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QUESTIONS RELATING TO INFORMATION

Co-operation and assistance in the application and improvement  
of national information and mass communication systems for  
social progress and development

Note by the Secretary-General

The Secretary-General has the honour to transmit to the members of the General Assembly a report which has been communicated to him by the Director-General of the United Nations Educational, Scientific and Cultural Organization in accordance with paragraph 3 of General Assembly resolution 31/139 of 16 December 1976.

ANNEX

Report on progress achieved in the development of  
 mass communication systems

(Prepared by United Nations Educational, Scientific and Cultural Organization  
 in co-operation with International Telecommunication Union)

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## PREFACE

1. The period covered by this report, which extends from 1962 to 1978, has been marked by an unprecedented development and profound transformation of the world's communication systems. Impressive advances in the techniques of communication have revealed this to be a field in which certain fundamental problems of modern societies are manifest in all their acuteness and complexity. This evolution, and the new awareness of the problem of communication and its relationship to the development process, have given rise throughout the world to serious questioning, notably within the United Nations system, and we can see today the beginnings of a profound re-evaluation aimed at clarifying the very notion of communication and at defining practical conditions for its free enjoyment. In fact, technical progress and the evolution of ideas which has led some to define in new terms a true "right to communication" are closely linked and will no doubt be even more so in the years to come. It would therefore be artificial to attempt here to separate the technical from the conceptual aspects of the problem.

2. The report presented here takes into account this interaction. It thus responds to the context of resolution 31/139 adopted by the General Assembly at its thirty-first session, which poses the problems of communication in their social setting and more particularly in their relation to problems of development. Paragraph 2 of this resolution requests UNESCO "to continue and intensify its programme for the development of mass communication systems, especially for the benefit of developing countries". It is precisely within this perspective of development, and taking into account this specific interest, that the problem of communication was examined by UNESCO's General Conference at its nineteenth session, held at Nairobi in 1976 and that it will be discussed anew at its twentieth session which will open shortly in Paris.

3. It was during the last session of the General Conference that the problems raised by the development of communication and information in the light of technological advances and the recent evolution of world relations came to the fore in all their complexity and magnitude.

4. At the close of its discussions which highlighted the need to rethink the conceptual framework on which approaches had hitherto been based, the General Conference instructed me to conduct a study of the "totality of the problems of communication in modern society". To carry out this task I set up, in 1977, an International Commission for the Study of Communication Problems under the chairmanship of Mr. Sean MacBride, composed of 16 eminent personalities from Africa, North and Latin America, Asia, the Arab States and Eastern and Western Europe. I entrusted to this Commission the task of establishing "a synthesis of the problems of communication and possible ways and means to cope with them" on the basis of documents and studies and in co-operation with competent intergovernmental and non-governmental organizations.

5. In the analysis carried out to identify the objectives of UNESCO's medium-term programme, development considered in all its dimensions - economic, social and cultural - holds pride of place. If the improvement of the means of communication between peoples tends to become a major subject of preoccupation, it is because communication has very rapidly been perceived to be co-extensive with all aspects of development, of which it is a strategic factor. This new tendency is increasingly being underlined in the work of UNESCO. For its part, the General Assembly has stressed it in the very formulation of the item which is today on the agenda.
6. The reasons for which communication plays an essential role in development strategies are many, the chief of which being that developing countries themselves have been led to conclude that all effort towards nation-building, all international relations, and even the very respect of the fundamental freedoms of the individual, necessitate the possibility for all to communicate on questions which concern them directly.
7. But it must be recognized that in fact the majority of the means of communication, with the most powerful resources and techniques, are concentrated in a small number of highly-developed countries. It was natural therefore, that the establishment of infrastructures and equipment, the training of personnel, and the possibility of spreading communication, should increasingly appear in development plans and actions. The idea that development touches only one sector of human activity - that is, strictly economic growth - is today largely outdated. It has given way to a global concept in which communication has an important place because it alone can guarantee a truly endogenous development, attuned to the culture and faithful to the deep-rooted identity of the country. This tendency, which reflects a reality, has been manifested in the action of the developing countries themselves, which have devoted several important international conferences to the question. It responds to a demand for justice and equity which naturally takes its place among the aspirations which the international community is determined to satisfy in establishing a new international economic order.
8. If the General Conference at Nairobi brought to light certain differences of views between the developed countries possessing powerful communication media and the developing countries, it also gave rise to many offers of co-operation on the part of those countries best equipped in advanced technology and thus revealed an understanding of the problems and a real will to co-operate. It is now recognized that free and balanced communication, that is communication exercised in mutual respect one for another, can only result from a partnership among nations and requires the adherence of all parties.
9. Technical progress, which led to flagrant inequalities, also carried the promise of future solutions. Certain aspects of advanced technology, such as the use of artificial satellites, but also the varied forms of miniaturization, will tomorrow allow even small communities to spread their own information. The increasingly perfected means that rapidly-growing technology puts at the disposal

of man in the field of communication do not favour exclusively a concentration of the power to inform which would lead to imbalances; they also offer possibilities of individualization, of diversification and of adaptation to particular needs on smaller scales.

10. The present document offers an overview, certainly condensed, but which, I hope, shows sufficiently the evolution that has taken place between 1962 and 1978 in the member States as well as on the international level. Section III.B has been contributed by the International Telecommunication Union, with which UNESCO steadily seeks to strengthen its co-operation.

11. The report, which is essentially factual, attempts to provide a summary of the principal problems as well as of the main achievements in the improvement of communication in relation to social progress and development envisaged as a global process, a field which is essential for UNESCO as well as for the whole United Nations system.

## I. INTRODUCTION

1. The present report is submitted to the thirty-third session of the United Nations General Assembly, in implementation of its resolution 31/139 of 16 December 1976, entitled "Co-operation and assistance in the application and improvement of mass communications for social progress and development" the operative paragraphs of which read as follows:

### "The General Assembly

"1. Invites the Governments of developing countries to give due regard to the establishment and/or the strengthening of their national mass communication systems within the framework of their over-all development plans;

"2. Requests the United Nations Educational, Scientific and Cultural Organization to continue and intensify its programme for the development of mass communication systems, especially for the benefit of developing countries;

"3. Requests the Director-General of the United Nations Educational, Scientific and Cultural Organization, in co-operation with the United Nations, the specialized agencies concerned and other interested organizations, to report to the General Assembly at its thirty-third session on progress achieved in the development of mass communication systems, which report will be used as a basis for discussion at that session of the Assembly;

"4. Decides to include in the provisional agenda of its thirty-third session the item entitled 'Co-operation and assistance in the application and improvement of mass communications for social progress and development' and to consider it at that session as a matter of priority."

2. The time period covered by this report will be generally 1962 to 1978. One of the reasons for this is that UNESCO's last major report to the United Nations on mass communication and development was prepared in 1961. <sup>a/</sup> It is also during this time span that there has been significant growth in communication technology, as well as in the understanding, both of the concept of development, and of the nature and function of national information and mass communication systems. A special result of the latter is to bring communication and development perspectives closer together, in theory if not always in practice, so that they are now more likely to enable the pursuit of more co-ordinated objectives.

3. The General Assembly, at its thirteenth session in 1958, reviewed the various decisions taken by the Economic and Social Council and its Commission on Human Rights

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<sup>a/</sup> Mass media in the developing countries, a UNESCO report to the United Nations, Reports and Papers on Mass Communication, No. 33, Paris: UNESCO, 1961.

and adopted resolution 1313 A (XIII), in which it expressed the hope that the Council at its twenty-eighth session, in 1959 would formulate a programme of concrete action and measures on the international plane for the development of information enterprises in developing countries. The General Assembly also invited the Economic and Social Council to request the Commission on Human Rights to arrange for constant review of the problems of providing technical assistance to developing countries in the information field, and to report regularly to the Council on progress achieved. Finally, the General Assembly invited the specialized agencies and organizations within the United Nations system to formulate concrete proposals to assist in the development of information media in the developing countries, and to include an account of their efforts on this and other aspects of their involvement in freedom of information in an annual report to the Council.

4. The Commission on Human Rights, in its resolution I (XV) of March 1959, decided to review developments affecting freedom of information, including the problems of providing technical assistance "to developing countries in the information field, as a regular item on its agenda".

5. The Commission on Human Rights also recommended that the Economic and Social Council adopt a two-part resolution: part I proposed that UNESCO be invited to undertake a survey on the problems of providing technical assistance to developing countries; part II proposed that the Secretary-General be requested to prepare an annual report on developments affecting freedom of information, and a substantive report, for submission to the Economic and Social Council in 1961, on developments in the field since 1954. The reports requested of the Secretary-General were to include information on progress achieved in the development of information media in the developing countries. At its twenty-seventh session, the Economic and Social Council adopted this draft as resolution 718 (XXVII) of 24 April 1959.

6. UNESCO conducted its survey by means of a series of regional meetings in which governmental representatives, professional communication organizations and mass communication experts joined in preparing proposals for the development of the media in the region concerned. The first meeting, for Asia, was held at Bangkok in January 1960; the second, for Latin America and the Caribbean, at Santiago in February 1961; and the third, for Africa, was held at UNESCO headquarters in Paris in January 1962.

7. The survey helped to establish an early criterion for mass media development, in which the minimum standard was considered to be 10 copies of daily newspapers, five radio receivers and two cinema seats per 100 persons. The survey also helped to establish that the development of the information media forms part of social and economic development as a whole.

8. UNESCO was requested by the United Nations to submit a first report, prior even to the completion of the series of regional meetings. In submitting the report, the Director-General of UNESCO observed that its preparation had been guided by two premises:



"The first is that a prerequisite to freedom of information is the existence of adequate mass communication facilities. Nearly 70 per cent of the total population of the world, living in more than 100 countries, at present lack these facilities to a degree that denies them full enjoyment of this basic human right. The second premise is that development of information media forms part of the economic development as a whole and therefore may be assisted by resources drawn from technical assistance programs. Such assistance in the mass communication field is of growing importance at a time when the underdeveloped countries are seeking to attain in a matter of years a level of achievement which it has taken the developed countries centuries to achieve."

