on formal education in their formative years.

B. "Second Chance" Education

The acceptance of the need to provide disadvantaged persons with a "second chance" at education gained momentum after formal education was severely disrupted during the Second World War. This concern to make up for an earlier lack of opportunities was extended to cover those adults who had been born too late to benefit from the expanded provision of educational opportunities that occurred after the war. In the developing countries, the provision of "second chance" education embraced all levels, whereas in developed countries the focus was primarily on upper secondary and higher education. The "second chance" ethos contributed significantly to the investment in the open universities, several of which either extended the idea of second chance education to encompass those who had left school without accepted entry qualifications, or provided an alternative access course for mature but previously unqualified entrants. It is widely recognized, however, that the distance teaching universities also serve as a means of satisfying demands for higher education which conventional universities are unable to meet. The open universities are further involved in providing access to programs designed specifically to meet the burgeoning needs for professional and vocational updating and retraining courses, as well as increasing educational opportunities through the provision of community education programs.

C. Lifelong Education

The provision of continuing professional education, community education courses, and a wide range of other nonformal education programs via the distance education mode highlights a commitment not only to equity and access,

but also to the recognition that education is an ongoing, lifelong process. Increasingly, individuals need to update their skills and knowledge several times during their working life. A basic education is no longer enough. Indeed, due to the explosion of knowledge and advancing technology, the rate at which knowledge is becoming relatively obsolete is steadily increasing, placing on government authorities a responsibility to ensure that there are opportunities for individuals to update their knowledge and skills. Distance education could well offer the only viable, cost-effective means of meeting the growing demand for professional and vocational updating and retraining courses. As well as providing potential economies of scale, distance education offers the opportunity to upgrade and retrain without serious dislocation to the ongoing social and economic activities of working adults, thus increasing the efficiency of socioeconomic development. It is not surprising that many of the distance education courses available at the post-secondary level reflect the view that the major purpose of government-financed education is to train people for a productive place in the work force. Expenditure on education tends to be regarded as an investment in human capital which will yield benefits to both the individual and the nation in the form of increased earning power and productivity. From a governmental perspective, commitment to fair and equitable access to educational opportunities aligned with potential economies of scale and apparent cost-effectiveness makes distance education an attractive investment with no obvious disadvantages, provided the distance education system is effective. The effectiveness of a particular distance education system is largely dependent on the experiences of actual teachers and students which will next be examined.

D. Distance Education from the Teacher's Perspective

From the perspective of the teacher working in a distance education context, commitment to this mode of instruction will no doubt be moderated by such factors as demographic characteristics, attitude, status, intrinsic and extrinsic rewards, workload, opportunity to undertake research, specialized training, and infrastructure support. There is an apparent dearth of research on the perceived advantages and disadvantages of working in distance education systems from the perspective of the teacher. While there exists an opportunity to undertake research on the attitude of faculty members towards working in off-campus programs, the generalizability of any outcomes would need to be treated with a good deal of caution since the contexts in which, and the conditions under which, distance educators work vary considerably. Experience suggests,

however, that some potential advantages could well accrue to teachers working in a distance education environment.

In many systems, distance education offers a range of opportunities for deriving intrinsic satisfaction from teaching. These include opportunities to produce high quality, concrete teaching resources, opportunities to work in a multidisciplinary development team environment, opportunities to use a range of instructional technology (audiovisual and computer-based), opportunities to work with motivated students (in some cases), and opportunities to develop a flexible work schedule which might result in achieving some respite from the repetitive nature of face-to-face teaching in on-campus settings. It seems likely that the extent to which such opportunities are regarded as intrinsically rewarding will vary considerably among individuals. Job satisfaction will also be a function of the availability of staff training programs and associated support from distance education specialists such as instructional designers, media production personnel, experts in computer-based education, graphic designers, editors and the like. It would seem reasonable to suggest that distance teaching might well require more time-consuming systematic preparation than conventional teaching but could well be more intrinsically satisfying as a result of producing high quality, tangible teaching resources. Extrinsic rewards such as recognition through promotion or the granting of tenure may not be explicitly tied to the achievement of excellence in distance teaching since time for research and subsequent publication productivity (still major criteria for academic advancement) could well be hindered somewhat, at least in the initial design and development phase by the time-consuming nature of instructional materials production. In some respects though, this apparent disadvantage could also be regarded as an opportunity since it is widely acknowledged that there is insufficient research on practically all aspects of distance education, especially pedagogical methodologies. Once a quality package has been developed, it might well have a "life" of several years when time needed for modification is minimal so that time available for research could be optimized. Faculty perceptions of such issues will vary considerably, although it is widely believed that the majority of faculty members regard the potential loss of interpersonal contact with students as a major disadvantage — a view likely to be shared by many students though students' perceptions will also vary.

E. Distance Education from the Learner's Perspective

Perceptions of the advantages and disadvantages of distance education from a student's perspective are likely to be moderated by such factors as age, maturity, motivation, time available for study, quality of course materials and

associated services, and the credibility of awards from the employer's perspective. From the point of view of providing access to educational provision, students are likely to regard distance education as a significant advantage since they might otherwise have no opportunity for personal advancement. Similarly, the inherent nature of many distance education systems based on the use of self-instructional materials which may be used when and where convenient must surely be regarded as an advantage by many students, especially those in full-time employment. This particular target population also gains the benefit of being able to learn while they earn a living, and at the same time often gaining valuable work experience which is directly relevant to their studies. Students might also benefit from their distance education experience through the development of independent learning skills, personal resourcefulness and time management skills which are likely to be beneficial in other spheres of activity. These probable advantages are likely to be somewhat counterbalanced by associated frustrations which will depend significantly on the quality of learning materials and associated distance education services.

Ideally, the self-instructional materials used should be sufficiently well-designed, developed and presented to make learning relatively easy for the distance education student. Lack of clarity in study materials could lead to frustration and subsequent disengagement from the program, especially in contexts where access to the teacher or tutorial support, either face-to-face or through the mail or by telephone, is not readily available. Lack of quality instruction and limited or insufficient support services which delay feedback are likely to seriously reduce the motivation of part-time distance education students attempting to balance work, family and social commitments. Similarly, the motivation of students is likely to be adversely influenced if the credibility of the academic awards emanating from distance education programs is seriously questioned by employers. It is of paramount importance that distance educators strive for excellence in instructional quality and efficiency in support services, and concurrently promote the quality of graduates to prospective employers. Indeed, the question of quality in distance education is central to the continued expansion of this mode of instruction.

F. Towards Continued Growth

Overall, the potential advantages of distance education, especially from the government perspective and the student perspective, appear to far outweigh the potential disadvantages of this mode of instruction. The term "potential" must be used to qualify such statements since the diversity of distance education systems and contexts, particularly with regard to quality of instruction and

services, is so variable that it is impossible to generalize. There is, however, no doubt about the contribution of distance education to realizing the ideals of fair and equitable access to educational opportunities, thus providing a great social justification for distance education initiatives. Neither is there any doubt about the pragmatic justification for distance education which continues to expand in a wide variety of contexts, with increasing numbers of different courses being made available to a diverse range of target populations. Such expansion is based on the apparent economies of scale inherent in mass distance education systems. The critical factor underlying the success of such initiatives is quality: quality of instruction and quality of services. By and large, quality is ultimately a function of available resources and thereby a function of the economics of distance education to which attention is now turned.

THE ECONOMIC JUSTIFICATION OF MASS DISTANCE EDUCATION

Despite the commitment of governments to access and equity of educational provision, it is extremely doubtful whether distance education would have achieved such prominence in national systems without the belief that it can be a cheaper form of education than traditional methods. Whether distance education is in fact cheaper depends on a number of factors, including choice of media, the number of courses and subject areas offered, the range of student support services provided and, of course, the number of students. The ultimate cost of a distance education system is also influenced by who pays: student, employer or government. While it is self-evident that each system will be different with costs varying according to the environment, the technology available, and the range and size of target populations, certain issues can be addressed to demonstrate why distance education systems can be cheaper than conventional on-campus approaches.

A. The Economics of Distance Education

In examining the economics of education, it is useful to differentiate fixed and variable costs. Whereas fixed costs do not vary considerably in relation to changes in volume of activities, variable costs tend to increase or decrease directly (linearly) with fluctuations in the volume of activity. For example, in the distance education context, the costs of preparing self-instructional materials (printed study guides, audiotapes, videotapes, etc.) are incurred irrespective of

the number of students who study the course. These development costs can be regarded as fixed in relation to the eventual output of students since the investment of resources in course design and development is not directly related to the number of student users of the courses, although some of the related costs of producing multiple copies of materials and many of the costs associated with distributing such copies do vary directly in accordance with student numbers. Other costs which vary linearly with student numbers include costs of marking assignments and examinations, providing individual counselling and the like. Such variable costs tend to increase or decrease directly with variations in the volume of activity. While fixed costs do not vary continuously in relation to changes in volume of activities, they are subject to significant changes in volumes such as the need to employ additional instructional designers and audiovisual personnel to cope with rapid, extensive increases in course development. In light of this fundamental distinction between fixed and variable costs, it is interesting to examine in more detail the basic cost function of distance education.

As delineated by Rumble,[1] the basic cost function for any educational system may be expressed in general terms as follows:

Total Cost = (Number of students x direct cost per student) + (Number of courses under development x direct cost of course development) + (Number of courses being offered x direct cost of presentation) + (Fixed cost of the system infrastructure)

The fixed costs in this equation are the direct cost of course development and the costs associated with the establishment of the system infrastructure whereas the other costs tend to be influenced directly by volume of activities and can be regarded as variable. It is important to note that all the costs on the right hand side of the equation are a function of management decisions and are essentially subject to choice.

B. Course Design and Development Costs

The fixed cost of course design and development can vary considerably according to system level management decisions. For example, several approaches of varying costs have been used to produce course materials. Perhaps

1 Rumble, G., "The Economics of Mass Distance Education", *Prospects*, vol. 23, no. 1 (1988), pp. 91-102.

the cheapest way of proceeding is for an institution to recommend existing commercial textbooks which students are required to buy while all the distance education institution provides is brief notes and an examinations service. This approach, which was pioneered by the University of London, has also been used by several commercial correspondence colleges. Another relatively cheap approach to course development is to make videotapes of conventional lectures as they are delivered to on-campus students and subsequently, to distribute the video material either through cassettes or by broadcasting to be used as self-instructional materials or as a source for tutored video instruction. While the quality of such videos is not usually very impressive, it is argued that they are adequate since they are good enough for on-campus students. Such an approach has been used mainly in North America where the emphasis on the development of high quality self-instructional materials is somewhat overshadowed by the preference for video technology-based initiatives. This approach is, of course, dependent on the availability of sophisticated development and delivery infrastructures.

The final approach to be considered is based on the development of specially designed multimedia, self-instructional materials (print, audiovisual, computer-based, etc.) to facilitate independent learning among distance education students. The quality of the materials produced obviously varies but it can be extremely high. Subject matter specialists (either contracted or permanent staff) work in a multidisciplinary team environment[1] with an instructional designer and other specialists such as graphic designers, editors, audiovisual specialists and computer programmers as required. This course team approach is widely used in South Asia, despite the fact that it is more expensive than other approaches since it is labor-intensive and requires relatively high levels of staffing. The commitment to the course team approach reflects a concern for quality of instruction which is also reflected in the range of media that is used for the purposes of self-instruction. The choice of media can obviously have a significant impact on the cost-efficiency of distance education, not only in relation to course design and development but also in respect to the duplication and delivery of course materials.

It is widely acknowledged that the time required to develop learning materials varies significantly, depending on the choice of media. For example, Sparkes[2] has suggested that, whereas it takes up to 10 hours of staff time to develop one hour of lecturing or small group teaching, it may take 50 to 100

1 Taylor, J.C., "Distance Education in Formal and Non-Formal Education", *Distance Education in Asia and the Pacific*, vol. 1, Manila, Asian Development Bank, 1987.

2 Sparkes, J., "Pedagogic Differences Between Media", in Bates, A.W. (ed.), *The Role of Technology in Distance Education*, London, Croom Helm, 1984.

hours to prepare a teaching text which will occupy a student for one hour, 100 hours to develop a 60-minute "broadcast quality" television program, and 200 hours or more to prepare one hour's worth of computer-assisted learning material. These figures need to be treated with some caution, however, since preparation time will also be a function of the experience and expertise of staff and the quality of materials produced. The extent to which subject matter specialists are assisted by other specialists (instructional designers, graphic artists, media staff, etc.) will also presumably have a noticeable impact on cost and quality. Management decisions on the media mix to be used, the approach to course development, and associated commitment to quality can all be seen to have a major impact on the fixed costs associated with course development, which are dependent on the availability of a sophisticated institutional infrastructure.

It is the initial establishment costs requiring a major investment in buildings and equipment, particularly where studio-based technologies are used, that differentiates distance education systems from conventional on-campus education. The capital investment in the development of course materials in the former replaces traditional face-to-face student-teacher contact in the latter. In essence, capital replaces labor. The potential economic benefits derive from the fact that the course materials, once produced, can be used to teach many times the number of students that can be catered for in conventional settings without the need for additional capital investment in buildings for use as classrooms, tutorial rooms and the like. So while it may be initially more expensive to establish a sophisticated infrastructure (including facilities for media production, word processing, printing, warehousing, distribution, etc.) to support distance education initiatives, the potential scope of the approach to reach numerous target populations in widely dispersed locations far outweighs the cost-efficiency of providing conventional face-to-face education in a variety of settings as long as a sufficiently large number of students is enrolled in distance education courses. In effect, the potential economies of scale inherent in mass distance education are dependent primarily on a sufficiently large number of students being enrolled to warrant capital investment in the development of course materials and the infrastructure that supports such activities.

The investment in course materials is, of course, subject to volume of activity, since the more courses on offer, the greater the total investment required. The most cost-efficient distance education system would be one with a relatively small range of courses and very large numbers of students. A range of courses at varying levels of specialization is usually required to satisfy the structure of most curricula offered in conventional settings. As more courses are added to the curriculum, there is a danger that the number of students per course will

decline. One way to overcome this apparent loss of economies of scale is to extend the life of a course so that the costs of the course can be written off over a number of years. Such an approach is not without potential pitfalls since the credibility of many courses, especially those beyond the foundation level, is somewhat dependent on the currency of course content. Some commercial correspondence courses have successfully contained costs by only offering courses with relatively low development and production costs which are unlikely to become rapidly outdated and which are likely to attract large numbers of students. Cost-efficiency, however, also depends on the containment of student variable costs when the courses are actually presented.

C. Student Variable Costs

Student variable costs are highly dependent on management decisions associated with the provision of student support services. As previously mentioned, some distance education institutions provide little more than details of the syllabus, a list of commercially available textbooks, and an examination service. In such systems, student variable costs are minimal. In contrast, some of the more recently established open universities take pride in the provision of high quality, self-instructional course materials as well as extensive student support services including counselling, the provision of timely feedback on tutor-marked assignments, study center facilities, library services and even regular face-to-face tuition. The extent of provision of such services obviously has a significant impact on student variable costs. Indeed, systems which incorporate regular face-to-face tuition represent a reversion to the traditional labor-intensive methods of conventional education and thereby run the risk of being more expensive than typical conventional systems. In designing a distance education system, management must endeavor to keep the variable cost per student (cost of materials, distribution costs, counselling costs, tutor-marked assignment costs, and face-to-face tuition costs) below the direct cost per student in conventional systems (primarily the cost of staff and consumables). It is clear that the cost per distance education student is a function not only of the number of students enrolled but also of the quantity, type and quality of course materials provided, and associated student support services. Within economic constraints, quality should be a key consideration since, in the final analysis, no amount of investment is justified if the system does not produce effective educational outcomes.

D. Factors Influencing the Cost-Efficiency of Distance Education

The many issues raised above highlight how difficult it is to make definitive statements about the actual cost of distance education, which is moderated significantly by management decisions made in particular socioeconomic contexts. On the other hand, a number of fundamental guidelines can be derived from the discussion which appear to deserve serious consideration by educational planners of distance education initiatives. These guidelines are delineated in terms of infrastructure costs, course development and production costs, and course delivery and student support costs, respectively.

(i) Infrastructure costs
   (a) represent the major capital investment required to establish a distance education system; and
   (b) are significantly dependent on the initial choice of range of media to be deployed.

(ii) Course development and production costs
   (a) are ultimately dependent on the number of students enrolled, the fundamental variable underlying the potential to benefit from economies of scale;
   (b) are dependent on the size of the academic program in terms of the number of courses developed for presentation;
   (c) can be somewhat controlled by extending the life of a course, thereby increasing the number of students;
   (d) can be somewhat controlled by increasing production runs for printed materials, etc.; and
   (e) are somewhat dependent upon the style of development (e.g., course team) and media mix deployed.

(iii) Course delivery and student support costs
   (a) are often subject to fluctuations in volume of activity and therefore may not lead to benefits derived from economies of scale; and
   (b) represent student variable costs which, from a cost-efficiency perspective, should be minimized.

E. Towards a Multinational Distance Education System

As well as providing general guidelines for the planners of specific systems, the points raised above also provide a useful framework for considering the potential economic benefits of the proposed mechanism for international cooperation, the South Asian Distance Education Center (SADEC). It is evident that a major capital investment is required to establish the basic infrastructure (buildings, communications, equipment, studios, etc.) to support distance education activities. Particularly for small nations (such as Bhutan, Maldives and Nepal) with target populations of limited size, the economic justification for the establishment of a sophisticated distance education infrastructure would be difficult to substantiate whatever the social justification. If a way was found to share infrastructure costs across international boundaries, then presumably cost-efficiency of educational provision could be enhanced to a point where a multimedia-based, multinational distance education system could become an economic reality.

In fact, such an institution has been in existence for the past 20 years. Established in 1969, the University of the South Pacific (USP) was set up to serve the needs of 11 island nations which on their own could not afford to set up a university. USP operates from its main campus in Suva, Fiji, from where it delivers a wide range of distance education courses to students in 11 different countries (Cook Islands, Fiji, Kiribati, Nauru, Niue, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu and Western Samoa). From Rarotonga in the east to Guadalcanal in the west, USP provides distance education services over 3,000 miles of ocean. Money to pay for the running costs of the multinational university is hard to find in each country and USP could not exist without aid from several wealthier countries in the region.

As Williams[1] has indicated, transportation difficulties exist both within and between countries. For example, Tuvalu's eight islands which are hundreds of miles apart are visited by ship only twice per year. Further, communications difficulties exist in some parts of the region with telephone services being restricted to a few hours per day while charges for such services remain high. USP has overcome this problem to some extent by using satellite terminals in USP Centers established in 9 of the 11 countries served by the University. USP uses a multimedia, self-instructional materials approach (primarily print-based) and designs "stand alone" packages, in light of the fact that many students are unlikely to have access to local tutorial support, must often study in the evenings

1 Williams, A.I., "Distance Education at the University of the South Pacific: Problems, Challenges and Opportunities", *International Yearbook of Education and Instructional Technology*, London, Kogan Page, 1984.

by the light of a kerosene lamp, and are likely to operate most of the time in a language other than that (English) of the course materials. Indeed, USP serves target populations of enormous heterogeneity, reflected not only in the 11 distinct national cultures, but in the several hundred different languages that exist throughout the countries served by the University. For example, in Vanuatu alone there are 97 recognized languages.

In such difficult circumstances, USP has developed and offered an impressive range of courses at preliminary, foundation, certificate, diploma and degree level. These courses cover a large number of subject areas including mathematics, biology, chemistry, physics, English, geography, education, technology, accounting and management, to name but a few. Several of the courses are oriented specifically to the context of developing countries in such fields as community development, rural technology, agriculture, food and nutrition in the developing world, and marketing in developing countries.[1] The ongoing success of the USP demonstrates that multinational distance education is viable, not only in theory but in practice, at least in the South Pacific context. Whether multinational distance education could come to fruition in South Asia is likely to depend not only on goodwill between potential national partners, but also on fundamental questions of economic feasibility to which attention is now turned.

F. The Economic Feasibility of Multinational Distance Education

The two fundamental fixed costs in distance education are, first, the investment required for the establishment of a system infrastructure consisting of buildings, equipment, and so on and, second, the investment needed to develop self-instructional course materials. As was demonstrated in the review of distance education in South Asia, in some countries such as Sri Lanka, India and Pakistan there has already been a significant degree of investment aimed at the establishment of sophisticated distance education infrastructures, while in other countries in the region such as Bangladesh, Bhutan, Maldives and Nepal, the scale of investment in distance education has been relatively limited. Irrespective of the level of investment to date, however, there appears to be a considerable scope for the expansion of distance education in all countries in the region. Indeed, the manpower development requirements, both in terms of initial educational provision and continuing professional and vocational updating, appear to cry out for initiatives that could increase the capacity of existing distance education operations in the region.

1 *Extension Services Handbook*, The University of the South Pacific, Suva, 1989.

Every distance education center has an absolute capacity whereby it can only produce, deliver and service a certain number of courses for a particular number of specific target populations. Once this capacity has been reached, there is a need for a further influx of capital to construct additional buildings, purchase more equipment and so on. There is not one country in the region that could not benefit from the availability of an increase in capacity to offer distance education services. While the countries with smaller target populations and those that have not yet invested heavily in distance education might benefit most, other countries with existing well-established systems could also benefit from the enhanced capacity that would result from the establishment of a centralized infrastructure (e.g., SADEC) to further service the distance education needs of countries in South Asia. Just as in the case of USP, there are some obvious economic benefits flowing from a sharing of the infrastructure establishment costs. The major ongoing economic benefits, however, depend more on sharing course development costs and ultimately on increasing the number of students studying particular courses thereby taking advantage of the economies of scale inherent in mass distance education.

The cost-effectiveness of course development can be usefully regarded as a function of the number of students who successfully complete the course. In the first instance, the cost of developing (though not duplicating) a multimedia self-instructional package is fixed, irrespective of the number of students (either 1,100 or 1,000) who take the course. If courses could be designed and developed centrally to meet the manpower development needs of several countries in the region, then the number of students taking the same course could be increased dramatically to a point where massive benefits could accrue as a result of economies of scale. For example, using a costing model developed at the University-College of Southern Queensland (formerly the Darling Downs Institute of Advanced Education), the fixed development cost using a multidisciplinary team approach for a one-credit point unit (equivalent to 1/24 of a bachelor's degree program) consisting of print materials (20-page introductory booklet, 255-page study book and 250-page book of selected readings) for the production of one set of printer-ready originals is A$26,193 (US$19,644), plus A$31,500 (US$23,625) to cover infrastructure costs amortized over 40 years. This fixed development cost includes 75 days' work for a subject matter specialist, 19 days' work for an instructional designer, 19 days' work for an education officer, 5 days' work for a graphic designer and 16 days' work for a word processing operator. These costs, which are based on an existing distance education infrastructure in an Australian dual-mode institution, will be examined in more detail later in the paper. If one student studies the course, it will cost A$57,693 (US$43,270) comprising both development costs and infrastruc-

ture costs. If 100 students study the course, it will cost A$366 (US$275) per head. If 1,000 students study the course, it will cost A$130 (US$98) per head. If the life of the course is three years and appropriate single print runs are done to cover enrollments over this period, costs per head are as follows:

A$192 (US$144) per head for 100 students per year for three years;

A$113 (US$85) per head for 1,000 students per year for three years.

Even taking into account additional costs incurred for warehousing for two years, the benefits derived from economies of scale are clearly evident.

Although the above figures are presented here only as general guidelines for purposes of illustration, the practical savings in certain areas of common manpower development needs across nations could be even more prominent. For example, the earlier review of the manpower development needs in the region established that most countries could benefit from an increased allocation of funds to, or a better return on existing funds for, the upgrading of underqualified teachers. On a global basis, Colderin and Naidu[1] estimated that between 20 and 30 per cent of primary teachers in developing countries are either professionally untrained or academically unqualified. On a regional basis, this target population could easily consist of many thousands of people. Again, for the purpose of illustrating the potential economies of scale inherent in mass distance education, the costs per head relative to student numbers based on a course life of three years are as follows: A$106 (US$80) per head for 5,000 students per year for three years. While used solely for the purpose of illustration, these figures are not unrealistic. Further, if one could negotiate a reasonable price on the supply of printer-ready originals on the vast quantity of course materials that already exist, the economies of scale could be even greater.

Even this brief examination of the economic justification of mass distance education appears to demonstrate the potential value to the region of establishing a coordinating mechanism such as SADEC. Aligned to the social justification for such an organization in terms of its potential contribution to the fair and equitable provision of educational opportunities for all (but especially to currently disadvantaged groups), the economic justification of mass distance education appears to demand action. It certainly demands more detailed

1 Colderin, G. and S. Naidu, "In-Service Teacher Education at a Distance: Trends in Third World Development", *Open Learning*, vol. 4, no. 1 (1989), pp. 9-15.

scrutiny. While the establishment of an organization such as SADEC is patently well-justified in theory, it would not be without problems and constraints in practice. The identification of these problems and constraints and consideration of alternative strategies by which such barriers to genuine collaboration in distance education may be ameliorated, will next be reviewed.

STRATEGIES TO PROMOTE THE DEVELOPMENT OF DISTANCE EDUCATION IN SOUTH ASIA

It has been clearly demonstrated that active collaboration between operators of distance education systems has the potential to make a significant contribution to cost-efficiency through the optimization of economies of scale. This cost-efficiency may be achieved primarily through the sharing of costs associated with the establishment of the distance education infrastructure and, more particularly, through the cooperative design, development, production and use of instructional materials whereby the number of students using the materials can be increased to a point where benefits derived from economies of scale accrue. Such a quest for increased cost-efficiency could entail:

(i) creating a centralized curriculum and instructional materials development and production infrastructure; and
(ii) eliminating unnecessary overlap in course development and thereby concentrating more students in any given course.

The achievement of such initiatives would lead to greater cost-efficiency since the cost per student unit would be reduced. Cost-effectiveness should also be facilitated since the quality of instructional materials ought to be enhanced through the concentration of resources, expertise and effort in the design and development process. If this potential for improved cost-effectiveness is to be realized on an international basis, a number of constraints will have to be overcome.

A. Constraints to Cooperation

In attempting to generate cooperative development and use of instructional materials on an international scale, apart from language and cultural differ-

ences, barriers to genuine collaboration emanate primarily from the strongly entrenched tradition of academic freedom.[1] The traditional autonomy of the individual teacher, especially in tertiary education, has promoted somewhat personalized approaches to curriculum and instructional design. This freedom to give a personal slant to teaching is jealously guarded by many academics. This traditional attitude towards autonomy, however, is somewhat counterbalanced by the intellectual interchange between scholars which is an essential feature of academia, embodied not only in the wide range of professional journals that exist in every discipline, but also in professional associations, conferences and teacher exchange programs that cut across national boundaries. Further, the mixture of backgrounds of staff that are typically found in almost every university department reflects the fact that education, especially at the tertiary level, is, in a sense, already inherently international. In distance education, the long history of the International Council for Distance Education (ICDE) highlights the potential for genuine cooperation in the distance education arena. If an appropriate mechanism existed, it seems reasonable to suggest that most educators would welcome the opportunity to work on the cooperative design and development of materials with professional colleagues in a well-supported course team environment.

In a multinational course team environment, issues associated with the development of materials for use on an international basis could be addressed meaningfully. For instance, such materials would need to: be designed for use by a wider target audience, focus on the substantive subject matter, and illustrate points with a wide range of examples. At USP, for example, it is not unusual in courses on law, marketing, economics and the like to see examples drawn from several national contexts in order to clarify key concepts, thereby retaining relevance to students from several countries, while at the same time enriching the materials. This line of argument is not meant to deny that genuine differences in curricular requirements do not exist between institutions in different countries. Indeed, it is to be expected that several courses could well be relevant only to nationals of a specific country. On the other hand, it seems equally defensible to suggest that the essential core of many subject matter areas would be of direct relevance to appropriate target audiences throughout the region, if not worldwide. In any event, issues associated with curricular compatibility could be effectively resolved in a course team environment. Further, course teams could also consider the relevance of the considerable quantity of course materials that already exist in the region to ascertain the extent to which

1 Calvert, J., "Facilitating Transfer of Distance Courses", Paper presented at the 13th World Conference of the International Council for Distance Education, Melbourne, 1985.

new teaching resources were required to be developed, or whether existing materials could be either adapted or used without modification, in a wider range of international contexts.

The use or adaptation of existing materials also raises questions about ownership and copyright as well as pricing policies and associated funding allocations. Copyright clearance and associated charges tend to vary significantly according to whether an institution operates on a nonprofit basis or if it stands to profit from the sale of educational materials. This issue is further complicated by the fact that copyright regulations vary from country to country. Associated with the copyright issue is the question of ownership of the materials and the extent to which various course team members should receive royalties from sales. Distance education institutions and organizations will inevitably have different policies on such matters. There is an evident need for a clearly defined policy on ownership, as there is in questions on the extent to which materials might need to be adapted for a particular instructional context and the extent to which such changes might lead to claims on ownership of materials. Such claims are likely to be further complicated by the pricing policy on sale and purchase of materials relative to student fees, government grants, funding allocation within institutions, and so on. If, however, materials are being developed from the outset with international usage in mind, copyright and ownership issues can presumably be dealt with effectively during the design and development phases of instructional materials production. If necessary, a team of management and legal experts could be charged with the task of delineating ownership, copyright and pricing issues to engender a workable model of international cooperation at the subregional level in South Asia.

It is clear that none of the aforementioned constraints is fundamentally problematic. Provided sufficient goodwill exists between potential partners, there does not seem to be anything to prevent the realization of cooperation in distance education on an international basis within the region. Indeed, the judicious selection of projects that could generate multimedia, self-instructional packages capable of satisfying simultaneously the manpower development needs of several countries in the region in a cost-effective manner is an exciting proposition that warrants further consideration. Based on the previous review of both existing distance education operations and outstanding manpower development needs in South Asia, a number of projects are apparently worthy of pursuit.

B. Potential Cooperative Ventures

Of the seven countries reviewed, all had documented manpower development needs in the field of in-service teacher education for both primary and secondary levels. While social and cultural differences certainly exist between countries in the region, it seems reasonable to suggest that the upgrading of teachers in curriculum areas such as mathematics and natural science would be of almost universal value. If this in-service teacher education could also be coordinated with the development and distribution of associated instructional materials for use by pupils in the schools, presumably the efficacy of such an initiative would be even greater. Indeed, according to a recent analysis by Lockheed and Hanushek,[1] comparison of the outcomes of a number of projects financed by the World Bank demonstrated that investments in instructional resources, such as textbooks and radio programs, proved to be more cost-effective than investments in teacher education. From the point of view of promoting pupil learning, a major investment in well-developed instructional materials appears to demand serious consideration by educational decision makers, as do a number of other projects.

Of the countries surveyed, four had documented manpower development needs in agriculture and/or rural development. Similarly, common manpower development needs existed in several countries in such fields as vocational and technical education, health education, nutrition, literacy, women's education and engineering education. While specific requirements will inevitably vary somewhat, it seems reasonable to suggest that the essential core curriculum emanating from the inherent structure of the subject matter discipline will be more or less of universal relevance. Where countries have apparently common needs, these could be explored in detail through the establishment of international project teams with each country interested in a particular field of study being represented initially by a senior academician who is an expert in curriculum in an appropriate discipline. Starting with a workshop focusing on curriculum design issues, working groups could be established in specialized areas to document the structure of the subject matter under the guidance of suitably experienced instructional design experts. The project teams could be charged with the task of generating instructional blueprints, providing specific guidelines for the development of instructional materials which could be subsequently allocated to course writers, audiovisual specialists and the like. Actual materials development could be effectively coordinated by the experienced

1 Lockheed, M.E. and E. Hanushek, "Improving Educational Efficiency in Developing Countries: What Do We Know?, *Compare*, vol. 18 (1988), pp. 21-38.

instructional designer from the original design team. Subject matter specialists from the design team might also be involved in materials development. In effect, these international project teams would operate as an extension of the typical course team approach with which there is extensive experience in the region.

C. Alternative Strategies for Development

As mentioned earlier, models for multinational cooperative ventures in distance education already exist. USP is perhaps the most obvious example, but the rationale underlying the establishment of such organizations as the EADTU and The Commonwealth of Learning is entirely consistent with the notion that the establishment of a coordinating mechanism such as SADEC could lead to significant benefits to all countries in the region in terms of cost-effectiveness, cost-efficiency and optimization of quality in distance education operations. Indeed, as Sharma[1] has pointed out, distance education offers a genuine opportunity to further the Asian Development Bank's objectives of developing human resources and technical competencies in its developing member countries. The potential contribution of distance education will not be realized, however, without careful planning and the commitment of sufficient human and material resources to ensure the production and distribution of instructional materials of the highest quality, designed to service the needs of large numbers of students, thereby generating economies of scale. While it might be possible to gain some benefits through the establishment of a series of relatively smaller-scale bilateral collaborative ventures using existing distance education infrastructures, the potential benefits to be derived from economies of scale would appear to demand a bold initiative involving international cooperation on a large scale.

In reviewing distance education in South Asia, it is clear that three countries (India, Pakistan and Sri Lanka) have already made a significant investment in distance education, while the other countries (Bangladesh, Bhutan, Maldives and Nepal) have a great deal of potential for further investment in their respective distance education infrastructures. It should also be noted that India, Pakistan and Sri Lanka have considerable scope for the expansion of existing distance education activities. In short, when considered as a whole, the South Asian region could benefit significantly from increased investment in distance education. Whether such investment occurs in a coordinated fashion across international boundaries or as a series of uncoordinated national initiatives, is a key consideration.

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1 Sharma, M., "Issues in Distance Education", *Distance Education in Asia and the Pacific*, vol. 1, Manila, Asian Development Bank, 1985.

In the field of distance education, how many institutions have wasted limited resources in the early stages of infrastructure development due to lack of experience of, and specialist expertise in, distance education? How many basically equivalent courses have been designed and developed to meet the fundamental manpower development needs of untrained or undertrained primary school teachers? Similar questions could be raised with respect to courses aimed at a whole range of target populations, including a wide variety of occupational groups and disadvantaged groups, such as women and the rural poor. As was demonstrated by the earlier review of manpower development needs in South Asia, common problems exist in a number of national contexts. The realistic alternatives for solving the fundamental issue of making the best use of educational funds are severely restricted. The previous discussion of the economics of mass distance education clearly points to perhaps the only viable alternative, that of working together across national boundaries. Countries can either continue to reap relatively limited returns on their educational investment by continuing to work alone or they can endorse international initiatives capable of generating significantly better returns. The development of effective international working relationships in such areas as defence and trade have been evident for many years throughout various parts of the world. Why should similar working partnerships not be possible in distance education?

Continuing to work alone will not lead to any improvements in returns on educational investment. Bilateral cooperation will likely have a relatively minor impact on returns. The greater the number of countries working in cooperation, the greater the economies of scale which could lead to significant benefits for the region. In short, the centralization of resources, both human and physical, in the establishment of an organization such as SADEC would appear to offer the best alternative.

The problems associated with the provision of adequate educational opportunities to rapidly increasing target populations loom as a major challenge to governments in the region. Large-scale distance education initiatives appear to offer perhaps the only viable solution. Such initiatives cannot emanate solely from the existing distance education infrastructures in South Asia which are already working close to full capacity. The creation of SADEC to become the hub of a concerted effort to promote a coordinated range of cost-effective distance education programs of the highest quality on an international scale demands further analysis. Such an initiative could well be the only viable approach to tackling successfully the mammoth problems facing governments in the region in attempting to provide for the burgeoning education and training needs of rapidly expanding populations. For this reason, a detailed overview of the structure, function and operational feasibility of SADEC, the

proposed mechanism for engendering subregional cooperation in distance education will now be delineated.

SOUTH ASIAN DISTANCE EDUCATION CENTER: A PROPOSAL

The activities of the proposed South Asian Distance Education Center (SADEC) would need to encompass curriculum design as well as instructional materials design, development and production. In addition to executive management personnel, it would need to be staffed by experts in instructional design and media specialists to ensure appropriate use of print-based, audio-visual and computer-based instructional packages. The primary function of SADEC would be to develop distance-teaching resources of the highest quality which could be used in a variety of national contexts. SADEC would not necessarily be responsible for producing multiple copies of instructional materials, but would concentrate on the preparation of a series of master copies of materials (printer-ready copy, master audiotapes, master videotapes, master diskettes) which could then be distributed to participating countries through an appropriate agency, presumably an existing distance education institution. The multiple copying of materials in the local context would, in most instances, be cheaper than central production and distribution, though each particular case would need to be evaluated from a cost-efficiency perspective relative to the actual physical location of SADEC. Similarly, the use of radio or television broadcasting might best be dealt with at a national, rather than an international level in most instances. The SADEC proposal will therefore concentrate on the structure and function of an organization capable of generating distance teaching resources of the highest quality for use on an international scale.

A. SADEC: Organizational Structure

The organizational structure of SADEC is primarily dependent on the functions that it will fulfil. While the major function of SADEC is the design and development of high-quality instructional materials, a number of other important activities needs to be supported to ensure the cost-effectiveness of the materials development function. For example, given the wide range of existing distance education courseware in the region, it seems reasonable to suggest that the development and maintenance of a "Course and Teaching Resources Database" and an associated "Regional Clearing House" would make the best

use of the funds already invested in distance education in the region. SADEC could coordinate the activities of a working group to document existing distance education operations, not only in terms of courses available but also teaching resources such as printed materials, audiotapes, videotapes and so on. Initial data collection on course offerings could take place by means of questionnaires designed to provide the information required to maintain the database. Similarly, collection of sample materials could be achieved without excessive financial commitments though space would be required for storage. This type of activity would help prevent the "re-invention of the wheel" and lay the foundation for cost-effective design and development of instructional materials.

SADEC could orchestrate the gathering of sets of sample materials associated with courses documented on the database so that they would be available for consideration by the proposed international project teams. These teams would be charged with the documentation of the curricular and instructional materials development needs in particular subject matter areas, and could therefore consider the samples of instructional materials collected to assess whether they were appropriate for use, with or without adaptation, in a range of international settings. Under the guidance of an experienced instructional designer, these project teams could delineate the utility of existing materials, gaps in provision and related blueprints for instructional materials development, including the desired instructional media mix required. Subject matter specialists from each participating country would be represented on each project team which would be chaired by an instructional designer from the SADEC staff. International project teams could be established to consider the curricular and instructional materials development needs in such fields as teacher education, agriculture, rural development, technical and vocational education, health education, literacy, women's education and engineering education where common manpower development needs have already been identified. An overview of the organizational structure of the interface between the subject matter specialists in various fields of study and SADEC staff is presented on page 76 (Figure 1). Once the international project teams have produced the required curricular specifications and associated instructional blueprints, international course development teams charged with the detailed design and development work would then be established. SADEC's instructional design specialists would provide the critical link between the project teams and the course development teams. While the initial meetings of these international teams would preferably take place face-to-face over a period of approximately ten days' duration, there would appear to be no good reason why subsequent meetings could not use the now widely available international teleconferencing facility in order to contain costs to a reasonable level.

The establishment and coordination of international project and course teams would appear to demand the establishment within SADEC of an international liaison section which could also be responsible for communications between participants, including the aforementioned teleconference meetings. The international liaison section would provide administrative support for project and course teams through the arrangement of travel, accommodation and other support necessary for the smooth functioning of team meetings. This section could be part of a larger organizational unit concerned primarily with administrative services, including general administration, personnel, business and legal affairs, and finance. These sections are typical of any large open university. Apart from the emphasis on international liaison, the functions of such sections would be more or less equivalent to those of similar organizational units in well-established tertiary education institutions.

Some aspects of SADEC would, however, differ markedly from existing educational institutions involved in distance education. Unlike other distance education institutions, SADEC would have no need to maintain library services, study center support services, counselling services, registration and the like for the simple reason that SADEC would have no students. With no need for the maintenance of a student records database, it seems reasonable to suggest that the computing requirements of SADEC could be designed around a network of microcomputers. Fulfilling its primary function of designing, developing and producing master copies of high quality instructional materials, it would have a less extensive administrative structure concerned with the management of resources than a typical higher education institution (Figure 2).

Probably the major difference between SADEC and other educational organizations would be the lack of subject matter specialists in a wide range of disciplines, since these would be provided by participating agencies. The academic staff of SADEC would be drawn primarily from the fields of instructional design and educational technology. These instructional designers and media specialists would not only be responsible for design and development work, but would contribute significantly to the related activities of research and development, evaluation and training. To be truly effective, research and development activities, and evaluation procedures should be effectively integrated with the work of the international course teams. Such integration appears to provide unlimited opportunities for cross-cultural research in distance education.[1]

1 Taylor, J.C. and V.J. White, "Preactive Meta-Analysis: A Research Paradigm for Distance Education", *ICDE Bulletin*, no. 2 (1983), pp. 57-58.

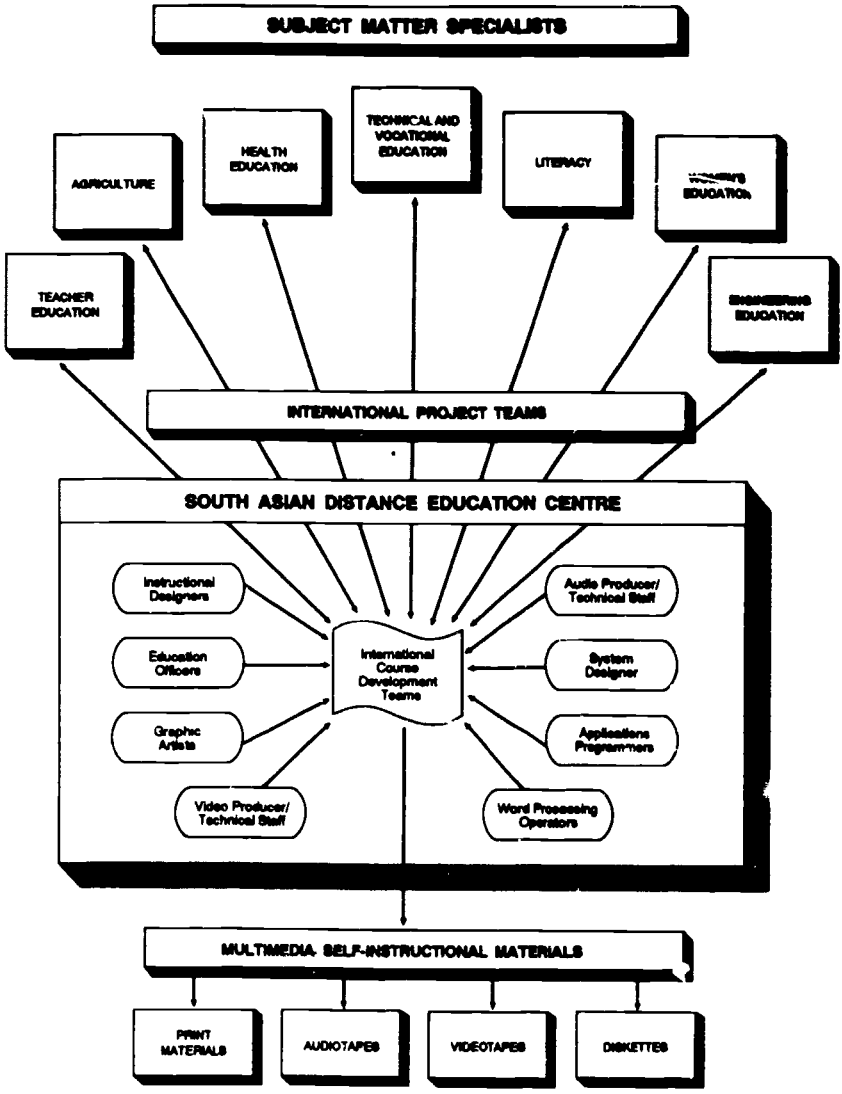

Figure 1: **Overview of SADEC Operations**

Figure 2: **Overview of SADEC's Proposed Resource Management Division**

Resource Management		
Business and Finance	**Personnel and International Liaison**	**Materials Production/ Distribution**
• Accounts/Audits • Legal Affairs • Estate • Management	• Recruitment • Industrial Relations • Public Relations	• Word Processing • Printing • Storage • Distribution

Similarly, the efficacy of programs to train staff as distance education specialists would surely be enhanced through close connections with work on actual instructional materials development emanating from the efforts of the international course development teams. Indeed, training activities would probably best be regarded as part of the responsibility of the three sections of SADEC concerned with the provision of services of a primarily academic nature, namely, instructional design and development, educational technology and evaluation, research and development (Figure 3).

The basic organizational structure of SADEC, apart from the resource management and academic services divisions, would need to entail some form of executive management structure to ensure adequate policy formulation and associated strategic planning. From the perspective of coordinating the input from each participating country, it would seem that there is a need for an International Executive Council (IEC) with a single national representative from each participating country. The IEC would be charged with the monitoring of emerging manpower development needs, national plans and the like to set the broad targets for subject areas and target populations requiring attention. Similarly, the IEC would be responsible for negotiating the policies associated with the equitable allocation of resources and the setting of priorities relative to the sources of funding for various projects within SADEC's operations. The Director of SADEC would, of course, be a member of the IEC. The internal management structure of SADEC would appear to demand the existence of a

Figure 3: **Overview of SADEC's Proposed Academic Services Division**

Academic Services Division		
Instructional Design and Development	**Educational Technology**	**Evaluation, Research and Development**
• Database Management • Project and Course Team Support • Training	• Media Services • Graphic Design • Computer-Based Learning • Technical Services • Training	• Evaluation • Research • Training

small senior management committee (comprising the Director and Associate Directors) and a more broadly based consultative committee consisting of the heads of each of the sections represented in the general overview of SADEC's organizational structure (Figure 4). This structure provides a general framework for a more detailed examination of certain aspects of SADEC operations including facilities and equipment, staffing and operational costs.

B. SADEC: Facilities and Equipment

The organizational structure of SADEC reflects its main functions associated with the design, development and production of instructional materials which would include printed materials, audiotapes, videotapes and diskettes. While the essential function of SADEC is to produce master copies of such materials for subsequent multiple copying and distribution at the local level, it could well be worth considering the inclusion of a printer to meet the needs of the country in which SADEC will be located. Such an issue would obviously require careful economic justification and would depend on a feasibility study being carried out relative to possible alternative physical locations of SADEC. For the sake of illustration, however, a printer and associated storage facilities will be included in the proposed physical infrastructure.