This report suggested action which could be carried out not only within the United Nations, but also by Governments and by nongovernmental communication organizations.

9. It was considered by the Commission on Human Rights in February-March 1961, and by the Economic and Social Council at its thirty-first session, April 1961. The Council in its resolution 819 (XXXI) unanimously accepted the programme of action proposed by UNESCO, and, on the recommendation of the Commission, it adopted a resolution which requested, among other things, that UNESCO continue actively to further this programme, in consultation with the United Nations and the other specialized agencies. Furthermore, the Council recommended extensive national investments and systematic international assistance for broad development purposes; an area which, up until then, it had dealt with mainly in the context of human rights, thus recognizing the role which information and mass communication play in the social, economic and cultural development of any country.

10. The United Nations General Assembly, at its seventeenth session in 1962, unanimously adopted resolution 1778 (XVII) in which it expressed its concern that the survey discloses 70 per cent of the population of the world lack in adequate information facilities and are thus denied effective enjoyment of the right to information. It also stated that information media had an important part to play in education and in economic and social progress generally and that new techniques of communication offered opportunities for acceleration of the education process. Governments were then invited to include adequate provision for development of their national and regional information and communication systems in their social and economic plans, and to take this factor into account in their programmes for the first United Nations Development Decade. Governmental and nongovernmental public and private agencies and organizations were also urged to support this effort.

11. Along with the decisions taken in 1962 by the United Nations General Assembly, UNESCO's General Conference, meeting that same year, authorized, among other things, the preparation of studies designed to give further impetus to its own mass media development programme. Drawing heavily on the results of the three UNESCO-sponsored regional meetings on communication, held between 1960 and 1962,

the resultant book, written by Wilbur Schramm became the first in-depth study on the role of information and mass communication in national development. It laid the foundation for a series of meetings, studies and projects, at both national and regional levels, in the years to follow, which have deepened and intensified the original concept.

## II. RECENT DEVELOPMENT OF MASS COMMUNICATION

12. Mass communication has developed in the different countries and territories of the world under highly varying historical, economic, social, political, legal, cultural and geographical conditions, and often to serve very different purposes. The aspects of the development of mass communication which are most important for this report include the contribution that adequate information and mass communication systems can make in the promotion of opportunities for people to participate fully in national development, in the assistance which these systems can offer towards preserving and enhancing the cultural values of countries, in the support which they may provide for economic and social development, in the contribution which they can provide for the promotion of international co-operation, including the efforts to achieve the goals of the International Development Strategy for the Second United Nations Development Decade, and of the establishment of a new international economic order.

13. How a particular country will develop its mass communication systems towards meeting these and other goals will depend fundamentally on the communication resources which it has available and on the use which it makes of them. This report, and especially the present section, will examine regional and global mass communication resources, and how they have developed in recent years.

14. All countries are faced today with problems related to the integration of their mass media into development and over-all improvement programmes. It is now seen that without full use of the modern mass media, in harmony with more traditional ways of interpersonal and community communication, there is much less hope that today's urgent goals can be reached in reasonable time, especially when the effort involves many millions of people.

15. The concept of a communication system is a complex one. It is used here to mean the over-all configuration of the function, hardware, personnel and the mode of organization and operation. Such systems are composed of interrelated components and elements. The main function of each component of a communication system is one or more of the basic communication activities - creating, gathering, storing, processing, distributing, sharing messages, carrying information (the latter term being used in a very broad sense) and establishing varying relationships.

16. Some of the specific components of a national communication system are newspapers, periodicals, books, newsprint, film, radio, television, news agencies, other electronic and telecommunication services, etc. The organizations dealing with these, and the technologies used in them are elements of these same components. The tables in this section will deal mainly with these components. While remembering here that the various mass media are separated statistically for clarification and discussion, in reality, they are closely interrelated, in functions, organization and in personnel. At the same time, in many countries, we are dealing not with one mass communication system in any real sense, but with two or more separated, although related, media systems.

17. Mass communication systems may be defined even more broadly than is needed here, and include all industries which produce information machines or provide information services. It is likewise possible to include public and private financial and administrative organizations which deal mainly with information. The extent to which such components should be included in the national communication system itself, and how many communication systems a nation should have, is a question for each nation to decide. A central part of this question is to determine how the type of system or systems adopted influences the way the individual medium is used and how this in turn influences the country's and region's improvement and development.

18. This section will first take up briefly some of the more relevant and current considerations and issues connected with the improvement of mass communications, and will then look at the quantitative and trend development of the major mass media components.

A. Freedom of information and a new international order

19. Developments in the field of information and communication appear to indicate that the 1970s could well be a turning-point. Specific and general problems of information and communication are being raised at a great many meetings and discussions, and these questions are taking their place among the principal political, social, economic, legal and cultural concerns of the contemporary world, at all levels. Vital to this discussion and development is the question of information - its freedom, flow, balance and new order.

20. There is still no generally accepted definition of the notion of freedom of information, and attempts to define it are fraught with problems, especially of an ideological, political, legal and cultural order. One of the chief difficulties standing in the way of such attempts is that the expression is vague and hinders a precise definition. Nevertheless, freedom of information stands in the forefront of human rights. It is the logical extension and the application of freedom of individual thought. If freedom of thought is an individual freedom, freedom of information is both an individual and collective one, whose character, in this respect, has become increasingly pronounced in the wake of progress achieved in the over-all development of mass communication.

21. Generally speaking, freedom of information would appear to embrace: the freedom to seek out information and ideas; the freedom to express opinions and to spread information by different means; and the freedom to receive information and ideas. Inasmuch as the fact of having opinions becomes tangible for other people only when these opinions are expressed, freedom of expression goes hand-in-hand with freedom of opinion and is co-terminous with freedom of information.

22. The free flow of information, too, seems to have resisted attempts to come up with a generally accepted definition. It emerged as an extension of the notion of freedom of information, and it implies the abolition of all obstacles to the exercise of freedom of opinion and expression.

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23. A growing number of people are beginning to investigate the concept of a free and balanced flow of information. Despite current imprecisions and widespread misunderstandings of this more recent concept, it can be said that its growth implies the predominance of dialogue over monologue, and that it does so through the development of a system of horizontal communication founded on participation and a fair distribution of the resources and means required to enable individuals (within a given country) and nations (on the international scene) not only to receive but also to send messages. Seen broadly, the balanced flow of information may be conceived as the capacity to inform others as well as to receive information oneself, as a capacity for interaction and dialogue, and as a means of access and of participation, imposing obligations and responsibilities upon all concerned - individuals, communities, nations and regions alike.

24. The most recent concept in this discussion is termed the new international information order. It is partly based on the increasingly widespread conviction that freedom mainly tends to benefit the strong, and that the weak are obliged to seek protection in regulatory processes. It also seems to be characterized by a desire to break out of the earlier compartmentalization, and to achieve greater coherence between the different initiatives taken on the basis of a more systematic examination of the purposes of communication. In addition, this phase has been characterized by a transition from the level of "technical assistance", which was essentially a material and a quantitative question, to the level of social and cultural co-operation, as a result of which the developing countries are paying increasing attention to the quality and the content of the messages being transmitted to them and correspondingly to those which they are able to send.

25. It is extremely difficult to deal with the problems of information through any simple and straight forward solutions. It is in the nature of these problems that any quick and easy answers could perhaps only bring forth new questions. However, steps need to be taken now, in a co-ordinated fashion, within all countries to work towards graduated solutions. This would be in the best interests of all the "parties" concerned. More and more are realizing that neither individuals nor countries can long endure a situation where their social, cultural and political perceptions and values are largely determined by the facts, opinions and values of those on the outside, whether the latter's basic motives (if any) are essentially political, commercial or other.

#### B. News and information agencies

26. The flow of information and informational materials among countries is governed to a considerable extent by certain basic realities. The greatest avenues of exchange are owned by only a few countries. Ownership of long distance telecommunication facilities is still in a relatively few hands. Less than one third of the countries of the world are major producers and custodians of the technology on which development depends. The concentration of wealth and power in a relatively few countries makes any of their decisions and actions important, and therefore often newsworthy, to other countries. Finally, the

concentration of wealth in certain countries makes it easier for their people to travel, to support the industries of communication, and to produce the equipment which a flow of information requires. All these circumstances are reflected in the pattern and improvement of news flow today.

27. News and information agencies are essential components of the mass media and most often are the network for information flow. They are not primarily in the business of presenting news and information to the ultimate receiver, but rather to gather information anywhere in the world, process it, and relay it to the mass media using the agency's services. The individual mass medium then selects and passes it along to the reader, listener or viewer. Few of the world's mass media have the money and ability to pay for more than a very limited number of their own correspondents or stringers to bring regional and international news and information to their users. The large majority of the mass media depend heavily on the news agencies.

28. It had become traditional to distinguish between "national" agencies, by which is meant those that collect and distribute exclusively domestic news, and "world" agencies which collect and distribute news throughout the greater part of the world, either directly or through national agencies. These definitions are no longer acceptable since, on the one hand, none of the so-called "world" agencies operate in all the countries of the world while, on the other, more and more of the larger "national" agencies collect and distribute news outside the frontiers of the countries in which they are established. Nevertheless, it remains true that a very small number - less than a dozen - of the major agencies dominate the world information scene by their experience, size and capacity to collect, process and distribute news in many languages throughout the world. Most national agencies subscribe to or have exchange relationships with one or more of these major agencies.