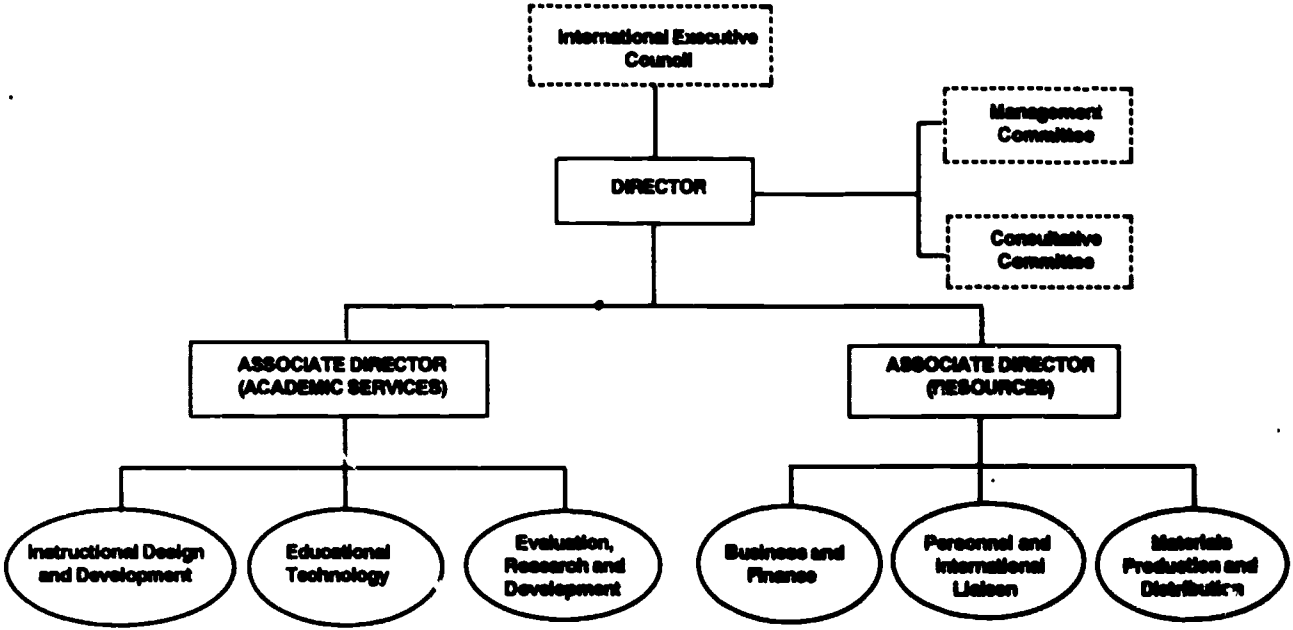

Figure 4: **General Overview of SADEC's Proposed Organizational Structure**

The emphasis on multimedia self-instructional packages demands capabilities for the production of audiotapes, videotapes and microcomputer-based education initiatives. While it is anticipated that the bulk of materials (70-80 per cent) would be print-based, the demand for the use of other media is likely to increase over the next 15-20 years, so that investment in the physical infrastructure to provide specialized media and computer-managed learning capabilities is regarded as essential. Since audiotapes provide basic courseware for possible radio broadcasting as well as home use, and since videotapes offer similar possibilities in regard to television broadcasting or home use, the inclusion of media facilities expands significantly the flexibility and potential pedagogical efficacy of SADEC services. Further, because of current and future developments in satellite communications, the proposed media facilities could well benefit from the inclusion of a broadcasting capability. Again, the final decision on such an investment would be dependent on a detailed feasibility study, but is worthy of consideration in the current concept proposal.

C. Media Services Capability

The Educational Technology Section of SADEC would encompass video production, audio production and associated graphics, including photography, computer-based learning, and technical workshop facilities. The investment required in equipment would be largely determined by policy decisions related to the desirability of having on-air broadcast capabilities for either radio or television. For example, quality and costs vary quite significantly for video production relative to the use of broadcast standard (BETACAM) or semibroadcast standard (BVU), with the former requiring an investment almost twice that of the latter. The basic equipment for audio production, graphics, photography and associated workshop facilities would, at present in Australia, cost approximately A$250,000 (US$177,000), with video production costing a further A$728,000 (US$546,000) for broadcast standard or A$441,000 (US$330,750) for semibroadcast standard.

D. Computer-Based Learning Capability

The computer-based learning (CBL) capability of the Educational Technology Section would incorporate an infrastructure capable of providing diskettes for use in computer-managed learning and computer-assisted learning as well as a computer-marked testing facility. The computer-managed learning (CML) system would be microcomputer-based and would entail three integrated

components: management, assessment and delivery. The management component would involve storing student test results, date test completed and updating scores on a student records database. The assessment function would entail testing mastery of student knowledge and cognitive skills while providing immediate performance-related feedback to students. The delivery component of the system could be diskette-based for those students having access to appropriate technology, or print-based for those without access to a microcomputer. The print-based approach would entail students submitting answer sheets to a central location for optical reading and marking "by" the computer – with student feedback being provided in the form of a computer-generated personal letter. The computer-assisted learning (CAL) capability would, however, demand student access to a microcomputer.

Relative to the specific context in which many of the student target populations in South Asia would be working, there may not be a major immediate widespread demand for such high technology approaches to instruction but the centralization of the required infrastructure would avoid "reinventing the wheel" and ensure that limited resources were used to good effect. The cost of software, including authoring language, an appropriate commercial database product, some communications software, an optical reader, diskette copiers and associated microcomputers would cost only A$150,000 (US$112,500) to establish a basic CBL facility.

E. Additional Equipment

The Evaluation, Research and Development Section could also make use of the optical reader for the processing of evaluation questionnaires which could be distributed locally but processed centrally. Apart from a number of microcomputers, say four IBM-AT machines (A$30,000), this section would only require software for conducting statistical data analysis such as SPSS-PC (approximately A$1,500) or Statgraphics (approximately A$2,000). Similarly, the Business and Finance Section and the Personnel and International Liaison Section would not require an excessive investment in hardware or software, apart from a number of microcomputers and a commercially available integrated software package such as Open Access II (approximately A$1,500) to support the bulk of activities. Teleconferencing facilities are perhaps the exception. Such a capability to support the operation of four studios would require an investment of around A$166,900 (US$125,175) for the necessary equipment, including teleconferencing systems, microphones, external speakers, cassette tape decks (for recording proceedings), and a teleconference bridge.

In the Materials Production and Distribution Section, the major aim would be to establish a network word processing system with high quality laser printer output. An evaluation of the current costs associated with various commercial systems would be required, but an investment in the order of A$511,000 (US$383,000) would be required for the installation of a high performance electronic document production system consisting of 12 workstations (e.g., Xerox 6085 'Star') at a total cost of A$384,000 (US$288,000), a laser printer (e.g., Xerox 3700) costing A$27,117 (US$20,338), file server (e.g., Xerox 8090) costing A$80,000 (US$60,000), and optical scanner (e.g., Xerox 7650 Pro-Image Scanner) costing A$21,000 (US$15,750), connected together in a local area network (Figure 5). While it would be possible to create desktop publishing systems for much less than this, the quality and reliability of the system would depend significantly on the cost of equipment.

F. Staffing

The scope of the activities of SADEC would be critically dependent upon the number of instructional design specialists available to work with the proposed international project and course development teams. For the sake of illustration, it will be assumed that 16 experienced instructional designers (appointed at lecturer level) will be required in order to support the work of eight international project teams with an Associate Professor appointed to coordinate the work of the instructional design and development section. In the first instance, it would be desirable if two designers worked with each project team. Subsequently, each designer could then support the work of approximately seven international course development teams on an annual basis. Thus, the work of an instructional designer would entail working with one international project team and seven international course development teams per year. Based on the assumption that the tasks of project teams and course teams are more or less compatible, the overall design and development capacity of SADEC would therefore be roughly equivalent to 120 new courses across eight programs in the first year. This figure is based on the assumption that project and course teams would meet on a face-to-face basis at SADEC for the initial work over a period of 10 working days. Subsequent work would require a further nine working days per team, entailing manuscript review, teleconferencing and the like. In the first year of operation, each instructional designer would spend 152 days on team work, 48 days on research and evaluation, and 25 days on the training of personnel. These figures are based on the assumptions that a designer works 5 days per week for 45 weeks, with 4 weeks allowed for recreation leave, 2 weeks for public holidays, and a single week for sick leave. Again, these figures are

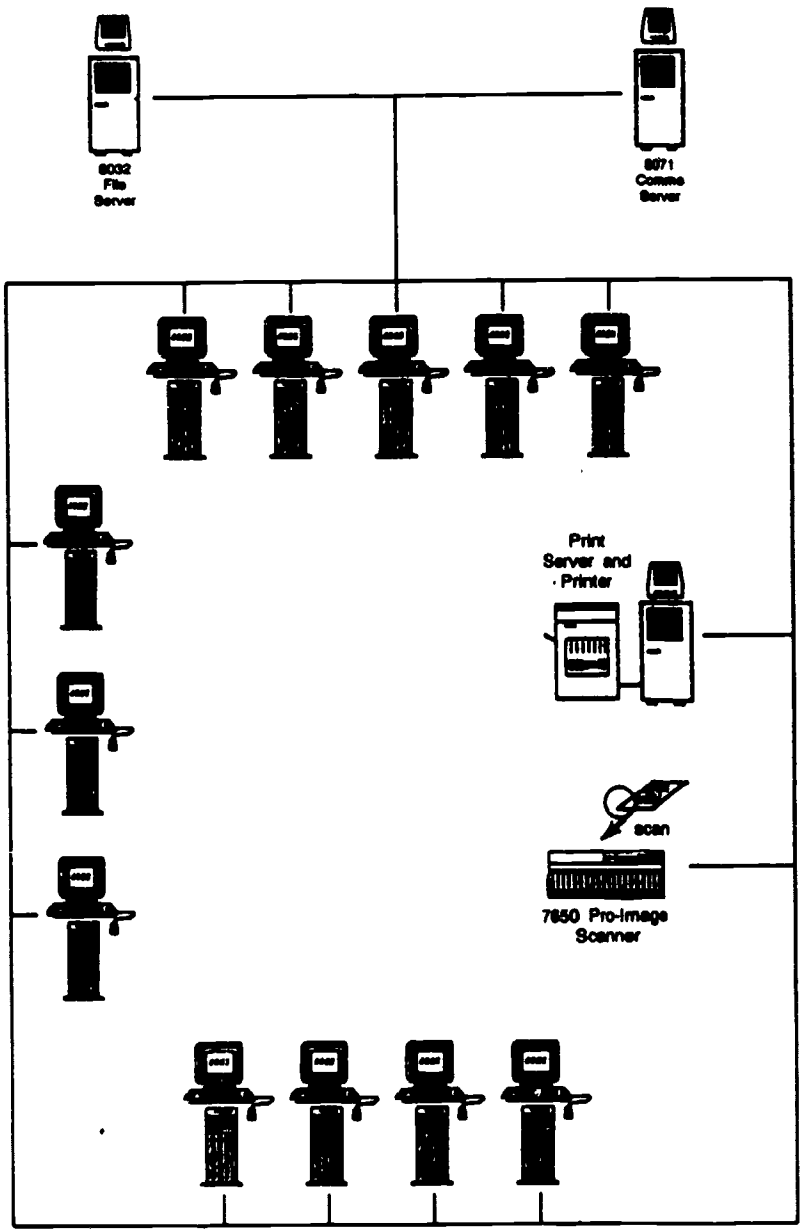

Figure 5: **Proposed Local Area Network Configuration**

for the purpose of illustration only and should not be interpreted too literally, since they are ultimately dependent on policy decisions that would determine the relative priority to be given to team work, research and evaluation, and training activities, respectively. Further, as SADEC activities expand in the years to come, allowance would need to be made for varying degrees of revision of materials as a result of evaluation activities and evolving subject matter disciplines.

The work of instructional designers and subject matter specialists in the project and course development teams would be facilitated by the assistance of distance education officers whose primary role would be to provide administrative and editorial support to the teams. The distance education officers would also spend a total of 19 days on each of the teams and would also spend time on research, evaluation and training activities in the same proportion as instructional designers though their contribution would be to provide support, such as that typically provided by research assistants, reflecting the appointment level of tutor/senior tutor. As required, the distance education officers would also be expected to liaise with staff from the other sections, especially with those in evaluation, research and development, educational technology, and materials production and distribution.

The complement of staff in the evaluation, research and development section would be primarily dependent on the policy determining the relative priority of such activities. Given the limited amount of research in distance education, however, there is considerable scope for this type of work. The academic credibility of SADEC could certainly be enhanced by a reasonable commitment of resources to this section. It is therefore proposed that a senior lecturer be appointed to coordinate the work of the section with the support of three full-time researchers appointed at lecturer level. These staff members would, of course, work with the instructional designers and distance education officers to devise and operationalize a comprehensive evaluation, research and development management plan for SADEC. The projects incorporated would primarily have an applied focus with a view to enhancing the cost-effectiveness of distance education operations in the region. In particular, SADEC would conduct research which would:

(i) provide a better understanding of the factors which affect the learning processes of students who are at a distance from the providing institution;
(ii) demonstrate the efficacy of particular instructional strategies;
(iii) demonstrate the cost-effectiveness of particular combinations of instructional media;

(iv) evaluate the utility of different distance education techniques in formal and nonformal educational contexts;
(v) explore the economic impact of distance education on national development; and
(vi) contribute to the theoretical understanding of distance education.

There is, of course, not only enormous scope for, but also a major need for, research in distance education. It would be hoped that SADEC would make a significant contribution to the research effort, particularly in the area of educational technology.

The staffing requirements of the Educational Technology Section would be somewhat dependent on policy decisions pertaining to the emphasis to be given to video and audio production, and computer-based learning. The basic minimum needs, however, are for an Associate Professor to manage the activities and for a video production producer supported by a director who would also contribute to scriptwriting, two camera operators and two production assistants. For audio production, there would be a need for a director and dubbing operator. Workshop activities to maintain the audiovisual and computing equipment would demand the appointment of at least two technicians, while photography would require two staff members, and graphics a further two to support production activities. These suggestions are based on a reasonable commitment to the development of audiovisual materials. The computer-based learning facility would require three specialist staff members – a systems analyst and two applications programmers. The activities of the Educational Technology Section would also, of course, require adequate secretarial and clerical support.

While the Educational Technology Section would produce audiotapes, videotapes and diskettes, the bulk of the instructional materials would be print-based. The production and distribution of materials would be managed by a Senior Administration Officer supported primarily by graphic artists, word processing operators, and administrative staff. In order to produce the estimated equivalent of 120 courses in the first year and an estimated 20 research projects per year, the following staff would be required: 4 graphic artists, 1 training officer, 12 word processing operators, and 1 print production supervisor to control the scheduling of the work. These estimates of staffing requirements are based on the assumption that the printed materials (e.g., Introductory Booklet, Study Book, Selected Readings) of each course will require approximately 275 pages of word processing, 5 days of input by a graphic artist, and the paste-up of 250 pages of selected readings used under existing copyright legislation. As was mentioned previously, the equipment configuration is based on a Local

Area Network such that the capacity of the system could be readily expanded should demand increase. Alternatively, it would be possible to increase the number of hours that the equipment is used by introducing shift work, the aforementioned staffing estimates having been based on a single shift worked during normal business hours.

Print production will be aimed mainly at generating laser quality originals for subsequent multiple copying in several national contexts. If the decision was made to allow SADEC to service local students in the immediate national context of its physical location, the size of the despatch section would obviously need to be a function of the number of students enrolled. Given the primary focus on production of originals which will be made into multiple copies elsewhere, despatch activities would not demand a major investment in manpower. Staff members in this section would, however, be responsible for maintaining archives, including the storage and distribution of sample materials associated with the SADEC Course and Teaching Resources Database. A clerk supported by perhaps two administrative assistants should be adequate for these purposes.

The extent of staffing requirements in the Personnel and International Liaison Section is again somewhat difficult to ascertain with any degree of certainty. Apart from a Senior Administration Officer to coordinate activities, a personnel officer assisted by, perhaps, three administrative assistants and a secretary would be needed to manage recruitment, industrial relations, and associated issues. Similarly, the extent of staffing required to support international liaison activities would be dependent on the success of the proposed international project teams and associated course development teams. An initial projection of eight subject discipline-based project teams generating work equivalent to 120 course development teams in the first year would probably demand a gradual increase in staff from perhaps four to eight liaison officers while the scope of SADEC activities gathered momentum. Each liaison officer would be given responsibility for all of the arrangements associated with project team and course team operations, including travel, accommodation, transport and agenda papers associated with both face-to-face meetings and subsequent teleconferences. The coordination of teleconferencing would demand at least two members of staff, one clerk to coordinate the administrative arrangements, and a technical officer responsible for the management and maintenance of the teleconferencing equipment. Staff within the Personnel and International Liaison Section would clearly have to work closely with other SADEC staff, especially those employed to deal with financial affairs.

The scope of the activities of the Business and Finance Section would be dependent on policy decisions associated with funding arrangements associated with the work of the project and course teams, production, distribution and the

like. There is obviously a need for a detailed feasibility study to consider such matters and the policy decision taken will ultimately determine the staffing requirements for the Business and Finance Section. It is probably safe to assume, however, that an organization such as SADEC would require a minimum complement as follows: a Senior Administration Officer, supported by accounting, planning and budgetary officers, a buildings officer, an estates and procurement officer and a publications officer, as well as a range of support staff. The exact number of specialized support staff would be dependent primarily on the extent to which contract or permanent staff were used.

An overall indication of staffing requirements is presented in Figure 6, though a detailed feasibility study would be needed for precise specification. The overall recurrent cost of SADEC staff will, of course, reflect the actual location of the Center – another objective of the feasibility study. In order to provide a working model of operational costs, however, a spreadsheet based on activity costing will be briefly considered.

G. Operational Costs

The spreadsheet was devised by Timmins[1] as part of a research project funded by the Australian Government. The costs delineated therefore reflect current Australian rates of pay for lecturers, tutors, word processing operators, graphic artists and so on. The costs of particular activities (e.g., instructional design) are based on an allocation of time costed at an hourly or daily rate. Thus, it is possible to consider the costing model from the perspective of the employment of contract staff rather than permanent employees. The costs have been collated under two major headings: first, development and production, and second, delivery, the latter including the teaching component (student support services, tutorial and library support, tutor-marked assignments, examinations, etc.). The major interest from a SADEC perspective is on development and production, especially the development of instructional materials in the form of printer-ready copy. The advantage of the spreadsheet approach is, of course, the flexibility available to planners who can vary one or more of the parameters and view the effect of the variation (e.g., increase in the number of students) across the total model.

1 Timmins, W.K., *Cost-Effectiveness of Printed Study Material Supplemented by Other Media for External Learning*, Department of Employment, Education and Training, Commonwealth of Australia, 1988.

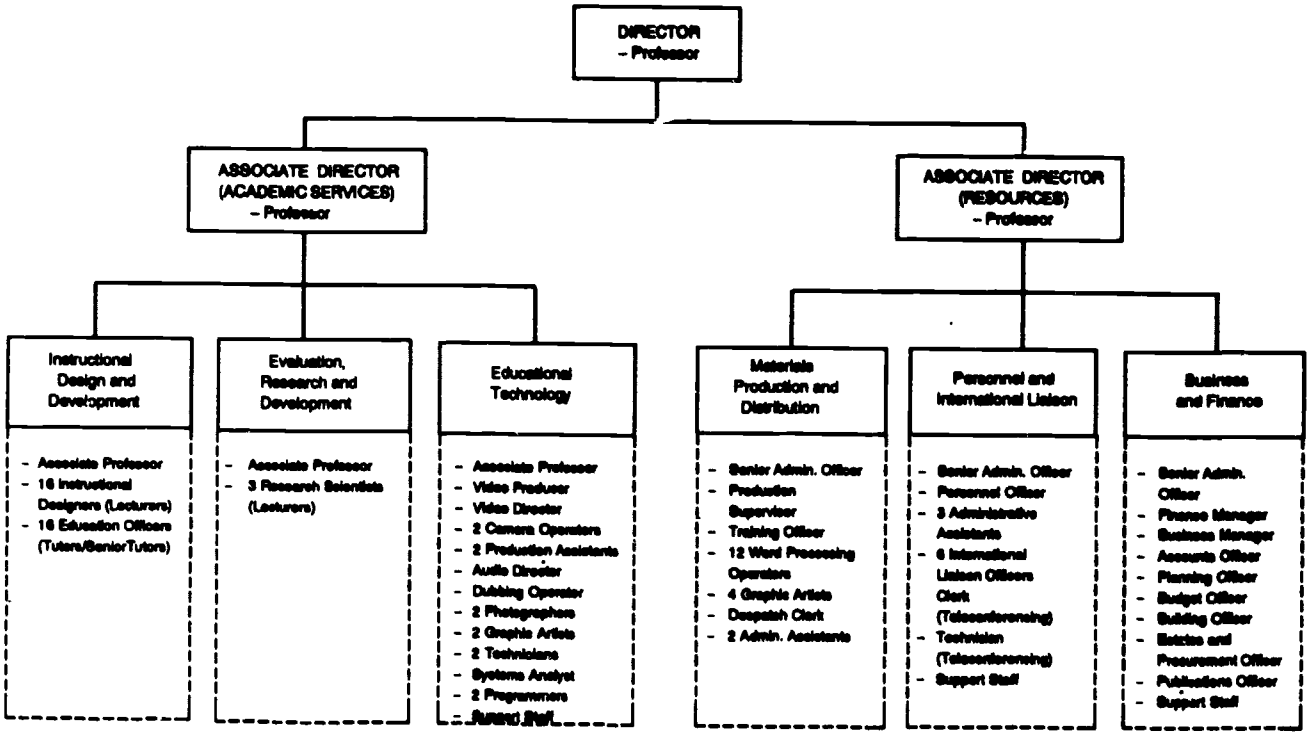

Figure 6: **Overview of SADEC's Basic Staffing Requirements**.

The assumptions underlying the spreadsheet were adapted from a costing model developed by White.[1] Significant variables in the model include the number of students, the "life" of the course, the weighing of the course relative to the typical workload of a full-time student on campus and, of course, the quantity of study materials, whether print-based, audiovisual or computer-based. A typical printout from the spreadsheet is based on a course equivalent to one-eighth of a full-time student's workload. Materials produced are expected to have a three-year "life", and the figures reflect a three-year printrun for a total of 450 students (150 per year). The instructional materials consist of 275 pages of word-processed manuscript with 5 days of input from a graphic artist and 250 pages of selected readings that have been pasted up. These figures are consistent with those used for estimating SADEC staffing requirements, as are the figures for instructional design input (19 days) and distance education officer effort (19 days). The input of subject matter specialists to the international course development team is costed at 75 days (e.g., 3 members at 25 days each). Experience would suggest that this is a realistic figure in most instances. In examining the figures presented, it is important to note that this spreadsheet model was designed to reflect the operations of a typical Australian dual-mode institution in which funding is provided on an effective full-time student unit (EFTSU) basis, listed at the level of A$6,000 for the purpose of illustration. This figure, however, is not significantly related to the actual costs listed for instructional design, word processing and so on because of the activity costing approach typically used by accountants. In effect, the following figures reflect the costs of projected SADEC activities, though such costs should be interpreted cautiously in light of their basis in the current Australian context.

From a SADEC perspective, the development costs (academic input, instructional design, word processing and so on) for a single course are A$26,193 (US$19,644) while associated infrastructure costs (amortized over 40 years) are A$31,500 (US$23,625), giving a total of A$57,693 (US$43,270) which could be shared by several participating countries. For example, if seven countries participated in a particular project, an investment of US$6,181 per partner would be required. For this price, SADEC would provide a set of printer-ready originals for subsequent printing in each national context. If 7 countries participated in the development of all the projected 8 discipline-based projects and associated 112 courses to be produced in the first year, the cost per SADEC partner would be approximately US$692,320 compared with an investment of US$4,846,240 if a single country undertook the design and development work

1 White, V.J., *The Economics of Distance Education in an Australian College of Advanced Education*, Paper prepared for the Australian Council of Directors and Principals of Colleges of Advanced Education, 1985.

on an individual national basis. The savings associated with international cooperation through SADEC in all 112 course development activities amount to a staggering US$4,153,920 in just one year of operation. The scenario is not quite so simple, since travel and accommodation costs would be incurred by project and course team participants but, relative to savings of almost US$4.2 million, such costs are almost irrelevant.

The major savings then are in the sharing of infrastructure costs and design and development costs, respectively. The initial capital investment needed to establish a distance education center is in the region of US$6 million for a building and US$3.5 million for equipment. The sharing of such project costs among several countries is patently attractive. Further, the obvious economic benefits of a proposal for the establishment of SADEC would presumably be attractive to international aid granting agencies. The economic benefits derived from the sharing of ongoing recurrent costs associated with design and development is also attractive. Countries provided with printer-ready copy of high quality courses can still derive the benefits of economies of scale associated with multiple copying for relatively large target populations in their own national context. Costs associated with subsequent distribution, student support, examinations and the like are subject to fluctuations in volume of activity, and do not therefore benefit from economies of scale. Such printing, distribution and support costs would, of course, be the prerogative of each individual nation. As a whole, the economic justification for SADEC appears to be clearly defensible. The social benefits that would accrue are equally demonstrable. Through SADEC operations, the rate at which distance education courses are produced for the same investment could be increased by several hundred per cent, relative to the number of cooperating countries. At the same time, the pooling of expertise could optimize the quality of instructional materials. The promotion of fair and equitable access to educational opportunities would appear to be well-served by the proposed SADEC initiative.

CONCLUSION

A. Towards Multinational Distance Education

It would appear that the concept of SADEC can be adequately justified from a number of points of view. In the final analysis, however, the essential justification must ultimately be the cost-effectiveness of such an operation. Economies of scale depend primarily on increasing the number of students enrolled in a particular course so that the cost per student is reduced. There

would appear to be real advantages in the establishment of an international organization such as SADEC, especially for small nations. Whatever the social justification for distance education, the fact remains that the high costs of setting up a system and developing a sufficiently wide range of courses means that there can be little economic justification for such an investment unless there is a large enough student target population to bring average costs down below those found in conventional education systems. Large nations could also benefit by sharing the costs of developing vocational and professional updating courses in advanced technologies where the potential target population in a single country is relatively small. Through the development of multinational instructional materials, SADEC offers significant opportunities in this respect. Another major cost-efficiency measure is that emanating from sharing the capital costs associated with the establishment of a sophisticated infrastructure to support distance education operations. Again, SADEC appears to offer an appealing possibility especially to nations thinking of investing in distance education, either for the first time or as a means of expanding current capacity. That there is an economic justification for an organization such as SADEC seems difficult to refute. The social justification for expanding educational provision in a fair and equitable manner through SADEC activities is equally without question.

The burgeoning demand for educational opportunities in developing countries especially among disadvantaged groups appears to demand further investment in distance education. But powerful social and economic justifications for such investment need to be somewhat counterbalanced by an equally critical concern about the efficacy of distance education which depends primarily on the quality of instructional materials. Through the pooling of expertise in instructional design and a range of subject matter disciplines across national boundaries, SADEC appears to offer opportunities to optimize instructional quality, thereby maximizing cost-effectiveness. Indeed, a multinational distance education infrastructure such as SADEC offers the exciting possibility that the measurable quality of instruction could be increased while simultaneously the average per-student costs could be reduced. This hypothesis could serve as an important focus for the research activities of SADEC which could also benefit from the pooling of limited resources and the sharing of expertise. A sharing attitude is certainly critical to the potential pragmatism of the SADEC proposal.

The extent to which goodwill exists among nations in South Asia is fundamental to the success of the project. Just as a liberal portion of goodwill provides the foundation for such ventures as The Commonwealth of Learning, the European Association of Distance Teaching Universities, and the Asian Association of Open Universities, SADEC could not possibly become a reality

without the commitment of all participants. On the other hand, it would seem likely that a firm commitment to a multinational distance education initiative could well generate a significant amount of goodwill which would make a positive contribution to international relationships within the region. Further, should distance education programs begin to span national frontiers, there would be an increasing role for international bodies to play in the encouragement and funding of projects. Presumably, the strong social and economic justification for multinational distance education initiatives would be especially appealing to international aid organizations which could apparently expect a better return on the "aid dollar". SADEC could provide a mechanism for coordinating the investment of international aid organizations in distance education in South Asia.

The analysis of the current state of development of distance education in South Asia, a review of the advantages and disadvantages of this mode of instruction, and consideration of the economics of mass distance education all pointed to the establishment of a regional institution such as SADEC. For this reason, there is only one major recommendation emanating from the current discourse – that of encouraging the Bank to undertake a major feasibility study concerned with the proposed establishment of a regional mechanism for generating international collaboration in distance education.

B. Recommendation: Proposed Feasibility Study

The feasibility study task force would need to ascertain the extent of the commitment of potential participating governments, institutions and international agencies to the establishment and operation of a coordinating mechanism such as SADEC according to the following terms of reference:

(i) examine the social, economic and cultural conditions pertaining to the development of distance education in each country;

(ii) document the development of distance education by level and type (primary, secondary, higher, technical, nonformal) for each country;

(iii) collect information in each country regarding the role of distance education vis-à-vis the conventional education system;

(iv) collect information in each country regarding: (a) the general structure of the distance education system, its administration and management, and (b) basic statistics for all courses taught at a distance;

(v) review development plans, commissions and committee reports related to distance education in each country;

(vi) collect statistics regarding government and public expenditure on distance education;

(vii) collect information on external financial aid for the development of distance education;

(viii) delineate existing cooperative arrangements;

(ix) delineate outstanding manpower requirements of each country which could be met by the expansion of the range of courses currently offered by distance education;

(x) delineate manpower training needs for professional staff in distance education in the following areas: (a) system planning/ management, (b) curriculum planning, (c) course development, (d) course production, (e) delivery system, (f) support system, and (g) research and evaluation system;

(xi) delineate needs associated with the potential transfer of educational technology including: (a) print, (b) satellite, (c) computer, (d) radio, (e) audiocassettes, (f) videocassettes, and (g) broadcast television;

(xii) delineate areas in which each institution/country could make a useful contribution to active collaboration in distance education;

(xiii) specify detailed establishment and operational costs of the proposed regional mechanism relative to potential, actual physical locations;

(xiv) obtain written confirmation of the extent to which each institution/country/international agency is prepared to participate in the proposed regional center for distance education; and

(xv) prepare a report for the Bank on the viability of, and support for, a regional mechanism for the development of distance education in South Asia.

Without doubt, SADEC is an ambitious project, demanding an extensive feasibility study. Without goodwill and commitment, however, it is not worth proceeding with a feasibility study. In determining the degree of commitment to the SADEC proposal, it should be noted that it has become dramatically clear that a significant improvement in educational efficiency and effectiveness is essential for continuing socioeconomic development if not for national survival. The establishment of SADEC could well optimize the contribution of distance education to such worthy objectives.

Cooperation in Distance Education in South Asian Countries

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CONTENTS

INTRODUCTION

The need for cooperation is a recurrent theme in international meetings and there are frequent reminders to international bodies to promote, to stimulate and to assist cooperative action. It is indeed one of the important mandates of UNESCO to promote cooperation among its member states in activities within the fields of its competence. Distance education is one of them, and a very topical aspect, too. There is no need to provide details once again on distance education in its different configurations as an alternative way of access to education. There are a growing number of distance education systems, in particular in the Asian region and documentation of case studies abound.

The purpose of this paper is to contribute to a discussion on how to improve cooperation in distance education in South Asian countries. It would, however, be preposterous to present a set of ready-made solutions and claim that they are the answer to all problems. At best, some orientations towards solutions could be brought to your attention. It might be useful and economical to recapitulate some of the recommendations which were the result of international meetings of some importance. It is interesting to read how much, and for how long, cooperation has been talked about and also to what extent recommendations have become a reality.

First and foremost, the Regional Seminar on Distance Education, organized by the Asian Development Bank with the cooperation of UNESCO in Bangkok in 1986, was a major event. It has become a point of reference in the Asian and Pacific region and beyond. Its impetus is still felt, and the present Round Table is one of the follow-up activities to this Seminar. The 1986 Seminar drew up a set of recommendations addressing issues within distance education systems, such as quality, management, technology and evaluation. It also aimed at transfer of knowledge from one system or country to another. With regard to international cooperation, the Seminar recommended that:

> "Institutions, governments and ADB and other international agencies should conduct a feasibility study to consider a possible joint venture aimed at setting up a regional training and dissemination center. Such an institute would provide technical assistance for research and development of distance education, including pre-project planning studies."

Under the heading "Training Needs" it recommended that:

"ADB, UNESCO and other international agencies could promote initiation of action for meeting the training needs of developing member countries in various aspects of distance education, including:

(i) system planning/management: training of planning and management personnel as well as those dealing with regional outreach centers;
(ii) program planning: course design and curriculum development, etc.
(iii) course development: instructional design and development of instructional materials;
(iv) course production: production of radio/tv and nonbroadcast materials, editing/layout and illustration/printing;
(v) delivery system: face-to-face contact sessions, creation of study/resource centers, student guidance and counselling;
(vi) support system: library development, and the like; and
(vii) research and evaluation: monitoring, feedback and statistical service."

In September 1987, UNESCO convened an International Consultation on Higher Level Distance Education which took place at Deakin University, Victoria, Australia. The geographical range of participants spanned all regions. One of the aspects to which the Consultation devoted its attention was "strategies for improved international cooperation". Participants appreciated efforts in the field of distance education made by UNESCO's Principal Regional Office for Asia and the Pacific (PROAP). The report on this Consultation contains an item on Cooperation in Higher Level Distance Education which lists the following headings:

STRATEGIES FOR COOPERATION

It goes without saying that certain strategies must be used in order to achieve effective cooperation at the national, regional or international levels. Such strategies are limited in number but must operate efficiently to obtain worthwhile results. They should have the following characteristics:

(i) clearly defined objectives;
(ii) coordination at the specific level;
(iii) adequate funding;
(iv) strong support from national, regional and international bodies;
(v) access to communication technology for information and documentation exchange; and
(vi) clearly elaborated evaluation methods.

JOINT RESEARCH PROJECTS

The advancement of priority research is a vital objective to attain. Therefore, cooperative initiatives for the joint production of materials, assessment and evaluation procedures, the recognition of degrees and diplomas, the impact of distance education on conventional systems, and the management of distance education could fruitfully be carried out at the national, regional and international levels between the principal partners involved. This would generate a stock of information on these issues within various contexts.

TRANSFER AND EXCHANGE OF RESULTS

It is recognized that information must be shared among all interested parties if distance education is to flourish. Thus, efficient methods of transfer and exchange are required. This points the way to the establishment and enhancement of information sources, especially data bases and the need to ensure that access to such services is guaranteed for both industrialized and developing societies. In fact, this aspect becomes the central issue in the advancement of higher level distance education.

USE OF TECHNOLOGY AND COMMUNICATION SYSTEMS

Strong emphasis must be placed on the ever-increasing impact of technology and the role of communication systems regarding the development of higher level distance education. In view of the disparities between industrialized and developing countries, it has become essential to study the uses and applications of technology along with their costing. Cooperation initiatives could

assist by sponsoring pilot projects and implementing case studies in this area, including the financial implications of such measures.

THE ROLE OF INTERNATIONAL AGENCIES

Current trends would seem to point to the need to define, more specifically, the role of international agencies, including UNESCO, in the development of distance education at the higher level. By the year 2000, there will be significant increases worldwide in the already high enrollments in distance education, thus necessitating strengthened infrastructures and improved services to deal with these increases in enrollments. The number of agencies of a truly international character concerned with distance education at the higher level and capable of undertaking activities which will enhance the quality of this education are very few. If these bodies can find ways to advance the objectives and activities of higher level distance education as previously identified, then this field of education will be well served. To this end, the consultation proposes a draft plan of action which would involve the major bodies already listed both on an immediate and on a longer-term basis.

The participants made particular reference to what they expected UNESCO's plan of action for "immediate objectives" to be as follows:

(i) Data bases of current information and of information on the literature of higher level distance learning should be developed and made available to users worldwide. Bodies such as the International Center for Distance Learning of the United Nations University and the International Council for Distance Education could be possible partners in this initiative.

(ii) A survey of existing resources in higher level distance education at the national, regional and international levels should be conducted by a suitable body.

(iii) An analysis of the uses of technology, including their financial implications in the field of higher level distance education, especially in developing countries, should be undertaken.

(iv) Regional networks and plans of action using appropriate regional bodies as focal points should be further promoted and developed.

(v) Closer collaboration between UNESCO and the International Council for Distance Education (ICDE) should be fostered. Similar collaboration should be encouraged with other international and regional agencies.

Longer-term objectives were to include the following:

(i) A global research program, carefully coordinated so as to ensure the identification, analysis and evaluation of key issues in distance education, especially at the higher level, should be established. This would draw upon the factors influencing the growth and development of distance education so as to ensure long-range planning.

(ii) The collection and dissemination of statistical data on higher level distance education should be improved by means of appropriate surveys. This information could be collected and published through an international body such as UNESCO.

(iii) Increased funding for distance education at the higher level should be obtained.

(iv) Facilities for the production and exchange of materials including the reduction of copyright restrictions and language barriers should be improved.

(v) The worldwide establishment of national centers of excellence in higher level distance education should be encouraged in collaboration with appropriate national authorities.

The latest international gathering of distance educators was on the occasion of the 14th World Conference of the International Council for Distance Education held in Oslo, Norway in August 1988. During the Conference, UNESCO and the ICDE convened a Round Table on "Higher Level Distance Education and the Needs of Developing Countries". A paper was produced by UNESCO containing a working document and the record of the Round Table discussions. The working document gives an overview of trends and issues in distance education which would be tedious to repeat here. Its author, Shannon Timmers, formerly with ICDE, collected proposals for action and recommendations from a number of sources and subjected them to a content analysis by way of a frequency count of common concerns in the categories of: institutional development, association development, collaboration, technology application, information mechanisms, training and specific distance teaching programs. Each category had about six subcategories. The content analysis suggested the following recommendations.

(i) Create mechanisms, systems and materials for training in a range of distance education operations (planning, management, design,

development, production, delivery, support, research and evaluation).

(ii) Establish a global network to collect and disseminate information on all aspects of distance education.

(iii) Systematize information about applied technologies in distance education and develop protocols for assessing their feasibility in different contexts.

(iv) Develop systems for sharing distance learning materials in areas of common need and foster collaborative development projects.

(v) Establish new or strengthen existing regional resource centers for materials, training and information networking.

(vi) Strengthen student support and flexibility through counselling, library services, learning centers, tutoring, supplementary support and cross-crediting.

The document does not contain a description of modalities of international cooperation but the above list is significant in that it reflects problems that beset most distance education systems and for which solutions should be sought through cooperative action.

It may be appropriate at this juncture to bear in mind the emerging needs of education in South Asian countries, for which distance education can be or already is a viable solution. The country papers and the statistical data sheet that the ADB had sent to participants before this Round Table will provide a basis for the formulation of proposals for action in distance education. It is against this background that issues of subregional or international cooperation will have to be discussed. Among the countries of the subregion, activities in distance education are to be found in Bangladesh, India, Pakistan and Sri Lanka. Some recent developments have also taken place in Bhutan, the Maldives and Nepal. Whatever the degree of advancement of the distance education systems, there is both the need for, and the possibility of, cooperation.

The main areas in which the need for cooperative action is generally identified are: information, research and training. These broadly defined areas cut across the different stages of distance education systems: planning, development and implementing, as well as the primary components of open learning systems: course production, delivery systems, student support, and assessment and accreditation.

In the Summary Report on Commonwealth Cooperation in Open Learning (Commonwealth Secretariat, 1985) which was one of the bases for The Commonwealth of Learning, the authors established an interesting

hierarchy of collaboration in terms of increasing difficulty and risk of failure coupled with modest to major benefits as follows:

Low-Risk (modest benefits)

- Sharing information
- Exchanging experience
- Exchanging advisers and consultants
- Collaborative staff training
- Accepting each other's students
- Acquiring and/or exchanging external materials
- Collaborating on evaluating external materials
- Collaborating on adaptation of materials
- Cooperating on development of related course units
- Establishing credit transfer arrangements
- Creating a common open learning system

High-Risk (major benefits)

Some of these modalities of collaboration do not necessarily apply to intergovernmental cooperation due to sociocultural, linguistic and other differences. But they do highlight the main areas where cooperation is needed.

In times of scarce resources one should first identify existing foundations on which to build. What are these in the Asian region? What are the infrastructures and the resource bases presently available? There is the Asian Association of Open Universities (AAOU) created in November 1987, grouping India, Indonesia, Japan, Republic of Korea, Pakistan, Sri Lanka, Thailand (i.e., three South Asian countries). As the name implies, the Association groups institutions of higher learning primarily involved in distance education. The Secretariat is at STOU, Thailand. The objectives are, inter alia, to:

(i) exchange management information, teaching materials and research;
(ii) help promote distance education and develop its potentialities; and
(iii) facilitate cooperation with other similar regional and international bodies.

The Australian and South Pacific External Studies Association (ASPESA) was conceived in 1972 and established in 1973. Its objectives of promoting understanding, cooperation and high standards in distance education

practice and information dissemination have been well-served through its biennial forums, its workshops, research grants, a newsletter (ASPESA News), and since 1980 the publication of a journal "Distance Education". ASPESA is an affiliate of the International Council of Distance Education (ICDE) under a joint membership agreement.

A seminar on the Establishment of a Regional Resource Center in Distance Education was held at the Sukhothai Thammathirat Open University, Thailand, in June/July 1988. The need to establish a regional resource center in distance education had been stressed in various regional workshops and meetings. The Center was created as a result of this seminar and is located at STOU. Its scope and functions are to: seek out information from throughout the region and take every opportunity to disseminate such information to participating centers and institutions. Specific functions include: data base, documentation, information-communication networks, cooperative production and use of distance education teaching resources, training and conferences, and distance education research. UNESCO and the AAOU were instrumental in setting up the Center. The development of a data base at the Center is the subject of a contract between UNESCO/PROAP and STOU which foresees, as a first phase, an analysis of the functions and the identification of the system to be put in place. This first phase will be concluded in March 1990. The second phase (system design and development) will start immediately afterwards.

There is the Asian Regional Research Programme which started in 1984 as an example of cooperative action within a well-defined framework of objectives and modalities. This program is the result of a contact between the Universiti Sains Malaysia and the IDRC Social Science Division. It eventually included AIOU, UT, STOU and Universiti Sains Malaysia and benefitted from financial support to the value of C$200,000.

Within the Regional Cooperative Programme in Higher Education for Development in Asia and the Pacific, a newsletter for distance education "Never Too Far" has been published for years by STOU and the AAOU in cooperation with UNESCO/PROAP. It is a useful tool for information dissemination and exchange. There are other regional bases of networks, such as the Asian Programme of Educational Innovation for Development (APEID) which has a number of activities in distance education to its credit; and the Asian Mass Communication Research and Information Center which, with Canadian financial assistance, held a Seminar on Training Needs in the use of media for distance education in Asia, 1987 in Singapore, to discuss how best to meet these training needs and to make recommendations for action.

There is the International Council for Distance Education which, since its last World Conference in 1988, has been developing its idea to create regional

chapters with a view to stimulating and facilitating regional cooperation. Further, the International Center for Distance Learning (ICDL) funded by the UNU and located at the OUUK has undertaken a survey of higher level distance education resources, under contract with UNESCO and in collaboration with the ICDE. The survey has just been completed and the collected data is available in both computerized and printed forms to ensure wide access by interested users. It contains information on institutions, programs and courses, and distance education information and documentation resources.

The purpose of the above listing, which is far from exhaustive, is to demonstrate that the components of a mechanism for effective cooperation in South Asia exist. The fact that they exist is mainly the result of the interest of key persons in the participating institutions as well as of the support of international organizations such as UNESCO and ADB. The role of governments has, however, been comparatively limited.

What then is required to create, to improve or further develop resources and services to stimulate activities in distance education? There must be firm commitment and support from the governments if any cooperative mechanism for South Asian countries is to succeed. The needs have been assessed and can easily be identified again. There is the goodwill to cooperate on the part of individuals and institutions but neither individuals nor educational institutions do, as a rule, have much freedom for international action. Government commitment must be political in that it agrees to enter into international/regional/subregional cooperation and also sustain this cooperation. It must also include resources. While the initial financial outlay very often can be obtained from external sources, the operating costs required to keep cooperation alive, almost invariably are the responsibility of the participating partners. Perhaps the possibility of establishing South Asian cooperation in distance education under the auspices of the South Asian Association for Regional Cooperation (SAARC) is worth considering.

With regard to setting up a mechanism of cooperation, there are certain options that have been put forward over the years. An Asian institution or Center of Distance Education has been suggested but this will most certainly take time to establish. And, it is not only budgets that constrain choices: political, technical and legal considerations also come into play. Perhaps a Committee composed of representatives of Governments of South Asian countries of SAARC, ADB and UNESCO could be set up to study such a proposal in detail. ADB/UNESCO could initiate and coordinate the work if this meets with the approval of those concerned.

A research center for distance education in South Asia has also been suggested, although another suggestion pointed towards more of a clearing house

function of such a center. While the function is justified, its establishment would somehow duplicate the existing Regional Resource Center at STOU. There are cost-saving alternatives some of which could be to: expand membership of the RRCDE; widen the scope and increase activities of the Center; set up a special desk for South Asian countries of the RRCDE; obtain contributions "in kind" from participating institutions, for example in the form of attachments of staff members (accountable in person/months) during a limited period.

Concerning the three main areas – information, research and training – it might be advisable to define a minimal program that responds to the needs of all cooperating parties, rather than pursue an idea. In other words, focus on a program of action rather than on a physical infrastructure or institution. The benefits derived from twinning institutions and the gradual international networking of bilateral institutional cooperation should not be underrated. It will be necessary, however, to secure full government support for these linkages. With regard to information exchange, it might be preferable to strengthen the existing means and use them fully in an expanded form. With regard to research, much duplication of effort and wastage could perhaps be avoided by:

(i) jointly drawing up a priority list of research topics with particular attention to the transferability of results;
(ii) identifying the most appropriate institutions to undertake research;
(iii) maintaining the flow of information on research progress; and
(iv) sharing results.

Admittedly, this reads somewhat mechanically and perhaps the conclusion is too simplistic. But cooperation means a joint effort; it means sharing plans and information; it means compromise; and it involves giving and accepting help when it is needed. Further, there have been examples of excellent cooperation, such as the one initiated at the Regional Workshop of Key Persons on Cooperative Development of Courses in Distance Education organized under the initiative of UNESCO in Bangkok in 1987.

The need for training personnel in distance education systems is growing and covers all components of a distance education system. The greatest need, apparently, is in the field of management. The major obstacle in this respect – apart from finding the appropriate person to be trained and to replace him or her while being trained – is to finance training abroad or even to import trainers. While international and bilateral funding sources can help, there has been tremendous wastage in the past. There are now a number of distance education institutions in the region which could be used as training venues to provide

culturally and technologically region-specific relevant training than the classical South to North approaches. This is not new but the resources available in the region are not well identified. Perhaps the time is ripe to invest in a thorough survey of resources in distance education in the region, a kind of "resource map" which could be updated regularly and would indicate what capacities in which domain are available for cooperation.

Cooperation is not without cost but a careful assessment of needs and a thorough evaluation of resources could go far to reduce costs. The role of potential partners in cooperative activities is naturally conditioned by their capacity, their vocation and their latitude of action. There is a need to define and agree upon common objectives, there is a need to initiate and sustain a free and regular flow of communication among partners, and there is a need for commitment.

The background information to this Round Table under "Objectives and Scope" mentions six goals for which this meeting is expected to recommend alternative strategies of cooperation. In four of these six goals, the operant word is "sharing": sharing resources, sharing expertise, sharing expertise and facilities, and sharing technical know-how. To my mind, sharing is the strategy.