29. Excluding the news services of major syndicators and mass media as well as the newsfilm agencies - all of varying importance and mostly located in a few developed countries - at the end of 1977 there were 113 national news agencies in the world. These broke down regionally as follows: Europe - 29; USSR - 2; Arab States - 19; African States below the Sahara - 24; Asia - 19; Oceania - 2; Latin America and the Caribbean - 15; North America - 3. They are unequally distributed, and there are great differences in the scope and effectiveness of their operations. A number of countries have their national news agencies operating as arms of the Government or as monopolies for disseminating foreign news. In some countries, the mass media are not allowed to obtain reports directly from other news agencies, but must receive them through the national agency.

30. In the period under review, especially in the 1970s, there have been the following major developments in news agencies and information flow: a growing realization of the need for both a free and a balanced flow of information as well as to examine carefully the present regional and international information orders; the necessity to keep open and to use responsibly the channels of information both within countries and among countries and peoples; initial concern

about the organization, control, costs and utilization of the existing, external telecommunication systems and circuitry; re-examination of the traditional meanings and values of such words, in their communication context, as news, opinion, information, freedom, responsibility and rights; reassessment of emphases, so as to include more regularly positive happenings, as well as news and information on and for development; varying utilization of the steadily improving communication technology; continuing major contribution and influence of the world agencies, strengthening of national news agencies, the growth of regional agencies, and further co-operation among varying agencies.

31. Examples of regional growth here would include the following. Since 1962, there has been the establishment of regional news associations, such as the Organisation of Asian News Agencies (OANA) and the Union of African News Agencies. The Caribbean News Agency (CANA), established in 1976, is an independent co-operative owned by 17 media institutions some of which are State-owned, some private and some public. The Agency serves 15 countries in the Caribbean area. Latin America, in addition to its Agencia Latinoamericana de Información (LATIN), is studying the possibility of a new Latin American news agency or a consortium of existing news agencies. The Ministers of the Gulf countries have recently recommended the creation of a regional news agency for the Arab States.

32. The most recent example of international co-operation is the Press Agencies Pool of Non-Aligned Countries. The Conference of Foreign Ministers of non-aligned countries at its Lima, August 1975, meeting stated that the question of framing a constitution for a News Agencies Pool of the Non-Aligned Countries should be examined in detail at a special Conference. For this purpose, Information Ministers and news agency representatives from 62 countries assembled in New Delhi in July 1976. Its decisions were ratified at the Summit Conference of Non-Aligned Countries, held at Colombo in August 1976.

33. The New Delhi Conference prepared a broad "Constitution", which provided, inter alia, that the aim of the Pool was not to restrict but to supplement and expand the existing flow of news, and that it was not to become a supranational news agency; it was to imply a set of co-operative arrangements among participating agencies.

34. It provided that a Co-ordination Committee for the Press Agencies Pool would be elected during each year in which a Summit Conference of non-aligned countries was scheduled, for a period of three years. The first meeting of the Co-ordination Committee was held in January 1977 at Cairo, and the second met in April 1978 at Jakarta. It numbers now about 40 national agencies, some of which function as centres for regional exchanges. The Pool issued more than 6,000 news and information items from its member agencies in the first two years of its operation.

C. Access and participation: the right to communicate

35. Recent changes in information and communication systems have been greatly

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influenced through the extension of concepts which are now defined, rather vaguely, as those of access and participation. In many countries there is concern about the nature of the communication flow vertically and horizontally, including that between the governors and the governed, between media organizations and media consumers, between people and nations; in other words, the ability of a contemporary communication system to allow for multidirectional flow of messages and for wider access and participation by the people in the total communication system of a society. This is increasingly possible with the development of communication technology and the variety of communication devices available.

36. There is a questioning of the vertical or top-down communication model which prevails in most societies. In the traditional communication model, a small number of sources address themselves to a large mass of receivers. The structure of such a communication system reflects a concentration of decision-making in the hands of public or private organizations upon which most people have little or no impact. Such communication is decided by certain groups, aimed at a mass audience and limited to a number of standardized messages, often with a commercial and/or ideological basis. This most often does not give the people a satisfactory means of understanding and analysing their socio-political-economic-cultural environment. Instead, it treats the people mostly as consumers of materials, and reinforces the notion of passivity.

37. In development theory, the call has been for popular involvement, in formulating, as well as in activating development programmes. Correspondingly in communication, there has been the same challenge to centralized communication structures, which has led variously to attempts to open up, for example in broadcasting, network time to citizen groups, to form more broadly representative policy councils, to create more localized media forms, and to experiment with many versions of community media.

38. One of the results of the dialogue on access and participation is that development is now interpreted in personal as well as national terms, and likewise the contribution of communication media is now being explored in relation to individuals as well as to nations. Communication in development is more and more becoming a matter of helping people to talk to each other, not simply for Governments to talk to the governed nor for businesses to speak only to their customers.

39. The situation here is still confused, and indeed it has to be, because it concerns the interests of individuals and small groups. There can be no standard model of approach. Furthermore, there are certain difficulties at the root of this situation. When we discuss access and participation, we are not talking primarily about the developing world. The move towards a greater utilization of communication media came initially from the industrialized countries, for example, their video groups, cable television and local radio.

40. Although the same dialogue has been introduced into the developing countries, it exists in a very different context. At the root of the debate in all countries is the relationship between the state and the individual. But in the



developing nations, the questions raised are even more difficult to resolve. Development, since it implies social transformation of some kind, assumes a telescoping of time and an integration of planning and resources. How is this to be made compatible with the possibilities for individual choice and dissent, which are at the heart of access and participation.

41. The concepts of access and participation in communication have grown largely in the last dozen years or so. They can be found in the texts and resolutions of international organizations, in reports of communication specialists, and in governmental pronouncements in numerous countries. However, it is important to emphasize that, in practice, public access to and participation in communication hardly exists, except in a very limited way in a number of small, localized experiments.

42. At the same time, the growing importance of these concepts should not be underestimated, and their origins and ramifications should be known. In general, they are a response to the evolution of modern social systems, in which the forms of "representative" democracy are giving way to more direct forms of "participatory" democracy. In considering the role and potential of mass communication, the problems of the user must be emphasized. Priority should now be given to new approaches to communication organization and management, which improve individual access to communication channels and materials, and allow people to participate more fully in the decision-making process and the production of communication materials.

43. Access and participation are based not only on a criticism of the dominant vertical communication model, but also on the emergence, especially since 1970, of the concept of the right to communicate. So essential is communication to many aspects of human and social development, that it is generally recognized that everyone must have the right and freedom to communicate. This basic claim did receive primary, though partial, support in articles 19, 20 and 27 of the United Nations Universal Declaration of Human Rights. It emphasizes the right of information, which was defined, for example, in the above-mentioned article 19 as: "Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers." The extension of the right to information and expression leads to the more complex and complete notion of the right to communicate, and in this time of rapid changes and emerging realities, there are many new issues and questions that extend beyond the dimensions of these articles, and point to the need for a broader and clearer right and freedom to communicate.

#### D. Communication policies and planning

44. Decision makers and people in general are becoming more aware that, in the allocation of natural and social resources, future-oriented policies can no longer afford to ignore the communication dimension. In "productivity", we witness, especially in the highly industrialized nations, a shift of emphasis from the

production and distribution of "energy" to that of "information", with the latter's increasing emphasis on human intellectual creativity and fulfilment, and less emphasis on mass consumption of durable goods. A constantly increasing share of the gross national product is devoted to activities which depend essentially on availability of an appropriate communication infrastructure. Industries of communication, information gathering, processing and transferring are showing rapid growth. The mass communications industry in some countries may generate as much as 3 per cent of the gross national product, which is more than the contribution of many of the older types of industrial activity. The developing countries are already far more information/communication oriented in the organization of their development processes than were, for example, the most industrialized nations, at the time when the latter had reached a comparable level of nation building.

45. Since 1962 and especially in the 1970s, there has been a growing awareness of the need to distinguish, formulate and implement individual, co-ordinated and coherent communication policies and planning.

46. One could attempt to define the notion of a national communication policy as a deliberately selected set of principles and standards to govern the functioning and use of the communication and information media in the service of objectives democratically chosen by the national and local communities in accordance with criteria specific to each country. Generally speaking, the preparation and implementation of a communication policy implies laying down broad guidelines and objectives, assessing real needs, choosing priorities, rationalizing and redirecting existing systems and taking action on programmes and evaluating them in order to reach the goals laid down.

47. Communication policies may obviously be implicit or explicit, and either diversified with regard to standards and institutions or, on the contrary, concentrated and centralized. Many countries do not seem to have an explicit communication policy, but they all have an implicit policy, which is the result of many decisions taken at different levels and different times. Partial policies occasionally exist. If these various partial policies - e.g. different laws and regulations concerning radio, television, the press, publishing, telecommunications, documentation, etc. - were brought into some kind of coherence, a general communication policy could be arrived at, which would then be national in nature. Most countries also have no institutions especially responsible for studying, implementing, planning, carrying out and evaluating communication policies. Responsibility for decisions of a technical or legal nature or concerning content, etc., is often shared between different public and private bodies.

48. Even in many countries which have adopted the concept of over-all national planning as an essential prerequisite for development, planning of communication development has been done generally rather pragmatically. Hence, the common phenomenon of uneven growth, and even of the close coexistence of abundant richness and extreme poverty of information within the same societies.

49. Ideally, communication planning relates the process of communication to social and economic planning, to political and cultural options, to individual and social needs, and to the application of communication in many fields which need it, but are generally not directly engaged in the operation of mass communications. It should co-ordinate and project the mediated communication process as a whole to make the most effective use of all available communication devices and channels.

50. In its widest sense, communication planning involves: the development of an infrastructure for the dissemination of information and communication; the legal and administrative framework for communication systems; the means of public access and participation; the creation of professional institutions and the training of the necessary personnel. Such planning should respond to the needs of all the users, and it must be based on sound research. It should also be a multidisciplinary exercise, and include at least those persons concerned with information, education, culture, economics, agriculture development, health problems, telecommunications and the mass media of communication. At the same time, communication planners must not only be aware of the various alternatives, but also of the criteria for their selection.

#### E. Patterns of control

51. Control is a key factor in describing and analysing media systems, closely linked to the question of financing. It is normally exercised through the following means: State operated; public corporation; partnership, private (with varying degrees of government regulations) and institutionally sponsored.

52. The options for financing the media range from advertising revenue to some form of subsidy, either private or through government tax support or a mixture of the two. Licence fees on electronic media receivers are commonly used to pay for broadcasting service. Half the world's countries, including most of Europe, employ this method. Advertising practices vary widely in countries that raise revenues from this source. Advertising influence on programme content will normally depend on the degree of its financial involvement.

53. In some countries, all or some of the media are operated as organs of the State. In others, private commercial companies, or independent public corporations created by the State, operate this or that medium. Thus in 50 countries, news agencies are operated as organs of the State, while in 40 others, they are co-operative organizations owned and operated by national newspapers and sometimes radio and television organizations. While in most countries, newspapers and periodicals - the oldest means of mass communication - are produced and published by private commercial companies, in 10 African, and 8 Asian countries, 15 European countries, the USSR and Cuba, these printed services are published by or under the control of State organs.

54. The production, distribution and exhibition of films are conducted mainly by private commercial companies, except in certain Asian countries, the countries of Eastern Europe, USSR and Cuba.

55. The pattern is most complicated for radio and television. In all but a very few of the 55 African, 43 Asian and the 19 countries of Oceania, the State owns and operates the broadcasting services. These are either funded directly from government revenue, licence fees or a combination of these means.

56. In about half of the 34 European countries the same situation exists, while privately-owned commercial companies also exist in the remainder. In the USSR the State has exclusive control of all broadcasting activities.

57. The tradition of private ownership is well established in the nine North American countries, although in the United States, there is a parallel system of educational broadcasting institutions which obtain their revenue from grants and public contributions. Canada has a mixed system including an influential public corporation and a developed system of cable networks.

58. As in North America, the 14 South American countries have an established tradition of private commercial broadcasting, and the same situation exists in about half of the 27 Central American and Caribbean countries, while mixed systems (State-owned and privately-owned companies) are permitted in the remainder.

F. Old and new media: the transfer and adaptation of technology

59. Although no serious attempt has yet been made to assess the nature and use of traditional and older modes of communication, especially including folk art form, it would perhaps be true to say that throughout the world especially in the developing and/or rural areas, there has been a growing resurgence in these traditional forms for educational, persuasive, motivational and entertainment purposes, alongside their normal functions as continuing means of individual, community and cultural expression. A great deal of effort, especially in the years covered by this report, is being made to revive the traditional modes of communication and bring them again to the fore as effective communication means.

60. One of the main questions concerning them is the best way to "treat" the selected art-form skilfully and utilize its flexibility to help it absorb a new message and reflect it in its natural strides as a live medium. There is also the consideration of consciously preserving the traditionality and creativity of the art form in an age of sweeping technological innovations. Then there is the need of integrating live traditional, older media with different mass media in the interest of covering a wider field simultaneously with an urgent and significant theme. Strong and vigorous traditional and older media linked to the modern media of communication can have the potential for even greater impact and reach.

61. In addition to broadcast television and 35 mm or 16 mm film production, improvements in technology and marketing have introduced a range of audio-visual equipment that is simple, low-cost, and in many cases portable - in a word, adaptable to the needs of many developing countries. These include portable video recorders, sound cassette recorders, and super 8 film. At the same time,

developments in the one-inch videotape format seem to augur for one inch as the eventual standard for both studio broadcast and mobile recording, thus bringing even closer the possibilities of broadcasting materials of high standard produced in the field.

62. These developments make for increased local production and greater access of the public to media in some form, without the burden of costly, complicated facilities. They also provide the opportunity for participation, self-expression and experimentation with new art forms; they serve as a means for focusing on community problems and issues; they provide training and experience; they open new channels by which interest groups can gain access to government agencies and decision makers.

63. The uses to which many of these new media have been put have often resulted in a new form of communication called "group media": the utilization of portable video, cassettes, film or slides, whose messages are directed towards small groups in which each individual has the opportunity to contribute to group thinking, decisions, actions. While the messages of these media may be uniform, their purpose is not to dictate a one way conclusion, but to spark comment, discussion, consensus, or even to propose alternatives. In many of these projects, the purpose of the media is not to propose a solution, but to provoke a response within the dynamics of group action.

64. As to the utilization of one of the larger new media, a dramatic example is satellites. They have, during the years covered in this report, proved themselves increasingly effective instruments for social progress and development. There are those who consider the advent of satellites as not just the extension of existing communication devices, but as a technological quantum jump which will cause a major restructuring of society, analogous to that which took place with the widespread introduction of motorized transportation. While existing operational satellites provide point-to-point telecommunication services, including the relay of some television programmes, satellites now also have the technical capacity to broadcast directly to community and individual receivers. At the same time, the union of satellites with cable, computers, microwaves, lasers, etc., open up great possibilities.

65. There have been, especially in the years covered by this report, rapid changes and developments in both small and large media. At the same time, there has been a growing realization of the need to have and to use the media which each country - its local communities and its peoples - most needs, including both those communication technologies which are less complicated and expensive, and those which are more.

66. Until recently, concern over technology transfer has been confined primarily to technological spheres. This observation applies both to international transfers, which are dominated by foreign investment and aid, and to internal transfers between the science systems and the production sectors. As a result, some of the wider issues which relate to technology transfer, particularly its socio-cultural impacts, have been largely ignored. While this situation applies

to any industrial or agricultural technology transfer, it is particularly relevant in communication, since the "product" carries a message which may affect in fundamental ways both the direction and the form of the development process, along with influencing directly people's perception and attitudes.

67. Additionally, one of the major factors which need to be considered is the question of the linkages that may need to be established between traditional and newer media, and the provision which has to be made for more sophisticated, as well as more utilizable, technologies that are constantly in the process of being developed. In some countries, concern is being expressed not only on the danger of the demise of traditional forms of communications because of lack of encouragement and therefore of the inevitability of atrophy, but also of the wisdom of adopting all modern forms of technology without due regard being paid to their possible impact upon individual and social behaviour, values and cultural norms.

68. No effective attempts can be made in the direction of the transfer and adaptation of appropriate technology unless experiences with both traditional media and with more modern technology are well documented for the use of decision makers and the people involved. In addition to examining the present forms in which modern technology is being brought into countries, it seems equally important to know also the ways and places in which the production of the components of such technology are taking place. It seems important to aim towards the development of endogenous and appropriate communication technology and of information production, storage and distribution capabilities.

69. Throughout the world, the continuing development of modern systems and technologies of communication have brought with them some important changes in the communication infrastructures of most countries. These changes are taking place with increasing frequency both within individual media and within the pattern of interrelationships among media. Communication technology is transforming the style and form of news gathering, processing and distribution, and the same is true in other fields such as the persuasive arts, entertainment, politics, telecommunications.

### G. Communication education and training

70. In the past 50 years, essentially different systems of media training have developed in Europe and the Americas. This difference is a reflection of different concepts of what higher education should do. The traditional European concept has been that the role of the universities is that of the preserver of culture, and only recently have they seen it as their responsibility also to meet the vocational needs of society as a whole. In Europe the time-honored system for communication education and training has been at industry-sponsored institutes and by means of highly developed in-service training.

71. On the other hand, with the exception of a small group of universities modelled on the European tradition, the majority of the developing countries have developed their systems of higher education primarily to meet social needs, with the assumption that society would profit by higher education for as many people as possible. It was perfectly natural for these universities to develop a pattern of university education and training for communication. Such a degree normally involves around 25 to 35 per cent of media courses, with the remainder most often in the arts and social sciences.

72. The continuing development of communication infrastructures has resulted in increasing demand for trained communicators, of whom too often world-wide there is still an acute dearth. The variety of communication activities has led to these shortages being seen as not only of a quantitative nature but also qualitative, as it is not always easy for a communicator to shift from one medium to another. In addition to the urgent short-term needs for competent personnel, from technicians to journalists to managers, are the continuing long-term demands for communication specialists who can teach, programme and plan strategies for development. The varied nature of these needs makes it imperative that countries individually and/or collectively develop suitable curricula and programmes which meet the specific needs of the individual and regional societies, and which are not merely extensions of "models" developed decades ago in countries and regions very different from theirs.

73. The relative shortage of well-trained trainers and teachers may encourage countries to set up mechanisms for collaborative teaching programmes and for multipurpose training centres which could satisfy the various specialized and generalized needs of different sectors of the communication system, including the technical, literary, administrative and creative aspects of such mass communications as the print media, cinema, radio, television, book publishing, news agencies, persuasive arts, small media, telecommunications, etc.

74. Specialized training is often needed for one of the increasingly more important sectors of the communication system, especially in the developing countries, for example, the human channels of communication which form extensive communication networks in development work of agriculture, health, small-scale industry, co-operatives or of trade unions. There is also in many places a

critical shortage of relevant and suitable training material, including manuals, textbooks, audio-visuals, for use in teaching and training programmes and institutions in many countries.

75. Over the past dozen years in particular, training and education for communication has been noticeably changing, and it has become a matter of world-wide concern. More recently, something like a general philosophy of such training and education has emerged, for despite the diversity of world-wide conditions, there are a number of requirements in the training field. The process began with the communication training institutions and universities of the developed world opening their doors to foreign students, often in special courses designed and financed as part of an aid programme. Subsequently, the trainers moved into the developing world for periods ranging from a few weeks to several years, to mount special training programmes and to develop both specific and general media skills.