The 25th session of the General Conference of UNESCO is still in progress. When delegates leave on 16 November, they will have approved the Third Medium-Term Plan for 1990-1995 as well as the program budget for the first biennium within this period for 1990-1991. Distance education as well as the use of information and communication technologies for education are given due consideration in the programs and the Secretariat, both at Headquarters and naturally in the Principal Regional Office for Asia and the Pacific in Bangkok, will continue to provide whatsoever assistance it can give. In return, we are endeavoring to develop inter-regional cooperation. The valuable experience in distance education available in this region should be brought to the attention of other member states in other regions.

Teacher Training and Staff Development

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CONTENTS

INTRODUCTION

The main single issue which this paper will address is that distance education seems to work most effectively and efficiently when it is distance training.

Over the past two decades there has been a large and ever-growing number of conferences, seminars and workshops on distance education. The literature on the subject is now considerable and growing. Distance education no longer needs to assert its legitimacy. Further debate about definitions and terminology and creating a taxonomy of distance education can safely be left to academics. The philosophers of distance education have rich ground in which to work and its practitioners have increasing skills and access to modern technological tools to improve the quality of what is being done. It is to the planners and managers responsible for teacher training and to other human resource development that this thesis is directed. "Distance education is fine; distance training is better."

In the Report of the Regional Seminar on Distance Education held under ADB auspices in Bangladesh in November-December 1987,

> "It was repeatedly emphasized that the new techniques in distance education should take account of the human resource development needs of countries instead of merely imitating the conventional systems approach of providing general education."

At this stage it may seem that what is being proposed is no more than a semantic gloss to what is already clear and self-evident. But just as educational institutions and training institutions can have difficult, even abrasive, relationships in conventional systems and are very often under separate control with differing philosophies and methodologies, distance education and distance training also have different characteristics.

As a caveat, it is perhaps unfair to overly stress the differences between education and training which exist between conventional systems and distance education systems without also taking into account the large degree of congruence which also exists. They are not mutually exclusive but there are differences.

CHARACTERISTICS OF DISTANCE TRAINING

Vocational training is taken to mean all work-related training outside full-time school, college and university education. It can be in three modes:

(i) in-service, which is the normal style for teacher training;
(ii) pre-service;
(iii) or taken in the workers' own time (i.e., for other occupational purposes).

There are three basic types of training courses which can be made available although they can sometimes be combined:

(i) specialized courses in one subject or sector (e.g., computing, accountancy);
(ii) upgrading courses, relevant to career development patterns which enable staff to move from one level to another; and
(iii) refresher courses to cope with changes in methodology, new curricula, other innovations, etc.

This breakdown reflects one of the most striking characteristics of distance training, i.e., the emphasis is directed much more to the *needs* of the target groups rather than on academic coherence per se.

Needs, however, for distance training are not always functional nor do they have to be. There can be training courses for personal development, for social development, or for a combination of reasons of priority, though most are for occupational, vocational or professional development. But for whatever the purpose, the objectives of the training will have been able to be defined accurately and specifically. This in turn helps define and target the user groups. Very often these groups can operate as "collectives" (rather than classes) if they are working together.

Since training leads to qualifications which are normally recognized for employment and salary purposes, motivation tends to be high. The importance of motivation in distance learning (whether education or training) cannot be overemphasized. It is perhaps the most vital single element in determining whether or not distance learning will be effective.

Training courses are more manageable than larger degree-type courses both from the learner's point of view and the institution's. They tend to be shorter, with fewer elements, more tightly focused and less open-ended. All

these factors have implications for study and for the management and administration of the system.

Distance education for in-service teacher training is an accepted and widespread strategy which has a large number of obvious advantages. These include:

(i) no need for staff replacements during training;
(ii) no interruption of earnings (and many teachers have extramural sources of income);
(iii) large numbers can be catered to in rural areas as well as urban regions;
(iv) it can be made available through a system in a comparatively short period;
(v) no rural-urban movement needed with its attendant problems;
(vi) the distance education teaching materials can act as resource materials in the schools; and
(vii) research indicates that in-service training of this type does produce positive effects on teaching. This is reinforced by studies from other sectors which also indicate that the overall impact of training is better when given to people in employment.

Conventional wisdom suggests that distance education and training is cheaper than conventional education and training when used with sufficiently large numbers to utilize economies of scale. In some teacher training projects which have used distance education in Europe and in Africa, training costs are typically half as expensive as campus-based training. One issue worth noting is the current tendency for institutions which are coming into being to be required to be "self-financing". The Report on the Regional Seminar on Distance Education mentioned above also suggested that "for work-oriented courses full cost recovery should be expected after the initial phase". This is especially true for institutions in the UK. The Open College – a possible model for the delivery of distance training – has been pump-primed by UK Government funds on the premise that it will become, sooner rather than later, financially independent.

STATUS OF DEVELOPMENT OF DISTANCE EDUCATION WITHIN THE REGION

It would be invidious as a representative of an external agency to attempt any overview or analysis of what has been achieved in the region. Each organization has policies and mandates as to what it should be doing. Organizations are also organic in the sense that they respond to changes in their operational environment.

One example of this is a recent paper produced by the Chinese distance teaching system. Earlier priorities for the system had been the conventional ones of literature, language, history, etc. Now there is to be an emphasis on the unity of theory and practice. Priority is now to be directed towards "socialist economic reconstruction". Future courses will be directed towards the "management" of industry, commerce and administration.

Within the region there are several significant activities of national, regional and international importance now being undertaken in the provision of training for manpower development. The National Productivity Board of Singapore is planning a major, national television-led open-learning series of projects for its work force. Although it is possible to highlight several examples of this kind including, for instance, the experience of the Bangladesh Institute of Distance Education (BIDE) in providing effective in-service teacher training, it is for institutions to state what they have done in this sector, what they are doing, and also what they propose to do.

What I would say is that from an external perspective there is both the commitment and the capacity to use distance teaching to meet the varied and diversified range of manpower requirements by the institutions which already exist. More institutions will be needed. More staff development will be needed for distance education/training itself. Using distance education to teach distance education is not a new phenomenon. IGNOU among others gave this a high priority. Institutional cooperation will also increase with the growth of new institutions. Mechanisms exist at present – the ICDE, the Association of Asian Distance Teaching Institutions, The Commonwealth of Learning, etc.. Strengthening of these can only be beneficial.

ISSUES OF CONCERN

When it has been agreed that distance learning will be at least one element of an overall strategy in any manpower development project, there are a number of issues to be considered very carefully.

A. Who Will Be in Charge?

At present the generally established and recognized position is that distance education is something that educational institutions deal with. Although there are many historical and operational reasons why this may seem to be the normal way of doing things, there are other obvious reasons why this need not be so. Ministries of Education have a brief to deliver whatever educational requirements are needed for those within their educational system. But does this meet the operational and professional needs of those working in other "nation-building" ministries such as health, agriculture, etc.? Should national governments or regional authorities then set up distance education/training institutions? This alternative could lead to a situation whereby each ministry, agency or project which has a need to train its staff rapidly and efficiently, might wish to set up its own institution.

The arguments for and against this style of development cannot be encapsulated here. Experience would tend to show that knowledge of teaching/training "know-how" together with access to a learners' network is likely to be the best starting point. This would reinforce the view that education has a headstart on sectors such as agriculture and health which in turn are well ahead of most other vocational and industrial sectors. The size of any distance training project will be a critical factor in determining where it is located. A ministry, regional authority or similar body with major and urgent training needs may well claim to be justified in setting up its own mechanism.

B. Should It Be Only In-Service or Not?

When the provision of distance training is being considered, the issue of whether it should be provided only for in-service staff or not can be of crucial importance. It has been shown clearly that the highest level of occupational benefit is derived from those students already working. These benefits include:

(i) better pay;
(ii) better promotion prospects;

(iii) having more self-confidence;
(iv) having expanded horizons for personal development; and
(v) having better communication skills.

This is especially true for teachers, i.e., in terms of better pay and promotion prospects.

The largest educational institution in New Zealand is the New Zealand Technical Correspondence Institution (34,000 students, 500 staff, 950 subjects studied). Almost all its courses are directed to national qualifications issued by statutory bodies. It does not require students to be full-time employees, but the nearer they are to the workplace the better is likely to be their training and their chances of being successful in their examinations.

C. The Need for Tutorial Support

A vital element of the distance training system is the provision of tutorial support. For teacher training this can be arranged relatively easily through the educational network; for many aspects of technical and vocational training it can be very difficult. In China the workplace tends to provide facilities for this support. In many other countries where small businesses are the norm, organizing access to tutorial support can be a major problem.

D. Sponsorship of Students

Should it be the training agency or the external sponsor which sets the standards? The question of whether external sponsorship of the training materials, and of the trainees, is desirable or not is another issue which needs to be set against the ways in which the conventional systems of education and training work. Any course delivered by distance teaching methods, in which anyone can enroll, pay a substantial fee, do little if any work, and then be awarded a certificate which includes a membership of an illegal and highly fictitious learned body is a danger to trainees and their employers. Anyone achieving success in any distance training course must be equivalent to those who have gone through the same conventional course. It is here that an internationally recognized agency such as The Commonwealth of Learning may be able to play a monitoring role for its members – and hopefully also for external clients.

E. Quality Control

There is one noncontroversial issue on which all those who have developed distance education to the high position which it now commands are agreed; it is that quality control (i.e., academic/professional standards) must be maintained. The Vice-Chancellor of the UK Open University is strongly of the view that without a major emphasis on quality control, the benefits from any open learning system will be seriously diluted. He has also said that, "The further down the professional scale, the narrower is the training required, and the less is the opportunity to use distance learning."

F. Cultural Transfer

Although there is a strong tide now running in favor of distance education/training and there is clear evidence that this will grow, concern is already being expressed at the potential dangers of it being carried to excess. "Multinational instructional industrialization" has been a phrase used. The major warning is that major international initiatives for manpower development could be in danger of ignoring the cultural and social contexts in which course-development, teaching and learning take place.

SCOPE FOR FUTURE DEVELOPMENTS

Distance education (or training) has become a fashionable "buzzword", but it is not a substitute or a cheap way of doing what has not been done. A newly created, small poorly resourced institute for distance training will not solve all the problems; neither does it need a complete ministerial infrastructure to do it. Institution creation and building require bureaucratic skills. A structure needs to be set up at the level and with the resources to do what the mandate has required. The past experience of distance education in the region is a reflection of these issues. Good institutions attract support – internal/external and political/financial. Institution building must be a high priority. Education/training ministries need not be the sole or only base for distance training. Agriculture/health/social welfare all have training needs. There are also cross-sectoral needs (for example, local, government health officers, accountants in an agricultural project, etc.).

All future developments must take into account the real amount of time required for successful and effective implementation. It is a matter of record

that in terms of developing effective learning techniques Britain does not have a good record. The reason for this is not the will — but the way. Too little was spent, too fast. The Open Tech, a major national training initiative, was created with a budget of 45 million pounds between 1983-1987. It did not have enough time to allow itself to become established and then prove itself. It was to have built on the "Open Tech" experience, but it was never possible for this to happen. Time was the dimension which the UK planners omitted. In Asia heroic feats have been achieved by several of the major distance teaching institutions despite the very tight schedules that were imposed from sources outside their control. It is dangerous to base future planning on past time scales. More time means better quality. This should be a universal principle of planning for distance training.

CONCLUSIONS

To paraphrase what has gone above (and I use external quotations), distance training:

(i) "has sound foundations";
(ii) "is educationally unimpeachable";
(iii) "is visibly effective"; and
(iv) "is infinitely flexible".

It is not, however, an "either/or" prescriptive option. The conventional system will not go away. Distance education will never be the only way of doing things.

Planning to meet human resource requirements will need to be a judicious mix of what can be achieved by conventional means and what can be introduced by using distance learning. Distance education/training methodology has now become a strategy which is recognized by many governments to be an alternative and cost-effective means of meeting manpower development requirements. It should therefore, whenever appropriate, be built into major projects when new and urgent requirements for skills and human resources exist.

PART III

COUNTRY PAPER SUMMARIES

CONTENTS

A. BANGLADESH

1. Introduction

Currently, the estimated population of Bangladesh is around 110 million, with about 760 persons per sq km and a population growth rate of 2.3 per cent a year. With an annual per capita income of only US$160 in 1988/89, over 75 per cent of its people live below the poverty line, compared with a regional average of slightly under 50 per cent. Sheer poverty and rapid population growth, among other things, seriously impede educational efforts. The adult literacy rate of only about 29 per cent is a major constraint on the country's social and economic development. Further, the capacity of the education system to address issues associated with poverty and population growth has been seriously constrained by inadequate financing and management. On average about 1.9 per cent of GNP is spent on education, compared with a regional average of 2.4 per cent, and recurrent expenditures for education average about 16 per cent of total government revenue. Public expenditure on education has averaged a relatively low 9.3 per cent of total public spending, as compared with 12.7 per cent for the region and 14.7 per cent for all developing countries. As in other sectors, government effort has been hampered by the lack of trained manpower and limited institutional capacity to plan, implement and manage its educational programs.

Given the low level of investment that the Government has been able to make, it is not surprising that progress in education has been inadequate. Adult literacy rates improved only slightly during the seventies, rising from 26 per cent in 1974 to 29 per cent in the mid-1980s. Primary education enrollment has increased slowly since 1981 but overall enrollment rates have remained stable and in some instances, have declined. Wastage in the system is high at all levels, marked by high dropout rates in primary education. Almost one-third of all first graders drop out before second grade, having been discouraged by overcrowded classes and other reasons. Repeater rates at the primary level remain at about 10-12 per cent per annum, with only about 30 per cent of the students eventually reaching fifth grade. At the secondary level the dropout rate is relatively low, being less than one per cent. However, repeater rates are estimated to be over 25 per cent. In the degree colleges there seems to be few dropouts or repeaters but the failure rates of those who sit for their B.A. or B.Sc. pass degrees average 50 per cent.

Women comprise almost half of the total population. Effective participation of women in the development process is therefore a sine qua non for balanced socio-economic growth of the country. No nation can attain the desired

level of economic growth while keeping half of her people inactive. Thus the participation rate of women in education has a critical role to play in the development process. The majority of women in Bangladesh work long hours and contribute significantly to production and family income but women's ability to bring about improvements in their own and their family's welfare depend on social and economic factors as well as on specific policy initiatives. The Government has therefore made a policy decision to integrate women in the development process. The basic limitation to female entry to the urban labor force is the low level of female literacy and associated lack of adequate training facilities. In general, girls' enrollment at various levels of education is low as compared to boys. Apart from women, there are two other distinct underrepresented groups who do not now have access to education in basic literacy and numeracy: first, children aged 6-10 years who are out of school; and second, the older youths and adults who did not attain functional literacy from either the formal or informal school system. In effect, it is now recognised that the capacity to reach the very poor will require going beyond the formal system to the establishment of community-oriented, flexible educational programs of the type provided by nonformal education because this requires strong community and parental support. Through appropriate use of media under an open learning and distance education system the overall situation could be largely improved.

2. Current Activities in Distance Education

Through its regular radio and TV programs, the Bangladesh Institute of Distance Education (BIDE) caters for about 8,000 secondary schools, including approximately 2,592,500 students and 104,800 teachers. It also broadcasts radio programs daily on various subjects for primary, secondary and mass education courses of study which benefit both the regular school students as well as out-of-school youth. In 1985, BIDE introduced a B.Ed. degree course for untrained serving teachers at secondary level to cater for the urgent training needs of about 70,000 untrained teachers working at this level. This course is offered under the academic affiliation of the University of Rajshahi. Three batches of students totalling 10,281 were admitted during academic sessions 1985-1987, 1986-1988 and 1987-1989. Of these, 4,319 out of 6,498 students enrolled in the first two batches have completed the course successfully. Examination results of the students of the third batch and the residue of the earlier two batches are awaited. Admission of the next batch of students is scheduled for January 1990. The current program uses all the components of an elaborate

distance teaching system and provides crucial experience which could be drawn upon in establishing an open university in Bangladesh.

3. Government Policies and Plans for Distance Education

A technical assistance project to carry out a feasibility study for the establishment of an open university in Bangladesh was approved by the Government in October 1987 with grant assistance provided by the British ODA. A steering committee has been authorized to monitor the study. The ODA team of consultants has prepared a master plan for establishment of an open university in Bangladesh in consultation with the steering committee. This master plan, which provides core materials for a detailed proposal for the development of an open university, has been submitted to the Government for review. It is anticipated that the setting up of an open university would lead to an improvement in the quality of teachers, the enrichment of formal education, and the expansion of educational opportunities for dropouts, women and rural youth in higher education. Furthermore, such an initiative could help optimize the use of available broadcast media, including radio, television and rural-oriented mass publications to reach large numbers of people in rural areas. The Government is also examining the potential for using a second radio channel and a second television channel for educational purposes. A number of favorable conditions make this form of distance education particularly suitable for Bangladesh. Almost the entire population of around 110 million speak the same language, Bangla. Also the compact size of the country means that the population density is among the highest in the world and that radio and TV transmissions reach all areas. Radio Bangladesh covers the whole country with national transmissions from Dhaka totalling around 19 hours daily. There are also six regional stations transmitting locally originated programs. Television transmission is from Dhaka with some regional relay stations. It is intended that television transmission will cover 90 per cent of the whole country during the period 1985-1990.

Priority targets for the proposed Bangladesh Open University have been identified as follows: ensuring that the quantity and quality of its teacher work force matches the nation's needs; providing an opportunity for those currently disadvantaged through lack of access to the formal system to achieve their academic goals; providing work-related courses in technical, management and public administration; and providing special mass education in areas of national need such as health, language and agricultural education.

4. Scope for Regional Cooperation

At the developmental stage, international agencies could provide the initial resources of equipment and materials, and could offer sound advice on how to structure and implement an open university, as well as providing out-of-country training programs for new staff whereby the experience of various countries in setting up an open university could be shared. Further, it is acknowledged that when an open university is established in Bangladesh, it would be helpful if a mechanism existed whereby institutions could gain access to existing materials in appropriate languages to offset some of the initial costs; for example, the availability of video programs which could be dubbed in the Bangla language and access to existing experimental kits or even computer-based programs could be helpful. That such initiatives could be promoted by the availability of a multinational regional infrastructure for distance education is self-evident.

B. BHUTAN

1. Introduction

It was during the time of the Third King (1952-1972) in the late 1950s that the education system in Bhutan was established. The period was marked by the gradual opening of the country to the outside world and by socioeconomic development. The First Five-Year Plan was launched in 1961 and Bhutan is now in the middle of the Sixth Five-Year Plan (1987-1992). Throughout all these plans, priority has been given to improving education in the country. Bhutan now operates 195 schools (152 at the primary level) and has 2,542 teachers serving the needs of almost 68,000 students. Many of these teachers, however, are either untrained or underqualified. Educational development in the Kingdom is also subject to a number of constraints other than the solely economic ones shared by many other developing countries. Bhutan faces an acute shortage of both skilled and manual labor in every sector in the country. This is especially so in the field of education despite the country's employment of large numbers of expatriates. Ninety-five per cent of the country's population of approximately 1.34 million is engaged in subsistence agriculture, with the likely result that Bhutan will be unable to meet the demands of manpower requirements in the modern sector.

In order to achieve the goals of making education relevant to national needs and aspirations, major changes are taking place in the curriculum. The

New Approach to Primary Education (NAPE) was developed in 1986 and was initially tried out in 13 pilot schools. In 1987, the number went up to 17, in 1988 to 28, and now there are 36 schools following this program. It is hoped that by the end of the Sixth Five-Year Plan, this program will be offered in all the primary schools in the country. There is thus an urgent need for the training of all teachers so that the new curriculum can be implemented. The National Institute of Education plans and coordinates the teacher education courses, both pre-service and in-service. This is done mostly through short in-service teacher training programs during holidays. Due to the problem of financing various teacher education programs, and as there are only two teacher training institutes in the country with limited facilities for accommodation, Bhutan is unable to train enough teachers to meet demand. In order to minimize the problem and to enhance the performance of teachers, recent initiatives have been undertaken through nonformal education and distance education.

2. Current Distance Education Activities

For the first time in Bhutan, a Distance Education Workshop was organized at the National Institute of Education (NIE) under the auspices of APEID (Japanese Fund-in-Trust) from 10 to 20 July 1989, with the aim of creating an understanding of how continuing education of teachers could be promoted through distance education. Twenty teachers from various parts of the country participated in this program. The NIE through its Department of In-service Education plans to implement a distance education program which will entail the establishment of an in-service material production unit, the use of mass media, the use of a mobile unit, and the development of resource centers. The In-service Material Production Unit will be based at the NIE. It will have a small, well-equipped audio studio and will share the facilities of the NIE Press and the services of the NIE artist. It is also envisaged that the instructional materials to be produced will be prepared by teachers who are working in different parts of Bhutan through the organization of production workshops. Subject associations and professional teachers' clubs will also be encouraged in order to generate discussion of new ideas that may be shared with other teachers. Such information will then be compiled, edited and published by the In-service Department of NIE and disseminated through the post, the mobile unit and resource centers.

It is intended that three media, namely, *Druk Education Forum* (Journal of the In-service Department of NIE), *Kuensel* (the national weekly newspaper), and the Bhutan Broadcasting Service (the national radio) will be used for dissemination of information among the teachers of Bhutan. *Kuensel*, the weekly

national newspaper, has already established a system of distribution across the country and the readership is increasing. A large number of teachers are *Kuensel* readers. It is proposed that as and when the In-service Department produces enough material worth publishing, arrangements will be made for a page or two of space in the national newspaper which may be called the *Kuensel Educational Supplement*. Further communication with teachers is planned to be achieved through the establishment of a mobile unit which will consist of a vehicle with a mobile library, distance education materials and a generator. This facility will be supported by between two and five faculty members including a technician. The functions of the mobile unit will be to conduct school-based/local-based in-service courses; deliver and collect distance education materials and response sheets; carry out studies of in-service needs; supervise and evaluate distance education programs; and to provide feedback for both pre-service and in-service teacher education. It is also planned to establish up to six resource centers as part of the distance education infrastructure. Teachers will be able to borrow books and other materials from these resource centers which will act as distribution centers for distance education materials. Each resource center may also have accommodation facilities which could be used by any teacher at nominal charges. These centers will also act as tutorial centers and as centers for face-to-face in-service courses.

3. Government Policy and Plans for Distance Education

As the concept of distance education is very new in the country, not many departments exist to provide appropriate infrastructures for such a program. However, the Department of Post and Telegraph (Ministry of Communication) and the Department of Information, particularly the Bhutan Broadcasting Service (BBS), and the Development Support Communication Division (DSCD) will play a vital role in disseminating information to the people. At the moment, radio is the only means of communication that can reach most parts of the country. The existing radio station has a transmitting capacity of only 5 kW but it is hoped that a 50 kW station will be operational by the end of the year. The BBS has also started a project to assemble radio receiver sets, but UNESCO is still investigating the cost and rugged materials suitable for Bhutan in order to achieve maximum cost-effectiveness. The BBS hopes to open an Audience Research Cell through which the programs on adult education and distance education can be monitored and evaluated.

It is intended that the Telecommunication Development Plan prepared with the assistance of the International Telecommunication Union will be implemented by the end of the Sixth Five-Year Plan. The satellite project is

scheduled to be completed by the end of December 1989, after which international communications will be possible. The system will have international switching and TV receive-and-transmit facilities. The TV facilities will not be used at the moment but if needs arise they could be put to use any time. The availability of the satellite system will, of course, provide an extremely valuable addition to the distance education infrastructure to support future developments.

The Development Support Communication Division (DSCD) helps districts and departments to determine communication needs and to formulate communication strategies to support their development projects and programs. It also has the function of designing, producing or disseminating various types of communication materials needed in development projects and programs. Such materials include leaflets, pamphlets, posters, flip charts, photographs, news and feature articles, audiotapes, radio releases or scripts, slides, filmstrips, overhead transparencies, billboards and exhibits, videotapes, models, graphs and specimens. The experience and expertise of the DSCD staff could obviously make a significant contribution to distance education initiatives. Potential target programs for such developments have been identified as follows: teacher education (both pre-service and in-service at all levels), functional literacy, parent education, technical and vocational education, health education, veterinary science and teaching of Dzongkha, the national language.

4. Scope for Regional Cooperation

Because of the fledgling status of distance education in Bhutan, there is much scope for the involvement of international agencies. Specific activities for such involvement have been identified as follows: the provision of equipment such as videocassettes, audiocassettes, cameras, photocopying machines and associated journals and materials; the training of personnel, including producers, scriptwriters, presenters, curriculum writers, etc.; and the provision of expert consultants in distance education. It is apparent that Bhutan, with a population approaching 1.4 million people widely dispersed throughout a mountainous country, could benefit from access to the professional expertise and associated sophisticated infrastructure that could be provided by a sub-regional mechanism for generating cooperation in distance education.

C. INDIA

1. Introduction

The concept of distance education in India developed from the system of correspondence education which was initiated in Indian universities in the early 1960s. During the 1980s distance education has evolved into a much broader concept with a number of open universities offering a variety of courses through a multimedia instructional strategy supplemented by student support services. Distance education in India is now being increasingly used to provide access for students regardless of their previous qualifications or age. Although this concept of distance education is broadly accepted by professionals in the field, its practice has remained confined only to a few institutions. Most of the Institutes of Correspondence Studies and/or Directorates of Distance Education in the formal universities still practice the system in its narrow sense through correspondence lessons with limited interaction between the teacher and the taught.

India made an early start in the use of radio in schools. In the early 1950s, radio was already being used to supplement the regular curriculum. Television has been used for educational purposes right from its introduction in 1959, but three major steps were taken in the 1970s. In 1975/76, the Indian Government launched the Satellite Instructional Technological Experiment (SITE) exposing 2,330 villages in 20 districts of six States (Andhra Pradesh, Karnataka, Bihar, Orissa, Rajasthan and Madhya Pradesh) to especially prerecorded television programs directly transmitted via the ATS-6 Satellite. The lessons were supplemented by teacher-instructors. Indian National Satellite (INSAT) program now provides educational programs for primary school children as well as area-specific programs for rural viewers in selected clusters of Andhra Pradesh, Bihar, Gujarat, Maharashtra, Orissa and Uttar Pradesh. These are broadcast in Hindi, English, Telugu, Oriya and Marathi.

At the secondary level, correspondence education started in 1965 when the Conference of Boards of Secondary Education recommended correspondence courses with the objective of improving the academic standards of private students. The Board of Secondary Education, Madhya Pradesh, was the first to start correspondence courses for intermediate students in 1965. The Patrachar Vidyalaya, Delhi started in 1968. The Boards of Secondary Education, Rajasthan, Orissa and Uttar Pradesh are the other institutions which offer correspondence education to students of Classes X-XII. By 1985, about 100,000 students were enrolled at various grade levels. An Open School was established in New Delhi in 1979 to provide education at home to out-of-school learners.

The school offers a Bridge Course for those who drop out in Class VI, VII or VIII to enable them to enroll for Classes IX-X. The Senior Secondary Course (XII) was launched in September 1988. A proposal to upgrade and amalgamate this School into a National Open School which would play a role similar to that of IGNOU is under active consideration.

With the increase in demand for higher education and the emergence of a system of award of university degrees to private students, it was realized that correspondence education would help in expanding and equalizing educational opportunities. The first courses through correspondence for the Bachelor's Degree were introduced by the University of Delhi in 1962. Within a year the courses attracted a large number of students. Encouraged by its success, the Education Commission (1964-1966) recommended fuller exploitation of correspondence education for a wide range of purposes. Consequently, the University Grants Commission (UGC) formulated guidelines for introducing correspondence courses in Indian universities. Three more Institutes of Correspondence Studies were established in the late 1960s. The 1970s saw the introduction of correspondence education in 21 more universities. During the 1960s, only undergraduate courses were started as an experimental measure whereas the 1970s saw the introduction of postgraduate and diploma/certificate courses as well. During 1980-1986, seven more universities started Institutes of Correspondence Studies. In 1987/88, there were 33 universities offering correspondence courses in the country. Meanwhile a few universities like Mysore, SNDT Women's University, Madurai Kamaraj, Andhra and Annamalai adopted open admission policies by relaxing formal qualifications for entry to undergraduate courses.

The first Open University in the country was established by the Government of Andhra Pradesh in 1982 to provide access to higher education to adults to upgrade their skill, improve the quality of their life, equalize educational opportunities and provide lifelong education. The encouraging response to this University culminated in the establishment of the Indira Gandhi National Open University by an Act of Parliament on 20 September 1985. This University has been charged with the dual responsibility of providing opportunities for higher education to larger segments of the population, particularly those for whom access to the formal system is difficult or impossible, and also to develop the open university and distance education systems in the country and to coordinate and determine standards in such systems. In the last three years open universities have also been established by the State Governments of Rajasthan, Bihar and Maharashtra. However, only the Kota Open University in Rajasthan has become operational so far.

2. Current Distance Education Activities

Distance education programs being offered by various institutions in India can be broadly categorized into the following types: correspondence courses offered at the secondary and tertiary levels, distance education programs offered by open universities, and educational TV and radio programs to supplement classroom teaching at the primary, secondary and tertiary levels and for adult education. The Boards of Secondary Education which offer correspondence courses to students of Classes X-XIII follow the same courses as are prescribed for these classes in the formal schools and hold common examinations for all the students. The Open School, Delhi, however, provides a need-based flexible curriculum to out-of-school students above the age of 14 years. All these institutes, except Bhopal, organize personal contact programs. Some institutes provide facilities for science students to conduct practicals at selected laboratories.

At the tertiary level, Institutes of Correspondence Studies of the 33 universities are offering undergraduate, postgraduate and diploma courses mainly through the print medium. Some institutions like Madurai Kamraj and Osmania use radio talks to supplement lessons. The eligibility standards, syllabi and the examination system are more or less the same as those in conventional universities and colleges. Most institutes organize personal contact programs generally for 5-7 days for their students, some of which are held at centers outside the headquarters. Though students are required to submit assignment-responses to the institutes, there is minimal feedback given to them. The Indira Ghandhi National Open University and the state open universities are autonomous institutions which have devised a variety of need-based courses to provide general, professional and continuing education. They use modern educational and communication technology (viz., radio, TV, audio and videocassettes, etc.) to provide instruction to students. A network of study centers has been planned to provide efficient support to students.

Akashwani (All India Radio) stations broadcast educational programs for primary school students in 16 languages. The primary school broadcasts are for general enrichment and are broadcast for 15-20 minutes on three to five days each week. The broadcasts for secondary students are syllabus-oriented and are put on air for a duration of 15-20 minutes on all school days in a week. Besides, three to four adult education programs of a duration of about 15 minutes a week are broadcast by 14 stations. The transmission time available through INSAT-1B is being shared by the NCERT and the UGC for broadcasting programs on primary and higher education, respectively, on the national TV network. Educational programs for students in the age group of 6-8 years and 9-11 years both

in school and out of school are telecast daily in the morning for three hours and 45 minutes on about 220 school days in 5 regional languages, viz., Hindi, Gujarati, Marathi, Oriya and Telugu. These are telecast Monday through Friday followed by programs for primary level teachers every Saturday. Through its countrywide classroom programs, the UGC has been telecasting general enrichment programs on higher education on Doordarshan's National network for one hour followed by a repeat telecast the same day on five days a week. Some of these programs are imported and others are produced in India, but all of them use English as the medium of communication. Nonformal adult education programs in regional languages are also being telecast by some Doordarshan Centers as a part of their regular services.

The total enrollment in universities and colleges in India in 1987/88 was 4.2 million, out of which 402,720 students were enrolled in correspondence institutions and the open universities. The annual growth rate of enrollment in correspondence courses/open universities during the past few years has been higher than that in the conventional universities. The enrollment in distance education has gradually gone up from about 5 per cent of the total enrollment in universities/colleges in 1978/79 to about 10 per cent at present. It is significant that in absolute terms the distance education system has been able to accommodate an additional 269,261 students during the last decade. The Education Commission (1964-1966) had suggested the objective of enrolling about one-third of the students at the university level in correspondence education. With distance teaching institutions and in particular open universities attracting huge enrollments, for the first time this target appears to be achievable possibly by the year 2000.

The most popular courses offered by the correspondence institutes are the Bachelor of Education and the Master of Education programs, although the Bachelor of Science, Master of Business Administration and Bachelor of Laws as well as various diploma/certificate courses in such areas as management, marketing, tourism, hotel management and library science are also popular. Some of the most popular courses offered by the open universities include those offered by Andhra Pradesh OU (e.g., Bachelor of Arts, Bachelor of Science, Bachelor of Commerce with total enrollments of 16,305 in 1987/88), Kota OU (e.g., Bachelor of Education with 10,618 students in 1988/89) and Indira Gandhi National OU (e.g., Diploma in Management with 15,148 students and the Nonformal Bachelor's Degree Programme with 26,392 students in 1987-1989). It is worth noting that overall women account for about 20 per cent of the enrollment at IGNOU, compared with 29 per cent at APOU and 24 per cent at KOU.

All the Institutes/Directorates of Correspondence Education in India depend primarily on printed material for providing instruction. The printing of

course material is generally subcontracted to private presses and in a few cases it is done in-house. APOU has its own printing press and IGNOU is going in for its own printing facilities. With the establishment of open universities in the country, course material for distance education is being presented by a variety of media. IGNOU and APOU have their own audio-video production studios. KOU also proposes to construct its own studios. To date IGNOU has produced 169 video and 249 audio programs to supplement the printed material for courses. To produce Educational Television (ETV) Programs the Government of India has set up a Central Institute of Educational Technology (CIET) at New Delhi and six State Institutes of Educational Technology (SIETs), one in each of the six INSAT States. The CIET has produced 350 ETV programs since 1984.

Student support services are probably the weakest component of correspondence education in India. Very few correspondence institutes have established study centers with library facilities. Andhra Pradesh Open University was the first to establish study centers at different places within its juriadiction to provide support services for its students. In the four years since its establishment, IGNOU has been able to establish an impressive network of 13 regional centers and 131 study centers throughout the country with the objective of providing extensive, modern and efficient support services to students. By 1995 IGNOU proposes to establish a study center in each district of the country. A study center of IGNOU provides the following services: tutorials, problem-solving sessions, etc.; information, advice and counselling; library facilities; and audio-video facilities. Study centers are located in the existing educational institutions and normally function on all holidays and Sundays and on some working days in evening hours. Each study center has a part-time coordinator who is a senior academic from the host institution whose function is to manage the study center. He is assisted by an assistant coordinator, counsellors, tutors, etc., mostly drawn from colleges/universities in the vicinity of the study center on a part-time basis. IGNOU is exploring the possibility of establishing study centers sponsored by industry and voluntary agencies. Mobile study centers to reach remote areas are also planned.

3. Government Policies and Plans for Distance Education

The National Policy on Education, 1986 emphasizes the importance of distance education and open university systems for augmenting opportunities for higher education and as instruments for democratizing education. It states that the Indira Gandhi National Open University, established in 1985 to fulfil these objectives will be strengthened for this purpose. The Education Policy

(1986) mentions that open and distance learning systems will be utilized for providing opportunities of lifelong education, adult and continuing education to youth, women, agricultural and industrial workers and professionals in different fields. The policy states that academic programs in technical and managerial education will be offered through the distance mode, including use of the mass media to provide access to large segments of the population and to do away with the rigidity of the single point entry system, and that modern communication technologies will be used to reach out to the most distant areas and the most deprived sections of the society simultaneously with the areas of comparative affluence and ready availability. Pursuant to this policy, a scheme has been formulated to consolidate present efforts under the INSAT utilization program, achieve larger program production capabilities within the education sector and extend radio and TV coverage to 100,000 and 500,000 elementary schools, respectively, by providing receiving sets. The scheme has been finalized and started in 1987/88. Further, at the school level the Government of India is considering a proposal to establish a National Open School, which would have objectives and responsibilities similar to that of IGNOU, to build appropriate level-wise links in this innovative system of education.

The experience with the open university system so far has convinced the policymakers in the Government of India that this system has the potential to supplement the formal education system and to provide education to large segments of the population through a cost-effective, open and flexible manner. A number of states are considering the possibility of establishing open universities in consultation with IGNOU. The Government expects that in fulfillment of its role for coordination and maintenance of standards in distance education, IGNOU will develop an effective network in the near future to enable sharing of academic and institutional resources and to encourage student mobility and at the same time stop duplication. It is envisaged that in the Eighth Five-Year Plan (1990-1995) the Distance Education System will accommodate about 50 per cent of the additional enrollment of one million students estimated to join universities/colleges. This would mean that distance education institutions will be catering to about 1.5 million by 1995. This strategy is based on two important considerations. First, the cost of creating the necessary additional facilities in the formal sector to absorb the estimated growth in enrollment is prohibitive. Second, until courses and programs at the first degree level are comprehensively redesigned and reorganized, its quantitative expansion should be contained at a manageable level. For the open university system the implications of this strategy are that it should absorb massive enrollments on the one hand and its courses and programs should be more flexible and relevant on the other. The Government of India proposes to enhance the financial provisions for distance

education suitably to enable the system to meet this challenge. Specific areas identified for further expansion include both formal and nonformal education, technical and vocational education, women's education, population/agriculture/health education and a variety of professional updating courses, especially teacher education.

4. Scope for Regional Cooperation

The experience of distance education in India over the past 25 years and the present stage of its development should enable the country to provide inputs for regional cooperation in the following areas: (i) sharing of courses developed by IGNOU, particularly in distance education and management; (ii) IGNOU could participate in developing joint courses in areas such as science and technology, management, teacher education, training of rural development functionaries and health workers, as well as women's education – currently, IGNOU is collaborating with Athabasca University Canada in developing a few courses in management; (iii) the training materials developed by IGNOU for staff development in distance education could be utilized by other distance teaching institutions in the region on mutually agreed terms; IGNOU could also arrange short-term training programs for personnel of neighboring countries; (iv) India's experience in establishing open universities as well as planning and managing distance education in a vast multilingual and diverse country could prove useful to such developing countries in the Third World as are either proposing to establish open universities or are in the process of doing so; (v) the services of Indian experts in different aspects of distance education could be made available to countries in the neighborhood for consultancies, visits, staff training, etc.; and (vi) IGNOU should be in a position to provide facilities for developing an information and data base on the use and practice of distance education in the region. India is probably the only country in the world to have set up more than one open university. Of these, IGNOU has been entrusted with the statutory responsibility to introduce and promote the Open University and Distance Education System in the country and to coordinate and determine its standards. The experience of IGNOU would be useful while considering the possibilities of interinstitutional cooperation between distance teaching institutions in the South Asian region for pooling and sharing resources and expertise.

D. MALDIVES

1. Introduction

The Maldives is an archipelago of 1,190 coral islands in a long narrow chain ranging from just south of the Equator for 720 km to the north and extending 120 km east to west. Only 201 islands are inhabited, with the population of approximately 200,000 scattered over 90,000 sq km of the Indian Ocean. The population is spread thinly; only 25 islands have more than 1,000 inhabitants. Malè the capital is centrally located and has the largest concentration of people – an estimated 53,800 by mid-1987.

The country is made up of 26 natural atolls, clusters of islands encircled and sheltered from the open ocean by a ring of outer reef with a deep channel within atolls. There is very little interisland migration and islands have hardly any contact with each other. Communication is limited to the official radiotelephone link, an erratic mail service and the telephone is available in only a few of the islands. The distances involved and travel constraints have contributed to the isolation of the islands, making each island community an economic and social unit, dependent on the waters around it. There is no regular interisland transport and trade and transport are mainly concentrated between Malè and the islands.

There is some type of schooling available in every island, with 43 per cent of the student population attending traditional schools known as the *edhuruge*, the *makthab* and the *madharasaa*. Although these schools are expected to follow the National Primary Curriculum, the quality of education offered is very low, since most of the teachers have very low levels of educational qualifications and training. At present, a dual system of education exists in the country consisting of: first, the English-medium education system which is offered only in Malè and which leads to the General Certificate of Education, University of London; and second, the Dhivehi-medium education system, which is the only type of education available in the rest of the country and which offers in the main, primary education and in a few institutions, middle school education leading to the Junior School Certificate after the 7th Grade.

For nearly two decades, the Government concentrated resources on the English-medium schools in Malè, while education in the islands from the early 1960s to 1978 was left solely to the people of the islands. The roots of educational disparities in the islands are therefore to be found in the inequalities in the provision of educational facilities dating back to this period of neglect of island education. Affluent families in the islands migrated to Malè in search of

the "superior" education offered in the English-medium schools in Malè or sent their children to Malè. This neglect of island education, however, has left three-quarters of the population with a very basic level of education as the *makthab* and the *madharasaa* could offer at best a curriculum based on basic literacy and numeracy, and religious education, primarily because the teachers had very low levels of academic qualifications.

At present, the country faces an acute shortage of skilled manpower. Since 1978, under the present administration, the nation has been involved in a number of economic, social and political reforms, aimed at redressing the past neglect of the economic and social infrastructure, particularly in the atolls. For example, the present Government aims to universalize primary education by 1995. In order to achieve this goal, approximately 1,481 teachers have to be trained. When it is considered that over the past 10 years only 459 teachers have been trained, it is clear that the formal educational system alone cannot provide the quantity of education required. The Maldives is therefore moving towards adopting alternative methods in the delivery of educational services. With the urgent need to provide education for a large number of learners within a limited time, a nontraditional approach such as distance education appears appropriate for the Maldives. Indeed, the Government has already supported a pilot project in distance education and has endorsed plans for further expansion of this mode of instruction.

2. Current Distance Education Activities

With the assistance of UNICEF, the Non-Formal Education Unit (NFEU) of the Ministry of Education has been engaged in preparing a pilot distance education course in post-beginners' level English. Persons selected for enrollment in the pilot course (90 people across three atolls) provide a representative cross-section of the target population. With 50 per cent female representation overall, the target group for the pilot course includes the following subgroups: in-service teachers, in-service government officials, persons suitable for upgrading prior to training in specified areas (health, education, vocational sectors), and persons unable to benefit from the recently introduced primary schooling due to being overage. These participants started the course in May 1989 and are expected to complete it in March 1990. Although it is clearly too early to evaluate the results of this project, the production of materials and implementation of the course have been satisfactorily accomplished, and initial feedback has been positive.

Strengths of the pilot project are generally perceived as follows: that the course structure and materials have been tailor-made for the operating context;

that existing systems are exploited where possible; that the relevant Ministries of Atoll Administration and of Education, respectively, are involved cooperatively; that the development of distance education is consistent with development plans both within and outside the education sector; that students perceive the benefits of the self-study course design and its relevance to their situation; and that there is a strong demand among the target group for such educational opportunities, particularly in the area of English language learning. On the other hand, perceived weaknesses include: the difficulties posed by communications' limitations; NFEU's reliance on outside bodies and key individuals to carry out development, production and implementation tasks; and the lack of a well-developed distance education-oriented administration at NFEU. The absence of adequately developed infrastructures is a major difficulty, particularly as regards transport, telephone and postal services. Further, there is a severe shortage of appropriately trained personnel available to implement activities both in Malè and the rural areas.

3. Government Policies and Plans for Distance Education

With the recognition of distance education as a viable strategy in the delivery of educational services, a five-year plan to establish a distance education system has been developed. Financial support for the first two years has been committed by the UNDP and the Government. The NFEU has been selected as the focal point for distance education in close collaboration with other government subsectors namely, the Department of Information and Broadcasting, the Educational Media Unit of the Ministry of Education, the Institute for Teacher Education, the Vocational Training Center, the Department for Women's Affairs and the Ministry of Atoll Administration.

The NFEU is currently undergoing institutional changes in order for the unit to become the Department of Non-formal Education within the current year. Once this change in status is finalized, a Distance Education Center will be established under the Department. The following programs have been identified for delivery via the distance education mode: teacher education (for primary, middle and secondary levels), technical and vocational education, health education, population education and early childhood education.

4. Scope for Regional Cooperation

In the Maldives, there is an urgent need to receive support, both technical and financial, for the establishment of a distance education infrastructure as well as for the development of programs. The present provisions are very

modest and further assistance is necessary to reach a wider audience. A project document has been prepared by the UNDP for the development of a distance education infrastructure and efforts are being made by the UNDP office in Malè to procure assistance for this project. The involvement of other international agencies would be welcomed.

Since the country is in its first stages of developing a distance education capability, the Maldives cannot offer inputs such as expertise, resources and facilities to other nations. On the other hand, the country could benefit greatly from the experience of other countries in the region. An exchange program such as that offered by APEID could be an effective mechanism for extending the expertise and experience of personnel involved in distance education. The availability of a regional mechanism for engendering collaboration in distance education would be even more beneficial.

E. NEPAL

1. Introduction

The population of Nepal was estimated to be almost 18 million in 1988. Education has expanded rapidly since the inception of the National Education System Plan in 1971 and there are now over 13,000 primary schools and almost 5,500 secondary schools in operation. Enrollment at primary school level has gone up from 33 per cent in 1971 to 86.3 per cent in 1988. There has been similar expansion at secondary and tertiary levels. The progress made in adult literacy education is equally impressive in view of the fact that literacy has reached a level of 36 per cent, compared to only 12 per cent in 1971. Despite the impressive achievements made so far in expanding education facilities to the ever-increasing number of primary school-age children, several problems have arisen, including both high dropout and grade repetition rates, and low enrollment of girls. In order to address these issues, several initiatives have been delineated, including: distribution of free textbooks to all primary school pupils by the year 2000; provision of stipends to the poor and to talented girl students; running of *cheli-beti* classes for girls who are unable to attend regular school; opening of new schools in remote areas to provide easy access to education; improvement of curricula, including the development of teaching-learning materials; training of teachers and strengthening of the school supervision system; and provision of incentives for teachers.

The goal of achieving universal primary education by the year 2000 will further increase the enrollment in secondary schools. This will create a demand for additional secondary schools, more qualified teachers and teaching-learning

materials. The current level of investment in secondary education which is about 13 per cent of the total education budget is inadequate to bring about necessary changes and improvement at this level. Improvement in the quality of secondary education is therefore a main concern of the Government as well as of the people.

Development of higher education began in Nepal with the establishment of Tribhuvan University in 1959. Since then, this University has played an important role in the promotion of higher education. Tribhuvan University's academic programs are organized into five technical institutes (Agriculture and Animal Science, Engineering, Medicine, Forestry and Science) and four faculties of general and professional studies. The University has 68 campuses scattered all over the country as well as 61 private campuses. More than 95 per cent of the University's expenses are met by a government grant. The private campuses, however, do not receive grants from the Government. The only source of income of the private campuses is the fees raised from the students and donations from the people.

2. Current Distance Education Activities

Distance education marked its beginning in Nepal with the introduction of an adult education teacher training program through radio in 1957. This training program was launched by a college of education which was established to impart training to teachers. In 1961, the Janak Education Material Center started a school broadcasting program with a view to disseminating general educational messages to students, teachers and adults. This program was run two days per week. Following the introduction of the National Education System Plan (NESP) in 1971, the Curriculum Development Center was established to develop curricula for all levels of education. This center took over the school broadcasting program from the Janak Education Material Center. One of the major objectives of the NESP was to raise the quality of education. To achieve this objective the teacher training program was significantly expanded and teacher training became mandatory.