76. Today more institutions in more countries are providing mass communication education and training - locally, nationally and regionally - than ever before and more universities offer two- or three-year academic and professional courses leading to a degree and offer the facilities for research. While there are no figures available world-wide on how many communication organizations run their own staff training programmes, still the world map of those institutions and universities indicates that mass media organizations and Governments in all countries are coming to recognize the need to educate and train sufficient people to make the best use of the increasingly sophisticated technology and to exercise the responsibilities attached to the conduct of mass communication.

77. There has been, during the period covered by this report, a substantial growth in opportunities for communication education and training, which has now reached the point of allowing reciprocal professional exchanges among the developing countries themselves.

#### H. Status of communicators: professional associations

78. In many countries, political, economic and social changes have resulted inevitably in a climate in which society and communicators have had to re-examine and to redefine the responsibilities of the latter in relationship to the present and future needs of the societies they are to serve, as compared to the responsibilities they may have borne or the roles they may have adopted during previous periods of history. For example, well-known concepts such as freedom of information are taken by some communicators as a call for almost single-minded criticism of existing Governments and a negative slant on most reality. The partnership role here is a relatively new idea to many communicators, but it is beginning to be accepted because of the urgent need for development. At the same time, some Governments are generally aware of the importance of responsibly independent, critical and constructive communicators who can help to provide the necessary checks, balances and reality that are essential for a healthy and free growth of individuals and society.



79. Even though there may be a greater recognition on the part of communicators of the need to co-operate with the public agencies in their efforts at social, economic and cultural development, there continue instances where the communicator has not been able to carry out either the role of a critic or the role of a partner. There is need to take a closer look at the relationship between the communicator, on the one hand, and the Governments and the people, on the other, as well as somehow to assess the present status and performance of communicators.

80. Countries have, in varying ways and at different times, attempted to set up agencies to regulate the conduct of communicators. However, attempts at drawing up communicators codes of conduct and even to set up self-regulating bodies have not always met with success. In the absence of such codes or self-regulating agencies, individual communicators have been often more or less on their own. There does seem to be an urgent need for some clearer norms, principles, etc. drawn up in a co-ordinated exercise by the various sectors concerned.

81. Raising the level of communication education and training is bound to have an enormous influence on the quality of news and information that flows through a communication system. Professional associations, national and international, can have also a significant influence on mass communications. These associations consist of media employers, employees, as well as various groups comprising the "consumers" of communication. Each is concerned with determining policies for its particular segment of the communication system, assisting its members, furthering their interests, promoting co-operation among them, and representing them in relation to Governments and the public.

82. Such associations exist today in all countries, varying in structure according to their different societies and communication systems. In some countries there are, for example, associations of those owning, financing and operating the media, as well as associations of publishers, editors, journalists, writers, producers, broadcasters, engineers and technicians. In some countries these associations have set up common services such as news agencies and standards of codes of ethics. In other countries, such associations may be represented on management or editorial boards of media organizations, or actually run them as co-operatives. They may also conduct training courses, undertake research, and provide their members with a range of welfare and recreational services.

83. There are also international federations of national associations of communicators as well as international organizations for individual communicators. Consumer associations are generally less well-organized, but they are gaining strength, especially in influencing cinema and television and countering dishonest advertising and propaganda. With the growth of public participation in the media of some countries, associations of "users" of media such as cable TV, are playing an increasingly important role in enlarging opportunities for the utilization of communication facilities.

I. Quantitative and trend development of mass communication

84. The remainder of Section II will examine the quantitative development of the major mass media components of a communication system, along with some of the more important trend lines.
85. This section is based mainly on information supplied to UNESCO regularly by its member States, in reply to the organization's annual statistical questionnaire on mass media facilities. This questionnaire elicits official information on newspapers and periodicals, books, film and cinema, radio and television, and is published annually (along with other data relating to education, science, culture and population) in the UNESCO Statistical Yearbook. The UNESCO statistics and figures used here are those it received by mid-1977. The newsprint figures come mostly from FAO. Official governmental and non-governmental reports and publications, technical and academic journals, and standard reference works have also been used to supplement these sources.
86. Information thus obtained is not always complete or up to date, nor is it always expressed in terms or based on criteria that are strictly comparable. Universally accepted definitions, concepts and criteria do not exist at the present time for all the areas and aspects of communication and information, while communication phenomena continue to be so complex that mere quantification does not always help to provide a clearer picture or to draw relevant conclusions. Therefore these figures, like most other figures are only partially indicative and they should not be taken as the final word. They depend heavily on the reliability of the data collection techniques used, as well as on the reasons which motivate their collection and utilization. Notwithstanding these genuine difficulties, these figures can provide more or less relevant reliable and comparable indications of the over-all picture, as well as indicate some of the trends and guidelines.
87. Europe, in the tables in this section includes Western and Eastern Europe and Scandinavia. As is often done, the USSR is considered here separately.
88. Except for newsprint, the tables do not include China, the Democratic People's Republic of Korea and the Socialist Republic of Viet Nam. This will naturally offset the figures for the world as well as for Asia. Also in Asia, Japan is naturally included, and this is another major variable in seeing that region more clearly. The same holds true for Oceania, which contains both Australia and New Zealand and which affects strongly the over-all regional figures.
89. The media subjects in these tables are listed per capita or number of inhabitants. Whether the latter is per one thousand, one million or per individual inhabitant will depend on the particular subject and the figures available. Most often, one per thousand is used.
90. Tables 1.1, 1.2 and 1.3 show the absolute and percentage development of media, per inhabitants regionally. Table 1.1 gives the absolute figures and indicates where the development is over-all; table 1.2 uses a standard 100 index basis for

1960, which contributes to seeing better the relative percentage growth; for example, the tremendous growth of television receivers in Africa; and table 1.3 shows the percentage distribution of facilities among the different regions.

91. The figures presented below permit the following over-all summations:

(a) There is a tremendous concentration of communication media, services and facilities in a small number of countries, within the developed regions. The majority of the world population is still far behind, in this area of development, as in others.

(b) Developing countries share a small part in many items, from paper consumption to circulation of daily newspapers, from television to the cultural commodities export.

(c) There has been, in world terms, a steady increase in physical means available for communication and a continuous development in communication activities. But, there is quite a difference in various areas, for example, some have still quite a high growth rate (like radio and television broadcasting, etc.) while some others have a very low growth rate, if at all (like daily press, cinema capacity, etc.).

92. Tables 2.1 through 2.6 indicate a few of the more significant regional trends and contrasts in some of the major mass media since 1960. In table 2.1, a "daily newspaper" is defined as a publication devoted primarily to recording news of current events in public affairs, international affairs, politics, opinion, entertainment, etc., which is published at least four times a week. It should be noted here that there are no figures available on content, nor on the number of pages. Also, these regional tables do not reflect non-daily newspapers nor periodicals.

93. In terms of titles and circulation per 1,000 of the population, the daily press stands more or less where it did in 1960; it still hardly exists in the countries of Africa. The raw number of dailies is also not as interesting any more, with the important trend of concentration currently taking place. There are, nevertheless, in most countries a large number of print media appearing several times a week, weekly, monthly or quarterly which have large, and even increasing circulations, and there are limited, growing experiments in the rural press. Economically, because of increasing costs, particularly of newsprint which is in short supply, loss of advertising revenue to broadcasting and the reluctance of the public to pay for a newspaper what it costs, daily newspapers in many countries are in constant financial difficulties. In some countries, notably in Europe, the State gives assistance in various forms to the print media.

94. Table 2.2 shows the development of book publication (in number of titles, per one million inhabitants) in the world since 1960. For this Report, a book is defined as a non-periodical printed publication of at least 49 pages, exclusive of the cover pages, published in a particular country and made available to the public.

Table 1.1

Dailies, newsprint consumption, book production, radio and television receivers and seating capacity in fixed cinemas per inhabitant

Region	Circulation of dailies per 1000 inhabitants			Consumption in kgs. of newsprint per inhabitant			Production of book titles per million inhabitants			Radio receiver per 1000 inhab.			Television receiver per 1000 inhab.			Seating capacity in cine. per 1000 inhabitants		
	1960	65	70 75	1960	65	70 75	1960	65	70 75	1960	65	70 75	1960	65	70 75	1960	65	70 75
World Total	124	134	139 132	45	52	60 54	124	137	150 102	155	215	257 293	42	71	96 117	22	23	27 25
Africa	11	11	14 14	0.6	0.6	0.9 0.7	19	23	27	17	39	46 70	0.4	1.9	3.4 6	6	5	6 5
America, North	253	247	232 216	27.0	28.3	30.8 26.5	82	218	283 292	679	894	1025 1312	220	270	302 402	52	35	41 32
America, South	80	67	90 68	3.6	3.7	4.2 4.2	89	77	79 96	89	149	136 237	14	30	68 91	37	30	27 32
Asia	62	69	68 65	0.8	1.1	1.6 1.8	51	55	60 62	30	53	99 76	6	18	22 25	6	6	7 9
Europe	252	256	258 243	8.5	10.5	12.7 11.2	383	450	535 558	214	265	301 334	61	132	209 237	55	63	54 40
Oceania	311	303	300 305	20.5	26.9	28.3 29.7	121	286	361 235	222	211	491 282	99	137	131 216	93	65	41 34
USSR	162	264	350 396	1.6	2.9	3.8 4.3	555	329	329 310	192	320	391 455	23	69	144 208	42	56	78 100

Table 1.2

Dailies, newsprint consumption, book production, radio and television receivers and seating capacity in fixed cinemas per inhabitant (Index 1960 = 100)