During the NESP Plan period (1971-1976) a feasibility study was conducted to explore the possibility of using radio as a medium for teacher training. The findings of the study were positive and a project proposal was developed in 1977. The following year a memorandum of understanding was signed between the Ministry of Education and Culture (MOEC) and USAID. The project developed a program for training under SLC teachers. A total of 318 lessons each of 18 minutes' duration was developed in eight subjects together with a magazine show to make the program more attractive and

interesting. A program of one hour's duration was broadcast five days per week for nine months. In order to assist the teacher, five sets of supplementary self-instructional materials were developed covering the broadcast lessons in all subjects. The materials were provided free of charge and radios, which had to be returned at the end of the session, were loaned to the participants. In the beginning, the broadcast was limited to 117 participants in five districts. The program was further extended to 72 districts enrolling 6,424 in-service primary school teachers by the end of 1987. To date, 5,371 participants have taken the trial examination and 65 per cent of them have graduated from the program.

In order to ensure smooth functioning of the project, a full-time project coordinator was appointed to look after both technical and administrative issues. A number of specialists were also appointed to assist the project coordinator in the implementation of the program. For example, a full-time expatriate consultant was made available to help national staff in the formulation of the programs as well as in the production of teaching-learning materials. Further, the national technical staff were trained both in-country and overseas. A separate building with adequate space was provided for the project. It has its own studio which is equipped with two control rooms and two recording studios. Overall, the Government has allocated the necessary budget to see that the project's performance is not hampered due to the shortage of funds.

Nepal has experienced several advantages from its distance education initiative. Once the programs had been developed, they provided access to the large number of untrained and underqualified teachers who are unable to leave their homes either because they cannot afford to or because there is no one to replace them on the job. Thus, it has helped to save the salary cost of the substitute teacher as well as the cost involved in paying expenses and travelling allowances to teachers. Nevertheless, some problems and issues have arisen in the process of implementing the program. One of the problems currently being faced is that the project does not have its own transmission station from which to broadcast. It has to use Radio Nepal's time, paying Rs 100 per minute to broadcast the lessons to the teachers. Radio Nepal is not in a position to provide sufficient time for the project. Although the present shortwave transmission does not reach all parts of the country because of rugged terrain, it is anticipated that by next year Radio Nepal will have installed medium-wave transmission in different parts of the country, thus ensuring clear reception of radio signals throughout the country.

3. Government Policy and Plans for Distance Education

Nepal is implementing various projects with a view to achieving comprehensive development of the country. However, the successful implementation of these projects is constrained by the shortage of technical and vocational manpower. To this end, there is a need to expand technical education and vocational training to meet the growing need for such manpower. Similarly, there is a need to provide easy access to education and training opportunities for women to raise their status in the society. It would appear to be difficult to meet all these needs unless distance education methodologies are used. There is an apparent need to use distance learning technology in order to: achieve universal primary education by the year 2000; impart necessary training to teachers; provide access to higher education by high school graduates; impart functional literacy education to illiterate adults; impart technical education and vocational training to out-of-school youths and adults; and to improve the participation rate of women in education and training.

4. Scope for Regional Cooperation

The growing trend towards the use of distance education in the region is extremely encouraging and potentially useful for countries like Nepal which have little experience in distance education. It is a matter of urgency that the developed countries of the world should extend cooperation to the developing countries in order to expand distance education on a planned and systematic basis. The development of distance education will not be possible unless adequate resources are made available from external agencies since the possibility of meeting the expenses required from the national budget is extremely limited. Nepal would therefore welcome both regional and international cooperation for the development of a distance education system in the country. Such cooperation could include: provision of funding for creating the physical infrastructure for distance education; supply of necessary equipment; provision of fellowships for international and regional training of staff; provision of fellowships for study tours by planners and policymakers; and provision of expatriate consultants.

F. PAKISTAN

1. Introduction

The 1981 census put the population of Pakistan at 84.3 million but the population has now grown to an estimated 100 million dispersed throughout four provinces. The literacy rate as estimated in the 1981 census was 26.2 per cent, the lowest in the Asia-Pacific region. At that time, only 13 million people had attained some level of education. In the area of education, the Government has planned to increase the participation rate at primary level to about 75 per cent from the present level of 50 per cent, and to increase the literacy rate from the present 30 per cent to 50 per cent by 1990.

Primary education has been adopted as the main instrument for achieving mass literacy. The Sixth Five-Year Plan aims to provide primary education facilities to all children in the age group of 5 to 9 years. Primary education facilities are currently available for only 60 per cent of the children in the age group of 5 to 9 years. Primary schools lack physical facilities; for instance, about 29,000 primary schools have no buildings and 16,000 schools have only one classroom. The focus of the Fifth Five-Year Plan was on the expansion of primary education and a reduction in illiteracy. To achieve these objectives, 40,000 new mosque schools were to be opened and 15 million persons were to be made literate during the plan period, but these targets could not be attained. For example, enrollment in Classes I-V only increased by 2.6 million raising the participation rate from 53 to 64 per cent, and enrollments in Classes VI-X increased by 849,000 raising the secondary school participation rate from 22 to 26 per cent.

At present, there are around 500 arts and science colleges and 21 universities in the country. Of these 21, there are 13 universities for general education subjects, 4 for engineering, 3 for agriculture, and 1 for biomedical sciences. In spite of the considerable increase in the number of colleges and universities and the associated increase in the enrollment of students and number of teachers, facilities for higher eduction are available to only an estimated 4.6 per cent of the relevant age group (18-23 years). In view of the low participation rate and other problems being faced in higher education, the Sixth Five-Year Plan (1988-1993) provides a especially designed strategy to improve higher education facilities.

2. Current Distance Education Activities

In view of the inability of the formal education institutions to meet the fast-growing educational needs of the masses, the Education Policy (1972-1980) was the first official document to promulgate the idea of an open learning system through distance education resulting in the establishment of the Allama Iqbal Open University (AIOU) in June 1974. In meeting a wide range of educational and social needs which were not being fulfilled by the formal system, the AIOU has played a special role in the development of the national education system. The present focus of AIOU is on four major programs, namely: teacher education, functional education, general education and the higher education specialization. To date, the Faculty of Education which consists of five departments has enrolled over 188,000 students in a range of courses, including the Primary Teaching Certificate, the Primary Teacher's Orientation Course, the Certificate of Teaching, the B.Ed. and the M.Ed. Further, programs in functional education, primarily in the fields of agriculture and technical and vocational education, have attracted total enrollments of almost 50,000 students. The program in general education has assisted over 33,000 students at the foundation level and almost 350,000 students at the intermediate level, while over 200,000 students have enrolled in the B.A. course since its inception in October 1979. Finally, more than 14,000 students have enrolled in postgraduate courses, including the M.B.A., M.Sc. in Pakistan Studies and the M.Phil. The total enrollment of almost 850,000 students is representative of AIOU's significant contribution to educational development at all levels in both the formal and non-formal sectors. Additionally, AIOU has become involved in a variety of national and international projects in the field of distance education, including the Integrated Functional Literacy Project, the Haj Training Programme, the Regional Institute for Complementary Education Project, the Population Education Project, and the Women's Matriculation Project.

The AIOU is a distance teaching institution which uses multimedia techniques, including: correspondence packages, radio and television broadcasts, tutorial instruction at study centers, and assignments for the purpose of continuous assessment. During Spring semester 1988, AIOU transmitted 520 radio programs and 66 TV programs. Radio coverage in Pakistan is almost 100 per cent while TV coverage is in the vicinity of about 75 per cent and is expanding at a very fast rate. The availability of access to TV is, however, not beyond 20 per cent (according to the most optimistic of estimates in 1986), as most of the people do not possess a TV set and an institutionalized system of community viewing centers has not been created on a massive level. The television programs are transmitted on the national network from all stations while the

radio programs are transmitted from selected stations. To conceive, plan, produce and implement the media support for AIOU programs, the Institute of Educational Technology (IET) was established in 1974. The Institute has its own building, with fully equipped radio and television studios and trained professional and technical staff. Indeed, AIOU has a full-fledged, well-equipped infrastructure for the support of practically any distance education initiative even on the largest of scales.

A mission from the UK Overseas Development Administration (ODA) recently conducted an evaluation of the Allama Iqbal Open University. The mission examined the question of how the AIOU can provide courses more cheaply but still as effectively as other institutions. Despite the problems encountered when comparing the costs of open and conventional universities, the calculations made by the ODA Team demonstrated that the cost of a graduate at a conventional university was Rs 18,850 compared to the cost of a graduate at AIOU which was in the range of Rs 8,670-Rs 12,000. Thus, an AIOU graduate appears to cost between 45 per cent and 70 per cent of a graduate from the conventional system. Further, the above figures for AIOU did not take into account the substantial proportion (about 35 per cent) of the AIOU's costs, which the students themselves pay through their fees. Taking fees into account, the net cost of a graduate at AIOU is in the range of Rs 5,680-Rs 8,500 which is between 30 per cent and 45 per cent of the cost in the conventional system. These figures indicate clearly that AIOU is cost-effective in comparison with the conventional university system.

3. Government Policy and Plans for Distance Education

As the population of Pakistan is increasing at an alarming rate of 3.1 per cent annually, there is vast scope for AIOU to start different types of both formal and nonformal education programs. The following relatively recent developments are indicative of current planning. Though the AIOU offers its courses to both male and female populations without any discrimination, it has established a Department of Women's Education which takes exclusive care of specialized courses for women. In addition to home economics, food and nutrition, etc. it has started a project for providing education at matriculation level for out-of-school women, which could be extended to the whole of Pakistan in a phased manner and then converted into a regular program of the AIOU. Further, the Department of Literacy, Adult and Continuing Education is also embarking upon an Integrated Functional Education Programme for the 10+ age group of females. Since the participation rate of females at primary and sub-

sequent stages is already very low, there is enormous scope for launching courses designed for women's education in the near future.

The AIOU already offers a B.A. level course in Population Education. Further, the University has on its list the names of a considerable number of teacher educators who have already received the necessary orientation in this field and who could serve as tutors for these courses. The number of middle and secondary school teachers who could receive training through the above two courses has been estimated to be around 20,000, which is approximately 6 per cent of the total number of teachers at these levels. Since the public at large has yet to be approached and convinced of the hazardous population situation, there is still a lot of room for further inputs to this important area. The AIOU and its countrywide network of regional offices could render a lot of useful services, provided that sufficient funds were made available for such purposes. Similar initiatives have already been identified as being required in the fields of agriculture, health and technical and vocational education. The major limitations on achieving these objectives are not so much the lack of a distance education infrastructure or associated expertise but lack of financial resources and, perhaps, lack of available capacity since AIOU is already stretching its resources across a wide range of courses and projects.

4. Scope for Regional Cooperation

The AIOU has already attracted foreign aid from a number of international agencies. In particular, the Overseas Development Administration (ODA) of the United Kingdom was instrumental in the establishment of the AIOU which designed its teaching methodologies and organizational framework on the pattern of the United Kingdom's Open University (UKOU). AIOU established direct institutional links with the UKOU and other institutions in the UK. With ODA's assistance it developed a large number of its systems through the donation of equipment, vehicles, consultants and staff development. Other agencies that have made significant contributions to the success of AIOU include the British Council, UNDP, the Saudi Government, the Arab League Educational, Cultural and Scientific Organization (ALECSO), the United Arab Emirates (UAE), the Netherlands Government and UNICEF. Such cooperative arrangements signal Pakistan's willingness to enter into collaborative ventures in distance education. The wealth of experience gained by AIOU staff, particularly in nonformal education and literacy programs, could make a significant contribution to the expansion of educational opportunities in the whole of the South Asian region. Conversely, such cooperation could lead to an expansion of the

capacity of Pakistan to deliver much needed distance education courses to its rapidly increasing population.

G. SRI LANKA

1. Introduction

Sri Lanka, an island nation just north of the equator, has a population approaching 17 million people. Enrollments in primary schools in 1988 demonstrated that a total of almost 1.9 million pupils were attending 3,777 schools, whereas at the secondary level almost 1.8 million students were attending 5,937 schools. Apart from the total of 9,714 government schools, there are a further 498 schools in the country. Also in 1988, there were 80,736 teachers, of whom 23,490 were untrained. A further 7,587 students are currently undergoing pre-service teacher training while present enrollments in the eight conventional universities exceed 20,000 students.

The need for distance education in Sri lanka is widely accepted at the national level. Distance education is needed because of large dropout and repetition rates; it is also needed for training untrained teachers and unskilled workers and for providing retraining made necessary by rapidly expanding technological developments. To increase the impact of distance education, an adequate infrastructure with regional centers and study centers, student facilities, effective utilization of audiovisual media and other support services is necessary. Nonavailability of funds to establish such an infrastructure is the most important reason for the current inability to provide access to education and training to the rural and disadvantaged groups who require it most.

Distance education in Sri Lanka started with the establishment of two institutions offering teacher training courses as early as 1972. First, the distance education branch of the Ministry of Education offered a correspondence program aimed at training primary school teachers. The second institution engaged in teacher training by correspondence was the External Services Agency (ESA) of the University of Sri Lanka. This agency offered a Postgraduate Diploma in Education program. It also conducted courses in preschool Education, Sinhalese, Tamil and professional English. Running parallel with the ESA was the Sri Lanka Institute of Distance Education (SLIDE) established in 1976. It offered diploma and certificate level programs in management, mathematics, science and technology.

2. Current Distance Education Activities

The Open University of Sri Lanka (OUSL), incorporated the ESA and SLIDE when it was established in 1980. Current enrollments in the major courses offered by OUSL are as follows: Certificate in Pre-School Education (590); Certificate in Entrepreneurship (344); Certificate in Professional English (2,468); Diploma in Management (736); Diploma in Technology (1,844); Bachelor of Technology (52); Bachelor of Science (74); Bachelor of Laws (2,156); Postgraduate Diploma in Education (2,727) and Foundation Courses in Science (1,067). OUSL also offers courses in textile technology, foundation courses in technology, a variety of continuing education courses, and the following research degrees, M.Ed., M.Phil., and Ph.D. The other institutions that conduct distance education programs in Sri Lanka are the Teacher Education Unit and the Distance Education Unit of the National Institute of Education.

The National Institute of Education (NIE) was established in 1986. The Distance Education Unit of the NIE incorporated the programs originally run by the distance education branch of the Ministry of Education. At present, it offers a three-year program leading to the Trained Teachers' Certificate in science and mathematics and elementary education. It was established with financial assistance from SIDA. The course, run in both Sinhala and Tamil, comprises: printed materials, assignments for submission, contact sessions, practical training and tutor assistance at regional centers. Additionally, the Teacher Education Unit of the NIE offers a 16-month program leading to a Postgraduate Certificate in Education in which there are current enrollments in excess of 10,000. It is estimated, however, that almost 28,000 graduate teachers remain untrained.

The major component of the instructional approach adopted at the OUSL is the printed lesson, supplemented where appropriate by audiotape, videotape, demonstration classes, day schools, laboratory classes and teaching practice. The technical production of print material has been facilitated by the ready availability of a large number of personal computers and good offset printing facilities obtained through UNDP assistance. The OUSL operates from a central campus at Nawala in the suburbs of Colombo. There are four regional centers at Colombo, Jaffna, Kandy and Matara. Science laboratories presently exist at Colombo and Kandy and are expected to be extended to Jaffna and Matara in the near future. Under the ambit of the four regional centers, there exist several study centers which have limited library facilities and which are responsible for the issue of instructional packages and the collection of assignments from students.

Sri Lanka has over 3.2 million radio sets which bears ample testimony to the potential of this medium for educational programs. The Sri Lanka Broadcasting Corporation (SLBC) provides the OUSL weekly with 15 minutes airtime for English programs and 30 minutes each for Sinhala and Tamil programs. This facility is available free of charge at present. Recording of these programs is undertaken at the Open University studio. The national television system is almost ten years old. However, its services do not reach the same extent as the national radio. There are only about 600,000 television sets in the country and the viewing public is about 30 per cent of the population. Nevertheless, each month SLRC provides the OUSL with 25 minutes of airtime at a nominal fee to telecast educational video productions. These videos are produced by OUSL media staff in its studio and are delivered to SLRC for telecast. Despite the existence of an earth station, the use of satellite communication for educational purposes is still in the planning stage in Sri Lanka.

3. Government Policies and Plans for Distance Education

Approximately 40 per cent of the funding for the recurrent OUSL budget comes from a government grant which meets the salary bill of all permanent employees. The balance (60 per cent of the funds) is met from student fees which have to cover all the other recurrent costs of the OUSL, including the production of instructional packages, payments to contract staff and consultants, and the costs of running laboratory classes and day schools. Requests have been made to the Government for an increased government grant as the increasing recurrent costs in running distance education courses (though cheaper than conventional courses) could nevertheless become an unbearable burden on a large proportion of OUSL students. The primary objective of democratizing educational opportunities through distance education could be lost if large numbers are unable to enroll at the OUSL due to lack of finance. The increasingly critical situation in Sri Lanka where admission to the conventional universities (which are completely subsidized by the Government and do not levy tuition fees) is very competitive provides a further compelling reason why the more cost-effective distance education programs of the OUSL should be provided at minimal cost to potential students.

It is clear that distance education could make a significant contribution to meeting the manpower requirements of Sri Lanka. Based on projections for the period up to 1990 made by the Manpower Planning Division of the Ministry of Plan Implementation, graduate manpower development requirements were identified as follows: Arts/Humanities/Social Sciences (1,000), Science (1,000), and Engineers (525). Additionally, distance education could make a

much needed contribution to women's education, technical and vocational education, health and nutrition education and population education. A particular need for the training of self-employed agriculturalists and animal farmers has also been identified. According to the census report of 1981, 43.5 per cent males and 52 per cent females of the work force were employed in agriculture and related sectors. There are certain export-oriented agricultural enterprises, such as the production of ornamental indoor plants, ornamental fish production, and other nontraditional crops with export potential which could benefit from distance education initiatives. The self-employed producers do not have the scientific base to understand why certain operations need to be carried out. Distance education programs could provide this scientific base while practical training courses of short duration could overcome gaps in training and information. Another area where know-how is very vague among local producers is in the grading, packing and marketing of their produce.

4. Scope for Regional Cooperation

It has been recognized that foreign agencies can assist in many ways especially by providing much required capital expenditure for such areas as the costs of equipment for setting up new laboratories and strengthening existing laboratories; initial development costs of new programs of study including the production of multimedia packages; obtaining and funding the services of subject matter specialists; promoting staff development through scholarships and fellowships; facilitating and supporting the formation of institutional linkages with foreign universities/institutions; providing funds for the strengthening and setting up of libraries; development of an increasing number of regional study centers in remote parts of the country; and enabling universities to subsidize programs of study which have a direct impact on the poverty alleviation program of the Government. Much of this development could be achieved through regional cooperation.

APPENDIXES

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OPENING ADDRESS

S.V.S. Juneja
Director, Infrastructure Department
Asian Development Bank

Honorable Minister for Education, Mr. Al-Haj Sayid Ghulam Mustafa Shah, distinguished guests, ladies and gentlemen. On behalf of the Asian Development Bank, I would like to convey to the Minister for Education, our appreciation for finding time from what must be an extremely busy schedule to inaugurate this Round Table Conference. I am also grateful to all of you for accepting our invitation to participate in the Conference.

The South Asian region comprises seven countries with a combined population of more than a billion, about one-fourth of the world's population. The last thirty or forty years have witnessed significant progress in the region in the expansion and standards of education. However, the rate of growth of population continues to be one of the key factors that will determine both the direction and the speed of educational development in the region. This poses the triple challenge of:

- making up for existing shortcomings in education services (particularly access for neglected groups);
- expanding services to keep pace with population growth; and
- staying abreast of latest developments, especially in science and technology.

In a situation of severe resource constraints, traditional educational systems are rapidly becoming overstretched and it is clear that they will not be able to cope adequately with these challenges. There is therefore a need to examine and develop alternative strategies to provide educational opportunities to all sections of the community and introduce measures to enhance the quality, relevance and efficiency of our education systems.

Before discussing these alternative strategies, I would like to say a few words about the Asian Development Bank's work in the education sector. The

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Bank's involvement in the education sector started in the mid-1970s. Initially, the Bank's assistance was directed mainly to vocational and technical education in secondary schools, and professional training in science and technology at the post-secondary level. In recent years, however, the scope of the work has started to widen. Last year, the Bank reviewed its educational operations. Starting from the belief that education is an essential precondition for development, the Bank recognizes the important functional role of a broad basic education as the most reliable source from which any form of specialized education, imparting knowledge and skills to enhance productivity, and to contribute to economic growth may be drawn. This broader view of the Bank's role in the education sector will naturally affect our lending portfolio and technical assistance activities. The first tangible result to date has been the primary education (girls) project in Pakistan for which the Bank, I am happy to report, approved a loan of $64 million two weeks ago. This is the first primary education project financed by the Bank and we are happy that we have been able to assist in a particularly relevant field for Pakistan.

Returning now to the question of alternative strategies to deal with the problem of providing education, the Bank believes that distance education is one such promising alternative. As a first indication of its interest in this field, the Bank sponsored in November 1980 a Regional Seminar on Distance Education at Bangkok. This Seminar was meant to take stock of the developments in this field in the Asia and Pacific region and to provide a forum for experts from all over the region to discuss the issues and policies involved. The present Round Table Conference is a direct follow-up of that Seminar. Several of SAARC's member countries have introduced or are actively considering the use of distance education, both to provide wider access to education and to enhance quality, particularly in teacher training. Allama Iqbal Open University (Pakistan), the Open University of Sri Lanka, the Indira Gandhi Open University (India), the Bangladesh Institute of Distance Education and the Radio Education Teacher Training Project in Nepal are institutions the experience of which will help to enrich the discussions at the Conference.

The major objective of the present Round Table Conference is to provide a forum for policymakers and technical experts from South Asian countries to share their experience in distance education, and to explore possibilities and

determine operational strategies for regional cooperation in this field. It is our hope that this Conference will make a substantive contribution towards identification of policy issues pertaining to regional cooperation in distance education and also propose specific approaches to the resolution of such issues. Some of the questions that come to mind concern establishing a framework for regional cooperation in this field, and the examination of its economic and technical viability. There is also the question of the role of international educational and financial institutions. We in the Asian Development Bank will certainly look forward with great interest to the results of the deliberations of this Conference.

Before I close, I would like to thank in particular the Secretary of Education, Dr. S.M. Qureshi, for kindly agreeing to be the Chairman of this Conference. I would also like to thank our host, Allama Iqbal Open University and in particular its Vice Chancellor, Dr. M.H. Qazi, for providing us with such a splendid venue.

Thank you.

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KEYNOTE ADDRESS: PROBLEMS AND ISSUES OF DISTANCE EDUCATION

M.H. Qazi
Vice Chancellor, Allama Iqbal Open University

It is not my intention to bring up evidence which underscores the economic and social role of education in the making of a prosperous society. The building up of human capital and the private and social return on investment in education are now well-documented in the literature. There is little variation in the inherent genetic capabilities of nations. However, there are marked differences among various population groups in acquired abilities endowed through education. The interplay of international capabilities with the dynamic creative universe linked through consciousness is a means to the enrichment and enhancement of human life. This is an area which deals with the metaphysics of education. Yet it is education alone that elevates consciousness, creates awareness, and enables youth to survive with confidence in an organic symbiosis with the universe. It is now obvious that those nations which have a larger pool of "common knowledge" are better equipped for harnessing science and technology.