Region	Circulation of dailies per 1000 inhabitants			Consumption in kgs. of newsprint per inhabitant			Production of book titles per million inhabitants			Radio receiver per 1000 inhab.			Television receiver per 1000 inhab.			Seating capacity in cine. per 1000 inhab.		
	1960	65	70 75	1960	65	70 75	1960	65	70 75	1960	65	70 75	1960	65	70 75	1960	65	70 75
World Total	100	100	112 106	100	116	133 120	100	110	121 147	100	139	166 189	100	169	229 279	100	105	123 114
Africa	100	100	127 127	100	100	150 116	100	121	121 142	100	229	271 412	100	475	850 1500	100	83	100 83
America, North	100	98	92 85	100	105	114 98	100	87	89 108	100	132	151 193	100	123	137 183	100	67	79
America, South	100	84	113 85	100	103	117 117	100	87	89 108	100	167	153 266	100	219	486 650	100	81	73
Asia	100	111	110 105	100	138	200 225	100	108	118 122	100	177	330 253	100	300	367 417	100	100	117 150
Europe	100	102	103 96	100	124	149 132	100	117	140 146	100	123	141 156	100	216	343 389	100	115	98 73
Oceania	200	97	96 98	100	131	138 145	100	233	298 194	100	95	86 127	100	138	132 218	100	70	44 37
USSR	100	163	216 244	100	181	238 269	100	93	93 87	100	167	204 237	100	300	626 904	100	133	166 238

Table 1.3

Percentage distribution of population, circulation of dailies, consumption of newspapers, production of book titles, radio and television receivers and seating capacity in fixed cinemas

	Population			Circulation of Newspapers			Consumption of Newspaper(**)			Production of Book titles			Radio receivers			Television receivers			Seating capacity in cinemas									
	1950	70	75	1960	65	70	75	1960	65	70	75	1960	65	70	75	1960	65	70	75	1960	65	70	75					
Africa	11.8	12.1	12.6	13.0	1.0	1.0	1.2	1.5	0.8	1.2	1.4	1.4	1.5	1.6	1.5	1.9	1.2	2.2	2.2	3.1	0.1	0.3	0.4	0.7	2.1	2.3	2.4	2.6
America, North	11.5	11.5	11.0	23.1	21.1	19.2	18.1	53.4	48.8	45.4	42.3	6.6	15.0	17.3	17.6	49.9	47.4	44.8	49.0	59.5	43.4	35.4	37.7	21.3	14.8	17.0	23.4	
America, South	6.3	6.6	6.8	7.0	3.8	3.2	4.4	3.7	3.8	3.5	3.7	4.2	3.9	3.1	2.9	3.7	3.6	4.5	3.6	5.7	2.0	2.7	4.8	5.5	7.9	7.1	6.6	
Asia (*)	42.2	42.5	43.5	44.6	21.3	21.9	21.3	22.1	9.9	11.8	15.3	19.2	15.4	14.3	14.4	15.5	8.2	10.7	17.0	11.8	6.1	11.0	10.0	9.8	15.8	15.7	12.5	15.6
Europe	19.3	17.5	16.4	15.3	37.1	33.3	30.6	28.2	27.5	27.6	26.9	24.8	49.1	46.9	47.4	46.5	24.9	21.3	19.0	17.2	26.2	32.4	35.4	30.6	36.3	40.6	32.1	24.7
Oceania	0.7	0.7	0.7	0.7	1.7	1.5	1.5	1.7	2.3	2.9	3.2	2.8	0.6	1.2	1.3	0.9	1.0	0.7	0.5	0.6	1.1	1	0.9	1.3	2.4	1.6	1.0	1.3
USSR	9.2	9.1	8.7	8.3	11.8	17.9	21.8	24.8	2.3	4.1	4.2	5.1	22.9	17.8	15.2	13.9	11.2	13.4	13.0	12.6	5.1	8.8	12.9	14.5	14.2	17.9	28.3	32.5

(\*) excl. China  
(\*\*) incl. China

Table 2.1

Daily newspapers (number, estimated circulation, percentage distribution, circulation per 1000 inhabitants)

Region	1960		1965		1970		1975	
	Number	circulation in millions % per 1000 inhab.	Number	circulation in millions % per 1000 inhab.	Number	circulation in millions % per 1000 inhab.	Number	circulation in millions % per 1000 inhab.
World Total	8000	100.0 286	8000	100.0 342	8050	100.0 390	7900	100.0 408
Africa	260	1.0 3	200	1.8 3.4	240	1.2 4.9	190	1.5 6
America, North	2300	23.1 66	2200	21.1 72	2200	19.2 75	2300	18.1 74
America, South	800	3.8 11	640	3.2 11	820	4.4 17	710	3.7 15
Asia	1900	21.3 61	2200	22.0 75	2200	21.3 83	2230	22.1 90
Europe	2100	37.1 106	2080	33.3 114	1830	30.5 119	1660	28.2 115
Oceania	100	1.7 5	110	1.6 5.3	110	1.5 5.7	120	1.7 7
USSR	500	11.9 34	640	17.9 61	640	21.8 85	690	24.8 101

Table 2.2

Book production by number of titles (total, percentage distribution, titles per 1 million inhabitants)

Region	1960			1965			1970			1975		
	Number (in 1000)	%	Number per 1 million inh.	Number (in 1000)	%	Number per 1 million inh.	Number (in 1000)	%	Number per 1 million inh.	Number (in 1000)	%	Number per 1 million inh.
World Total	332	100.0	143	426	100.0	167	521	100.0	186	568	100.0	184
Africa	5	1.5	19	7	1.6	23	8	1.5	23	11	1.9	27
America, North	22	6.6	82	64	15.0	218	90	17.3	283	100	17.6	292
America, South	13	3.9	89	13	3.1	77	15	2.9	79	21	3.7	96
Asia	51	15.4	52	61	14.3	56	75	14.4	60	88	15.5	62
Europe	163	49.1	383	200	46.9	450	247	47.4	535	264	46.5	558
Oceania	2	0.6	121	5	1.2	286	7	1.3	361	5	0.9	235
USSR	76	22.9	355	76	17.8	329	79	15.2	329	79	13.9	310

The following types of publication, inter alia, are included in these book production figures: government publications; school textbooks; university theses; offprints; publications which form part of a series; and illustrated works. It should be noted in the figures, that for the early 1960s, total book production figures for the United States of America were not available, and thus estimates were made in the case; from comparable and later figures, it would appear that this estimate is much too low, which thus affects both the world and North America figure for 1960, as well as its comparative growth.

95. Book production has steadily increased, with a notable increase among school book production for developing countries. Europe and the USSR continue to be the largest producers of books. It is estimated that 50 per cent of Europe's books are sent abroad. The developing regions are slightly catching up with the more developed countries, in book production.

96. The figures in table 2.3 on newsprint consumption relate to total consumption, percentage distribution and consumption per inhabitant of newsprint, 1960 through 1975. The term "newsprint" designates the bleached, unsized or slack-sized printing paper, without coating, of the type usually used for newspapers. These figures do not include other printing or writing paper.

97. According to the figures available from the Food and Agriculture Organization of the United Nations (FAO), the consumption of newsprint continues strongly in North America and Oceania, followed by Europe. The developing regions, apart from Oceania, continue to consume relatively little newsprint. The slight decrease in consumption of newsprint in 1975, apart from the USSR, is explained by the increases in the costs of newsprint, in recent years.

98. In spite of a world increase of some 50 per cent in the rate of newsprint production over the last decade, it continues in short supply. It is produced in only 36 countries, and of these only six - Canada, Finland, Sweden, Norway, USSR and New Zealand (in order of importance) - produce enough to be able to export considerable quantities. The United States of America which is, after Canada, the second largest producer, consumes more than three times its own annual production of three million metric tons. Practically no newsprint is produced in Africa; of 11 Asian producing countries, four supply enough for their own needs; only two countries in Latin America produce any, one of them enough for its needs; and, in Europe, another nine countries besides the three mentioned above produce enough for their own needs, and a further six produce some.

99. Newspapers, periodicals and books are dependent not only on newsprint, but also on a graphic industry, printing plant, and skilled technicians. Rather suddenly, there has occurred during the past dozen years a revolution in printing technology, especially with regard to newspapers. Technical and electronic advances, especially with teletype-setting and computers, have made possible sophisticated high speed printing and reduced keyboarding to an absolute minimum. But these developments have application mostly in the advanced countries. Most



Table 2.3

Newsprint consumption (total, percentage distribution, per inhabitant)

Region	1960			1965			1970			1975		
	Total in mill. tons	%	kg. per inhabitant	Total in million tons	%	kg. per inhabitant	Total in million tons	%	kg. per inhabitant	Total in million tons	%	kg. per inhabitant
World Total	13.1	100.0	4.4	17.0	100.0	5.2	21.6	100.0	6.0	21.4	100.0	5.4
Africa	0.1	0.8	0.4	0.2	1.2	0.6	0.3	1.4	0.9	0.3	1.4	0.7
America, North	7.0	53.4	26.1	8.3	48.8	28.3	9.8	45.3	30.8	9.1	42.5	26.5
America, South	0.5	3.8	3.4	0.6	3.5	3.6	0.8	3.7	4.2	0.9	4.2	4.2
Asia	1.3	9.9	0.8	2.0	11.8	1.1	3.3	15.3	1.6	4.1	19.2	1.8
Europe	3.6	27.4	8.5	4.7	27.6	10.5	5.8	26.9	12.6	5.3	24.8	11.2
Oceania	0.3	2.3	19.0	0.5	2.9	26.9	0.7	3.2	28.3	0.6	2.8	29.7
USSR	0.3	2.3	1.4	0.7	4.1	3.0	0.9	4.2	3.7	1.1	5.1	4.3

developing countries are obliged to import both the conventional printing equipment as well as any newer devices; a further constraint of the development of printing and publishing worldwide.

100. The figures in table 2.4 pertain to cinemas regularly used for showing films of 35 mm and over or 16 mm. They refer to the number of cinemas, and to the seating capacity (total number and number of seats per 1,000 of the population). The figures here are for fixed cinemas, which are defined as establishments possessing their own equipment and include indoor cinemas (those with a permanent fixed roof over most of the seating accommodation), and outdoor cinemas. As a rule, these figures refer only to commercial establishments.

101. The film industry is usually structured into three parts: production, distribution and exhibition, all areas of high-risk in terms of human and financial investments and possible returns. A few countries have a general law of the cinema, and under certain systems the whole industry is administered by a central film directorate. But in most countries, legislation and administration is fragmented, and responsibility for various aspects of film and cinema may rest with a variety of ministries, for example, Culture, Education, Information, Communication, Commerce and/or Tourism.

102. In the large majority of countries, production of entertainment films is usually left to private industry, though public assistance may be given in particular cases; distribution of these films takes place through commercial channels, often in terms of exclusive agency arrangements, and cinemas are often used for exhibition, which cinemas are generally licensed and the films subject to some kind of censorship. In most countries, a large proportion of films on the commercial cinemas are of foreign origin, and may be subject to import restrictions. Many developing countries have comparatively few fixed cinemas, even in urban areas, and few if any in rural areas. In these countries, screenings are therefore organized in the open air and mobile vans are equipped with projectors, power and screens to visit villages and show educational and government information films to local audiences.

103. No figures were available for mobile cinema units, defined as projection units equipped and used to serve more than one site, and which have much more to do with development, normally, than fixed cinemas. There were also no figures given for drive-in cinemas, which are establishments designed to enable the audience to watch a film while seated in their mechanized means of transportation.

104. On the basis of the information available, it can be estimated that around 1975, there were about 230,600 commercial fixed cinemas with approximately 77 million seats. As regards fixed cinemas and their seating capacity, there has been little change in the world figures during the years of the report, with a slight increase in the developing countries - except for Latin America, the Caribbean and Oceania - and a larger decrease in most of the developed countries. The film shown in public cinemas has lost its place since 1960 to television as

Table 2.4

Fixed cinemas (number, total seating capacity, percentage distribution, per 1000 inhabitants)

Region	1960			1965			1970			1975 (74)		
	Number (in 1000)	Total (in million)	Seating capacity per 1000 (inhab.)	Number (in 1000)	Total (in million)	Seating capacity per 1000 (inhab.)	Number (in 1000)	Total (in million)	Seating capacity per 1000 (inhab.)	Number (in 1000)	Total (in million)	Seating capacity per 1000 (inhab.)
World total	170	63	100.0	247	68.9	100.0	248	77.7	100.0	266	77	100.0
Africa	2.5	1.3	2.1	2.6	1.6	2.3	2.9	1.9	2.4	3.1	2	2.6
America, North	22	13.5	21.3	18.5	10.2	14.0	19.5	13.2	17.0	27.5	18	23.4
America, South	9	5	7.9	8.2	4.9	7.1	8.4	5.1	6.6	27.5	18	23.4
Asia	17	10	15.8	16.4	10.8	15.7	15	9.7	12.5	20.5	12	15.6
Europe	60	23	36.3	67	28.0	40.6	53.5	25.0	32.1	59.0	19	24.7
Oceania	2.6	1.5	2.4	2.2	1.1	1.6	1.5	0.8	1.0	1.4	1	1.3
USSR	59	9	14.2	131.6	12.3	17.9	147.6	22.0	28.3	154.0	25	32.5

the first medium of mass entertainment in most developed countries, but it must be remembered that films are seen by very large audiences through television.

105. Tables 2.5 and 2.6 illustrate the development of the broadcast media. World-wide, there are more radio sets than there are television sets. For example, in Northern America there are more radio sets than people, and one television set for every three people; in Latin America and the Caribbean, there is one radio set for every five people. In the USSR there is one radio set for every three people, and one television for every five or six. It should be noted that the figures presented in these two tables have been based on no universally accepted definitions, as some countries do not require a license for a receiver, in others one license may cover more than one receiver in the same household, or the number of receivers illicitly owned may be large. The figures refer either to the number of licenses issued (as is normally done in Europe) or to the estimated number of receivers in use (as is done for most of the rest of the world). The adoption of recent recommendations in this regard will hopefully help to achieve that universality. In the meanwhile, pending the application of the adopted norms, the comparability among regions and countries is rather limited, and the figures following should be seen as giving only an approximate picture of broadcasting reality at this time.

106. Radio and television developed in several countries at about the same time. Radio has long been an important activity internationally, while satellites and cables are now carrying television to all corners of the world. When television appeared three decades ago, many proclaimed that radio was finished. Radio refused to succumb, however, and today the radio industry is thriving after undergoing a revolution in content and technique, which enables it to exist side by side with television, and to share prosperity with the recording industry.

107. The expansion of radio transmission services, the general reduction in the cost of receivers and, above all, the production of cheap transistor receivers which do not depend on mains-supply electricity have introduced new audiences to radio broadcasting. In many countries, including those where television is highly developed, radio broadcasts, mainly of music and often with frequent news bulletins, are on the air for many hours of the day and night. The ratio of receivers to population in a growing number of countries indicates that numerous families have several receivers so that various members of the family can listen to different programmes. In addition, the installation of receivers in automobiles has greatly increased radio-listening, particularly of morning and evening news broadcasts. In most developing countries, while transmission services now cover much of the population, audiences continue to remain small, even allowing for spontaneous or organized listening by groups, and, in radio as well as television, their administrative and production centres are still most often limited, typically, to the large urban areas.

108. Television has the potential to be one of the most revolutionary and democratizing media of our time. The growing use of cable, satellites, video-cassettes, video-discs, and other emerging technologies will not only broaden the usefulness of the television set but also has the potential to free the viewer

from the constraints of the current broadcast schedule. In the years ahead, homes, schools, businesses and others can gain access to a nearly unlimited number of channels for a multiplicity of uses, for example, commercial, public and community television, two-way banking, shopping, health and libraries, facsimile reproduction and a host of other services involving the production, storage, transmission and retrieval of information. In this emerging scheme of things, over-the-air broadcasting can meet the mass audience requirements for news and entertainment, as well as the varied needs of specialized audiences, by providing greater choice, diversity and enrichment.

109. While television services are now established in most countries of the world, few developing nations have more than one urban transmitter and the cost of receivers and lack of rural electrification continue to limit the scope of the medium to a small fraction of the populations. More significant, in the longer term, is the dependence which these small television systems inevitably have on programmes which are imported from other societies.

110. On the basis of the figures available, it is estimated that around 1975 there were world-wide approximately 918 million radio receivers and 366 million television receivers. The recent growth rates for broadcasting receivers have been more pronounced in most of the developing countries (except for Latin America), as they catch up slightly with the developed countries, but the absolute figures help to keep this in realistic perspective. Northern America and Europe still have the largest over-all percentage of all areas of broadcasting, including receivers.

#### J. Concluding remarks

111. If one assumes an average household to consist of four or five persons, a figure of between 200 and 250 per 1,000 of the population for daily newspaper circulation and for radio and television receivers would indicate that, in general terms, the whole population of a country is being reached by the medium concerned. On this tentative basis, it seems that such a saturation point has now been or is about to be reached for daily newspapers in 30 countries (19 in Europe), for radio in 48 (26 in Europe) and for television in 22 (15 in Europe). Twenty-one countries, 14 in Europe plus Australia, Canada, Cuba, Japan, New Zealand, the United States of America and the Union of Soviet Socialist Republics, seem to be at this point for all three of these media. It is noted that three of these countries - Japan, the United States of America and the Union of Soviet Socialist Republics - are among the largest producers of feature films shown in public cinemas; the five world news agencies are based in four of these countries - France, the United Kingdom, the United States of America and the Union of Soviet Socialist Republics, which same four countries are the major suppliers of television programmes to other countries.

112. In the over-all figures, there has been a steady increase in the physical means available for communication all over the world, and far more people are receiving information through the mass media than ever before. This general picture needs however to be analysed more closely. The major development has been in

**Table 2.5**  
**Radio receivers (total, percentage distribution, receivers per 1000 inhabitants)**

Region	1960			1965			1970			1975		
	Total (in millions)	% inhabitants	per 1000 inhabitants	Total (in millions)	% inhabitants	per 1000 inhabitants	Total (in millions)	% inhabitants	per 1000 inhabitants	Total (in millions)	% inhabitants	per 1000 inhabitants
World Total	365	100.0	155	553	100.0	215	728	100.0	257	918	100.0	293
Africa	4.5	1.2	17	12	2.2	39	16	2.2	46	28	3.1	70
America, North	132	49.9	679	262	47.4	894	326	44.8	1025	450	49.0	1312
America, South	13	3.6	89	25	4.5	149	26	3.6	136	52	5.7	237
Asia	30	8.2	30	59	10.7	53	124	17.0	99	108	11.8	76
Europe	91	24.9	214	118	21.3	265	138	19.0	301	158	17.2	334
Oceania	3.5	1.0	222	3.7	0.7	211	3.7	0.5	191	6	0.6	282
USSR	41	11.2	192	74	13.4	320	95	13.0	391	116	12.6	455

Table 2.6

Television receivers (Total, percentage distribution, receivers per 1000 inhabitants)

Region	1960			1965			1970			1975		
	Total (in millions)	% inhabitants	per 1000 inhabitants	Total (in millions)	% inhabitants	per 1000 inhabitants	Total (in millions)	% inhabitants	per 1000 inhabitants	Total (in millions)	% inhabitants	per 1000 inhabitants
World total	99	100.0	42	182	100.0	71	271	100.0	96	366	100.0	117
Africa	0.1	0.1	0.4	0.6	0.3	1.9	1.2	0.4	3.4	2.4	0.7	6
America, North	59	59.5	220	79	43.4	270	96	35.4	302	138	37.7	402
America, South	2	2.0	14	5	2.7	30	13	4.8	68	20	5.5	91
Asia	6	6.1	6	20	11.0	18	27	10.0	22	36	9.8	25
Europe	26	26.2	61	59	32.4	132	96	35.4	209	112	30.6	237
Oceania	1.1	1.1	99	2.4	1.3	137	2.5	0.9	131	4.6	1.3	216
USSR	5	5.1	23	16	8.8	69	35	12.9	144	53	14.5	208

broadcasting, while the print media, books, newsprint consumption and cinema have remained relatively stationary. Again, within most countries, development has occurred mainly in urban centres, so that to the gap between the developed and the developing countries must be added the gap between the urban and rural populations. Also the means of media access and participation are unequally distributed within all countries. Only in recent years has there been a move, notably in Africa, to establish rural newspapers and provide a specifically rural broadcasting service; another recent initiative was the Satellite Instructional Television Experiment (SITE) in India, designed to bring educational programmes to rural areas through the use of the most modern communication technology.