In the struggle for existence and in an effort to improve the quality of life, whether in centrally planned economies, or in free market economies, it is essential that: literacy ratios are improved, social demand for higher education is fulfilled, equal access to education is provided to both sexes and to those who are socially disadvantaged. This is possible through education and, therefore, not surprisingly, despite financial constraints and poor infrastructures, much of the effort of developing countries is directed to this task. Historically, and perhaps rightly so, the processes of educational development have relied on the formal system of education. This being the case, real malaises of poverty, hunger, malnutrition, undereducation, low participation rates, dropouts, unsatisfactory quality, and attrition of standards have not been eliminated. The situation is further exacerbated by the rapid generation of new knowledge, phenomenal advances in science and technology, and the emergence of knowledge-intensive high technologies. These advances clearly warrant different and new types of

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social and cultural adjustments and, if nothing else, these have, to a large measure, strengthened the case for lifelong education. At the hub of economic progress lies the quality of the work force. Perhaps, in its own way, formal system has the ability to cope with this dilemma. Already in the developed countries, formal education is responding to this challenge with ample room for further efficient growth. In the developing countries, however, the story is different. The syndrome of underdevelopment dictates that the challenge is to be met in different ways, through a variety of innovative educational modalities. Neither the formal system with its apparent inadequacies can survive the new onslaught nor, perhaps, can it cope with the magnitude of the task. Regional cooperation, sharing of scientific and technological information, and a common effort to develop materials for mass education with a heavy tilt towards scientific, technological, vocational, behavioral and management skills are the likely future hopes of our nations. The rapid pace at which distance education systems are progressing, will, hopefully, lead us into the next century with high levels of aspirations. The difficulties are many; yet, I believe that we have the ability to overcome these difficulties.

This Round Table Conference on distance education, I must say, is a small, yet meaningful step towards new educational goals. This Conference, on the one hand, is the manifestation of our optimism about the potential of distance education to meet the challenge of the time. On the other hand, it reaffirms our belief that the existing problems of education, and the problems of education in the future, could be adequately dealt with through the process of distance education. As a system of education and method instruction, distance education has long been in existence. However, as an institution it owes its origins to the establishment of the first open university in the United Kingdom in the latter half of the sixties. The system has spread rapidly and has been equally accepted in developed as well as developing countries of the world. The experience of the UK Open University as an institution of distance education is a model which is being replicated in developed as well as developing countries. The institution has proved its effectiveness in educating and re-educating masses for adjustment to the increasingly changing demands of economics and societies. The delivery of education through distance learning techniques has already proved its potential for all segments of the society. Furthermore,

distance education programs have been successfully employed for updating professional knowledge and skills, and are even supplementing the programs of conventional education systems. It is equally useful for lifelong education. It appears that distance education sooner or later will dominate the world educational scenario.

Distance education as it grows is likely to face a number of problems. Such problems are already manifest. A few of these are inherent to the system. There are others which are surfacing because of its competitive character vis-à-vis the formal system, and the existing heavy bias in favor of the latter. These problems and issues should be our concern at this Round Table Conference.

Those associated with the distance education system are aware of the multiple educational tasks which it can perform. Experience indicates that through distance education it is possible to organize teaching at all levels, ranging from basic literacy and functional education courses to courses of study leading to higher degrees in several disciplines in both sciences and humanities. Distance education programs have also demonstrated proven potential for updating knowledge and skills in many professions and occupational fields. In the Allama Iqbal Open University, we have successfully introduced educational programs which provide valuable supplements to conventional school courses.

Worldwide experiments and experiences in distance education are opening up still new horizons to be explored in the world of education. Perhaps the system has now gone beyond the stage of trial and error. However, as it grows it must be ensured that:

(i) it is defined in logical terms and given a universally applicable connotation;
(ii) its scope is clearly outlined;
(iii) its place, vis-à-vis institutions of formal education is determined and it gets recognition and support from the State Government;
(iv) its programs, methods and media are based on research and the educational needs of the masses with particular reference to time, place and environment; and

(v) a system of international collaboration and perpetuation of distance education has been carefully planned and implemented.

This Conference, let us hope, will mark a beginning towards organizing international cooperation and collaboration in the field of distance education. Many more may join with us in the days to come but in our aspirations to rise above sociocultural, political and geographical boundaries in our deliberations about distance education, our foremost concern remains the developing world. This also has obvious priorities for the South Asian region to which our deliberations should make repeated reference.

In identifying the goals of distance education for South Asian countries perhaps we would like to trace our histories back to where and how the once highly developed people of the subcontinent digressed from the path of their ancestral grandeur and wandered in the labyrinths of what is today known as underdevelopment. We may have to begin our journey afresh using the edifice we have already constructed. Relative to this background, the following major goals can provide direction to the development of distance education in our country:

(i) provision of education for all citizens regardless of what they are, what they do, where they live and what their levels of education and mental and physical capabilities are;
(ii) catching up, in the shortest possible time, with the scientifically and technologically advanced nations of the world;
(iii) development of the inherent potential of the people through the process of appropriate lifelong education;
(iv) development and adoption of diversified curricula and instructional materials suited to individual needs; and
(v) adoption and utilization of efficient and effective delivery systems and media for the dissemination of knowledge.

The goals of distance education, in whatever terms they are stated, necessitate a multilevel organization at local or provincial level, at national level, at regional level for South Asian countries, and at international level in a broader

sense. Local and national organizations of distance education are already in existence in many countries. A sort of an international organization of distance education in the form of the International Council for Distance Education (ICDE) has been formed. It has held several international conferences on many issues of distance education. This Round Table Conference marks initial efforts towards a regional organization for distance education. This Conference will be examining the issues confronting distance education in the region and will suggest appropriate strategies for overcoming them. Such measures could include:

(i) sharing and adopting existing teaching-learning resources;
(ii) sharing expertise in designing instructional materials;
(iii) sharing expertise and facilities in all phases of instructional materials production;
(iv) sharing technical know-how in the dissemination of courses through radio and TV, including the use of satellite; and
(v) outlining the future role of distance education in human resource development in South Asian countries.

The establishment of an institution of distance education and its organization at any level has to be considered with reference to a number of problems and issues which are peculiar to distance education. Some of the problems may be very specific and related to locality and country needs. There are other problems which may be common to several countries and still others which have commonality for all South Asian countries. All these problems should attract our attention during the course of our deliberations.

Distance education as a discipline and as an institution of education is comparatively new. It is still in the process of making and remaking. Accordingly, it is undergoing the process of definition and redefinition. In order that distance education is correctly and fully understood by all the users of the term, it is essential that a standard definition of the term be prepared which is logically worded and all-inclusive. This definition is essential for the purpose of the South Asian Regional Organization of Distance Education. Only then will

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it be possible to organize regional cooperation and collaboration for the improvement of distance education in the region.

The experience of several universities shows that the institutionalization of distance education is not usually welcomed in tandem with the conventional educational institutions. The establishment of institutions of distance education has often been fraught with pessimism. This pessimism is known to have continued even after a distance education institution has established itself and created a place of its own in the education system of the country. This pessimism inadvertently influences the institutions and the attitudes of its personnel and its beneficiaries. Why should there be such pessimism? Perhaps there are different factors responsible for it in different countries. Generalization of these factors and their remedies through the sharing of experiences would certainly help minimize such pessimism and remove many barriers to the establishment and improvement of institutions of distance education.

Related to people's pessimism about distance education is the question of quality. Although the maturity and self-motivation of students and the quality and relevance of instructional materials offered by institutions of distance education ensure good quality education in terms of the standards of its outcomes, it has yet to be determined by research evidence as to how the quality of distance education compares with the quality of the conventional education system.

The certificates, diplomas and degrees offered by distance education institutions are often not accepted by educational institutions and employer organizations as being on a par with those of the conventional system. Establishment of the credibility of the diplomas of distance education may require different strategies in different situations. But what seems to be a more important determinant of the credibility of the certificates of an institution is its own reputation which, besides other things, is determined by the standards it sets for itself with regard to facilities, staff, curricula and academic demands on both students and teachers. Certainly there has to be worked out mutually agreed, practicable standards for all aspects of distance education.

A traditional versus distance education controversy is also a natural phenomena of the growth of distance education. The two systems have specific functions to perform. These functions are not antagonistic to one another.

Rather they must work as supplementary and complementary to each other. This issue could be resolved by having the systems organized under a single higher level management structure. Their functions should be clearly outlined in a way that avoids overlap and competition in their academic programs. The two systems should work in parallel to supplement and complement what each is contributing in its own sphere.

What can be taught through distance education is another essential question to be answered. Certainly not all academic, professional and vocational subjects and disciplines can be taught through the media and methods of distance education. What then should be the scope of distance education in terms of the nature and levels of educational programs which can be successfully taught by this system? The countries participating in this Conference have certainly had experience of their own situation which can help others to avoid ventures which end up in problems and vestiges.

Distance education is known to be limited insofar as only persons capable of self-education can benefit from it. This means a minimum level of basic literacy is essential for the operation of a distance education system in a community. Does this mean that the system cannot serve most of the people of the region who have never had an opportunity for education in their lives? If distance education has to serve as a means to providing educational facilities to all of the people, we must devise a system of educating the uneducated and motivating people for learning who do not feel a necessity for receiving education. Presently the Allama Iqbal Open University is experimenting on the education of illiterates but it is too early to make a judgment about its effectiveness and success. How to educate the un ‘ucated through the system of distance education remains a challenge for the system.

While we consider the economics of education, the distance education system as it is working in the Open University appears to cost far less than traditional education. Let us agree that the system requires comparatively less financial resources. But in fact economy is a type of a cuckoo bird strategy which lays its eggs in the crow's nest. Whatever strategy is used for the acquisition and utilization of resources and facilities the actual resources required for distance education are comparatively more than the ones required for formal education. The listing of resources is itself a tremendous job. But for their provision,

especially for the South Asian countries the assistance of many international organizations and some sort of resources sharing among member countries should be inevitable.

Related to the resources of distance education are the media of radio and television which are considered basic to the system. But experience suggests that while their cost is high their utilization by the students is very low. Their rate of use does not appear to justify the cost. To use or not to use these media for distance education is an issue which needs to be resolved. Can we afford to do without them? If yes, what would replace them for teaching at distance? If not, how can the use of these media be minimized, and how can their utilization by students be maximized?

It is not only in the case of radio and television that there exists the problems of low utilization. Many other facilities such as tutorial services, study centers, special purpose libraries, etc., are not fully utilized by students. The problem is that benefits of distance education may not accrue if media and facilities are not properly and fully utilized. This is a universal problem, which is crucial to every program and plan for distance education.

An important consideration which demands attention is the area of attitude formation through distance education. In distance education the personal element of the teacher is, for the most part, missing from the educational communication process. There is no direct interaction between the teacher and the students. It is therefore not known if the desired attitudes are developed in students as a result of distance learning. I doubt if we can validly include a change of attitudes as one of the objectives of distance education anywhere, then what do we really teach and to what end?

Distance education as a profession is a development of recent years. Like the discipline of distance education, the profession is also in the making and we have still a long way to go in having sufficient numbers of real specialists and professionals in the field so that all the departments and institutions of distance education are staffed by them. Perhaps it is yet to be determined what would be required to make one a professional, and how and where such professionals would be produced. For this purpose would a limited training program at national, regional or international level suffice? Can a staff development center in an institution produce such levels of expertise and train personnel who would

be needed for various jobs in distance education? Or should an international institution or organization undertake to establish a program of personnel education and training in distance education? It might not be out of place to make the point that at the Allama Iqbal Open University we have already made a small beginning in this direction by establishing a Department of Distance Education. This Department organizes short-term orientation and training courses for the staff of the University. Plans are also underway for the introduction of higher level postgraduate education in distance education.

The preparation of instructional materials for distance education is based on principles of self-study and is characterized by recency, meaningfulness, and the continuous updating of knowledge and information. In a formal classroom, the teacher usually keeps supplementing the information contained in the textbook. In distance teaching, this supplementary information has to be incorporated in the written text from time to time to save it from becoming stagnant. This is not an easy job. It has many implications for course writing, course review, media support, printing and financing, etc.

Distance education media and methodologies have been successful in teaching many courses of general and vocational interest at both graduate and undergraduate levels. But where research is involved, teaching in higher education has yet to be organized through distance education without compromising the quality and standard of higher education. Since the process of lifelong higher education is the goal of many persons, this aspect of distance education needs special attention. Promotion of science and technology in the developing countries is also a challenge for distance education.

Of course the problems of distance education are many. But if we are determined to overcome and solve them with the spirit of mutual cooperation, I am confident we shall achieve the goals of distance education in the South Asian region. This Conference, I am sure, is the manifestation of this spirit of cooperation and let us hope that the purpose for which it has been organized will be fully achieved.

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GROUP REPORTS

Group A

Members of the participating countries, after appreciating the magnitude of their own countries' educational needs, their meager resources, levels of development of their respective distance education institutions, the compatibility of the system and its inherent strengths, particularly with regard to the economies of scale and cost savings and the level of the commitment and interest of their own governments in opening and further improving their distance education institutions, felt that:

(i) Regional cooperation among participating countries was urgently needed.

(ii) This cooperation could initially be in the areas of sharing information, existing course materials, and expertise through staff training. This could be taken up immediately subject to the observation that course materials on science and technical courses can be easily adapted without much change in their contents as these do not have much of a sociocultural bias. However, it was noted that in certain cases language might pose some problems which would have to be overcome.

(iii) Since the design and development of new courses under ideal conditions required a teamwork approach, it was likely to take a little longer and as such was therefore placed under short-term objectives (i.e., between one and two years).

(iv) Sharing of research and development costs of new technologies (e.g., computer-managed learning and satellite-based initiatives) should be regarded as a long-term objective (i.e., between 3 and 5 years). However, it was noted that the transmission of already developed programs through satellite by one country could be received by another country without any delay, subject to technical clearance.

(v) Sharing of evaluation system costs, in the sense of student evaluation, should be regarded as a long-term objective because it presupposes preceding stages. As far as institutional evaluation of distance teaching systems is concerned, it was noted that standardized yardsticks were yet to be developed. The absence of such standardized techniques was already posing many problems when a distance teaching system was compared with the performance of its formal counterpart.

(vi) As each of the distance education systems of these countries had developed its own innovative and indigenous strategies to cope with their own problems, existing courses and associated techniques could be shared by others on a short-term basis (e.g., Sri Lanka has developed specialized science courses in higher education, Pakistan has developed some innovative models of functional education for educating nonliterates, and India has developed innovative courses in "Distance Education" and in "Management Education", respectively).

(vii) In countries where distance education institutions are yet to be developed, neighboring countries could at least open their study/resource centers as an initial step.

It was noted that some type of bilateral or multilateral cooperation between different countries in the area of exchange of materials and development of courses on some common themes (e.g., environmental studies) is already taking place. These efforts were on the initiative of some interested persons who had had an opportunity to meet their counterparts from other institutions. This, however, was not being carried out as a formal institutionalized activity and as such the setting up of a formal central regional mechanism to facilitate and encourage this kind of activity was very much needed. It would gain its strength from various collaborative arrangements which may be developed on the basis of bilateral and multilateral arrangements. As one of the inherent strengths of the system is its openness and flexibility, decentralization should be kept in view.

Specific courses and other information materials should be properly identified on the basis of some feasibility studies by some external organizations such as the ADB or the ODA. Similarly, feasibility studies should also be carried out for delineating the professional staff in distance education and for possible transfer of technology from one country to another.

It was difficult to locate/name any specific institution to serve as a regional center for this purpose. However, it was proposed that the findings of the reports of the proposed feasibility studies could go a long way to providing sufficient information for the taking of this decision. The members were also of the view that arriving at a decision like this was particularly difficult as all the national distance education institutions were at different stages of development and their degree of expertise/specialization varied in significant ways.

Keeping in view the tremendous short and long-term benefits which this kind of cooperation could bring to the parties and now that participating countries were committed to such cooperation, it was acknowledged that regional cooperation would entail some financial commitment. Until feasibility studies indicate both the location of a centralized institution and the finances available for a formalized mechanism for the South Asian region, it is suggested that there should be more cooperation in the field of distance education among South Asian countries in order to promote and support the Distance Education Regional Resource Centre (DERRC) established under the auspices of the Asian Association of Open Universities. It was noted that DERRC is open to all distance education institutions.

Group B

The following objectives and associated benefits of regional cooperation were noted:

(i) To reinforce the sociocultural identities of member states.
(ii) To reinforce mutual cooperation and understanding between member countries through sharing of experiences, resources and responsibilities in distance education.

(iii) To pool and make available existing information, experiences and expertise among member countries.
(iv) To prevent duplication of effort and wastage of resources.
(v) To understand the nature, scope and feasibility of distance education in SAARC countries.

Possible areas for cooperation and associated suggested time scales were delineated as follows:

(i) Creation of facilities for sharing of data and information on distance education in member countries. For this purpose, the compilation of a directory of distance education institutions in the member countries could include: nature and type of programs and courses offered; student profile; management and pacing pattern; instructional media used; organizational structure; faculty profile; and research and evaluation. Creation of a data and information base at one of the national institutions of distance education in the region (medium term).
(ii) Exchange of visits of policymakers, planners, administrators and academics (short term).
(iii) Sharing of existing instructional materials at nominal cost on mutually agreed terms and conditions (short term).
(iv) Sharing expertise for staff development in different areas of distance education (medium term).
(v) Joint efforts to design and develop new course materials in agreed areas (medium term).
(vi) Students should be able to enrol in academic programs offered in other member countries (medium term).
(vii) To conduct feasibility studies to determine the need, viability and mechanisms for sharing of infrastructure development costs, evaluation system costs, research and development costs (medium term).
(viii) Explore the possibilities for transfer of credit and split-site courses (long term).

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The following forms of regional cooperation were suggested:

(i) Establishment of a regional network of National Resource Centers.
(ii) The National Resource Centers to build on existing strengths and experiences in member countries.
(iii) Network to be directed by a consortium of Vice-Chancellors of open universities or their equivalents.
(iv) Small secretariat to be responsible for the administration of the network of centers and their activities.
(v) Each member while being a part of the regional network would be free to establish relations with other international agencies and organizations.
(vi) Interinstitutional linkages on a bilateral basis would be encouraged.
(vii) It is essential to involve governments but this should be done under the SAARC umbrella. It might be possible to establish it as an NGO (e.g., SAF).

With regard to financing the proposed regional mechanisms, the following suggestions were made:

(i) The creation of a "Common Fund" for Regional Cooperation by contributions from governments and/or institutions on agreed terms and conditions and by international agencies (e.g., UNESCO, ADB, World Bank, COL).
(ii) The proposed "Common Fund" could be replenished through annual contributions by governments and donations/grants from international agencies to provide common services through the Secretariat and to meet recurring costs.
(iii) Host institutions could provide physical facilities for the establishment of National Resource Centers.
(iv) Specific activities including feasibility studies and projects could be funded by external agencies.

(v) The institutions could charge, where practical, fees for services to member countries/institutions and external clients.

Group C

The following objectives and associated benefits of regional cooperation were noted:

(i) To share information/experience.
(ii) To discuss and solve problems faced by South Asian countries in the development/progress of distance learning systems.
(iii) To explore possibilities for the joint development of learning materials.

Some points relevant to the possible form of regional cooperation were raised as follows:

(i) Identification of institutions where centers of excellence could be established, taking into account special capacities in order to share experience.
(ii) Creation of a focal point from which an institution could get help, funds, expertise or necessary support.
(iii) Arranging broadcasts about distance learning institutions in various countries for the sharing of information.
(iv) Provision of access to advanced communication technologies (satellite, electronic mail network, etc.) to facilitate exchange and to enhance communication.

Several general recommendations regarding the role of governments and the international community were also made:

(i) Participating governments should be impressed upon to extend their help in the shape of equipment, training or transferring

knowledge. Their help is essential for developing infrastructures and providing expertise.

(ii) Funding agencies/international organizations should sponsor individuals to visit other countries for training/sharing experiences.

(iii) Respective governments should be approached with specific and concrete proposals for seeking their commitment.

(iv) Participating governments should facilitate the institutions through subsidizing the cost of communication.

Further specific recommendations were made as follows:

(i) To strengthen and expand the regional resource center in distance education in Bangkok so as to cater for specific needs of all South Asian countries. Specific needs include the provision of assistance to countries that have just started distance education; small countries; and countries that want to develop distance education at levels other than higher education. Such provision could include advice on facilitating training in the form of attachments, study tours and in-country courses in priority areas.

(ii) To make an inventory of resources and capacities available in distance education institutions in South Asian countries. This inventory should cover the broad areas of information exchange, training, research and materials development. This inventory should also provide information on aspects such as the use of distance education modes for literacy, remote area populations, education for girls and women as well as innovative methods in distance education. This inventory of resources could lead to the strengthening of sectional capacities with a view to developing regional cooperation among institutions.

(iii) To conduct a needs assessment in order to assess the requirements for the development of distance education in South Asian countries. This needs assessment should be considered in relation to the aforementioned inventory of resources.

(iv) The group also agreed on a proposal for action to delineate alternative mechanisms for regional cooperation as follows:

(a) *Objective:* The objective is to provide relevant government authorities with a basis for decision making on how to organize cooperation in different aspects of distance education at all levels of education in South Asian countries.

(b) *Method:*

(i) Based on the realistic assessment of the capacities of participating countries, the method is to prepare scenarios on how regional cooperation could be organized.

(ii) These scenarios will take into account existing infrastructures, institutions, centers (both national and regional), ongoing cooperative activities and networks.

(iii) The scenarios will also contain indications of costs as well as other obligations to be incurred at different stages of implementation.

(iv) These scenarios will be presented to governments for discussion and for decision on the choice of the most desirable and feasible option. This decision should be considered as a commitment in principle on the part of each government, in particular with regard to financing.

(v) The final choice of the model to be implemented would be made on the occasion of a meeting of those responsible. It will be submitted to the appropriate political bodies.

(c) *Funding*: Funding agencies and international organizations will be approached to provide funding and technical assistance to carry out this activity.

(d) *Organization*: A small working group of specialists could be set up to prepare the scenarios, to monitor the operation, and to prepare the final document.

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Appendix F

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I. Organizing Committee

1. Chairman : Dr. M.H. Qazi, Vice Chancellor, AIOU
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EDUCATION DIVISION
Infrastructure Department

List of Publications on Education and Training

A. Sector Studies

1. Bangladesh: Sector Study on Education, 1986
2. Nepal: Sector Study on Education, 1986
3. Papua New Guinea: Rationalization and Savings in Higher Education, 1986
4. Education and Development in Asia and the Pacific, 1988
5. Pakistan: Sector Study on Education, 1988
6. Pakistan: Technical and Vocational Education, 1989
7. Sri Lanka: Sector Study on Education (Volumes 1 to 4), 1989
8. Lao PDR: Sector Study on Education, 1989

B. Seminar Reports

9. Entrepreneurship and Self-Employment Training (Volumes 1 and 2), 1986
10. Distance Education (Volumes 1 and 2), 1987
11. Training the Technical Trainer, 1988
12. Distance Education (Proceedings of the Round Table Conference on Distance Education, Islamabad, 1989), 1990

C. Staff Papers

13. Distance Education: Professional Staff Paper, 1985
14. Uses of Technologies to Improve in Class Instruction, 1988
15. Education Broadcasting and Distance Education as A Strategy for Revitalizing Education of the Disadvantaged, 1990

D. Others

16. Training Resource Materials for Accounting Technicians (Volumes 1 to 9), 1990

The above publications (except items 3, 6, 7 and 8) are available upon request from the Information Office, Asian Development Bank, P.O. Box 789, Manila, Philippines. Information on the reports listed at items 3, 6, 7 and 8 is available from the Manager, Education Division.