113. Evidently there have been tremendous strides in the application and improvement of mass communication throughout the world since 1960. Satellites orbiting around the earth bring telephone calls and data from almost all parts of the world; the quality and power of transmission have considerably advanced. Nevertheless, in about 40 developing countries, less than 5 per cent of the people have access to a newspaper. In more than 60 developing countries, even where the most powerful radio transmitters have managed to penetrate, more than half of the population have no radio sets. Thirty countries in the developing world still have no television services, nor even sufficiently trained technicians to plan a television service.

114. Where communication technology advances have introduced not only more sophisticated equipment, but also smaller, simpler, less expensive hardware, other problems have arisen to hinder progress: the lack of information about simpler, low cost technology; lack of access to this equipment; lack of exposure and experience in adapting new hardware to traditional problems; and simply the lack of hard currency to buy what in many developing countries is still not low-cost material. While there is growing experimentation and appreciation of large and small communication media, there is still the major problem of an integrated, timed and balanced development of facilities and media, in all countries, especially those less developed.

115. In summary, the tables presented in this section reveal the following facts about the development and distribution of mass communication media throughout the world, especially in the developing countries.

(a) The contrasts in mass communication between the small number of developed countries and the rest of the world continue to be striking. Not all the differences are quantitative ones, for example, one of the first things one notices about mass communication in developing countries is how the media cluster in the urban areas.

(b) The developing regions are lagging in their development of the print media and in book production. This is probably related to the continuing problem and challenge of literacy and education.

(c) In every respect except film making, Latin America, the Caribbean and Oceania are somewhat further developed in communication than either Asia or Africa.



This is most notably true of radio and television, but also holds in the case of the print media. While the Asian film studios outproduce those of Latin America, the Caribbean and Oceania, the annual attendance per person is greater in the latter regions than in either Asia or Africa.

(d) The less developed regions of the world are moving impressively along in their quantitative improvement of radio, and making progress in television, especially in the increase of receivers.

(e) As an increasing number of people and institutions are now contending that information and communication are as important to development as petroleum, more and more countries are realizing that a vital part of the new international economic order is a freshly re-examined and readjusted international information order. At the same time, there is no simple or even very clear path yet of development, at whatever level, to which the growth of communications can be linked.

116. The role of communication in the context of national and regional development needs, among other things, to be defined on the basis of experience has shown the limitations of certain development strategies planned almost solely to foster economic growth and overly based on technical assistance systems originating from outside the country. We are now realizing more and more clearly that culture and communications are important factors in fostering the sort of social and economic development, that attaches great importance to the individual as well as to the nation and to human creative ability.

117. At the same time, neither the processes of information (telecommunication, processing, storage and dissemination of information, etc.) nor the processes of communication (the mass media) can be considered only - from either the technical or the social point of view - as phenomena of solely national dimensions, since countries themselves are linked by regional and international communication realities and agreements. The concepts of society, development and communication are interdependent, and one cannot exist without the others. In this context, one is justified in thinking that the degree of development of a society is conditioned noticeably by the level of development of inter-personal and group communication, as well as by the improvement of its mass communication.

### III. INTERNATIONAL CO-OPERATION IN THE DEVELOPMENT OF COMMUNICATION SYSTEMS

118. The progress in the development of communication systems which has been described in the preceding section has been largely achieved through the efforts of the countries themselves; in addition, developing countries have received considerable assistance through the bilateral aid programmes administered by various donor countries. The multiplicity of such programmes makes it impractical to document the total volume of assistance to communication development during the period under review.

119. The present section is concerned solely with the work undertaken by international organizations, both governmental and non-governmental. Separate sections are devoted to the work of UNESCO and the International Telecommunication Union since, within the United Nations system, these are the two agencies which have specific and complementary mandates in the field of communication. The section on the International Telecommunication Union was contributed by the Union itself; notes on other organizations have been compiled on the basis of information specially requested for this report, supplemented by data from yearbooks and other standard works of reference.

#### A. United Nations Educational, Scientific and Cultural Organization

120. From its inception, UNESCO has sought to "collaborate in the work of advancing the mutual knowledge and understanding of peoples through all means of mass communication". As more and more countries achieved independence, problems of national and regional development became central to the organization's work, and the role of communication in nation building soon became evident.

121. UNESCO stands upon its Constitution, carrying out its programme at the direction of the biennial General Conference, in response to the needs and requests of its member States. However, while UNESCO has always conducted a broad international programme to help improve mass communication personnel and techniques, it was not until 1954 that this work was formalized by a decision of its General Conference to provide communication aid to member States, at their request.

122. This early UNESCO communication programme included expert missions and meetings, studies and research - both theoretical and applied - and assistance in establishing national and regional centres for training and education in journalism and mass communication.

123. UNESCO's communication programme has grown and intensified as additional resources have become available, whether through UNESCO's own budget, through the Expanded Programme of Technical Assistance (later the United Nations Development Programme (UNDP)), through Funds-in-Trust arrangements, voluntary contributions

or through the Associate Expert Scheme. In recent years, the main thrust of financing this programme was affected by the sudden sharp decrease in UNDP financing. On the other hand, there has been a steady increase in projects financed under Funds-in-Trust, including several "self-benefiting" projects.

124. A review of UNESCO's contribution to the development of communication systems cannot therefore be reduced to a mere catalogue of what has been done. While activities are portioned out in biennial periods, they also form part of a dynamic process of evolution and development. It is this dynamic which is, in the end, of the greatest interest.

125. In section II, the conceptual framework within which communication activities have taken place over the past decade was explored, and it will be logical for the present account - which reviews specific programmes of UNESCO - to adopt the same structure.

126. In doing so, however, two provisos must be made. This is primarily an account of UNESCO's contribution towards applying communication to development; it is not a comprehensive account of the organization's programme. It can, of course, be argued that all UNESCO activities contribute, over the longer term, to the development process, but for reasons of directness and economy, the discussion here is confined to programmes, projects and inquiries which bear evidently and directly upon development efforts. Consequently, not all of the themes discussed in chapter II will be further explored below; there will be only passing reference to the communication research programme, to the development of information systems, to the promotion of mass communication documentation centres, or to ethical and normative programmes such as those dealing with professional ethics or the elaboration of the "right to communicate". Mention should however be made of the work undertaken to prepare a draft Declaration of fundamental principles governing the contribution of the mass media to strengthening peace and international understanding and to combating war propaganda, racialism and apartheid, which is to be submitted to the General Conference of UNESCO at its twentieth session in October-November 1978, together with a parallel draft Declaration on race and racial prejudice. These are important issues, but they have a general, not a specific, relationship to development.

127. Secondly, and even more importantly, it must be remembered that the themes isolated in section II are simply categorizations: they did not spring to life, ready formed, but are distillations of experience. This is not to say that UNESCO's actions have not, at all times, been set within a thematic reference frame; they have evolved and have been presented organically from the outset. But the reference frame has itself changed, as our knowledge of communication, and our attitudes towards its nature and potential, have modified. It will be argued here, in fact, that there is a perceptible growth in UNESCO actions from the fragmented to the holistic: that while, from the beginning, communication was seen in terms of its contribution to development, the clarity of perception of this relationship has certainly undergone change. As in other fields, there has been a move from an unstructured, casually supportive set of actions, to an attempt to define and implement programmes within an integrated format. This

movement is broader than the activities of UNESCO alone; it is also broader than the communication process. It cuts across the whole of development theory and practice and reflects a gradual organization of experience over the years.

128. Inevitably, this movement towards greater unity and integration is also an historical movement: lessons have been learned over time. Consequently, as we pursue themes and activities, we shall simultaneously be reviewing an historical sequence, the record of an evolving UNESCO programme.

129. At the same time, this thematic presentation does not mean that activities undertaken in earlier years are no longer relevant. In many cases - like training - they are still core activities, still intensively pursued. The real difference is that they are now seen far more organically than before, treated as components of wider, more embracing systems. This is genuinely to their advantage: the attempt to pinpoint relationships also prompts inquiry into the rationale behind them.

#### 1. Training

130. Training is a natural field of engagement for a new and evolving organization: it is practical, specific and readily justifiable, showing immediate results. Infrastructures are doomed to failure without trained staff; the only alternative to an exaggerated dependence on outside communication, and one of the best ways to help correct any imbalance in the flow of information, is for each country to produce its own indigenous information and communication system. Since the early 1950s, assistance to member States in planning and training for mass communication has been part of UNESCO's programme in all parts of the world, and systematic efforts have been made since the early 1960s to help establish national and regional institutions for this purpose.

131. At one time, training, when it happened at all, was anchored to developed country institutions, cast in their industrialized framework. But as the result of a sequence of meetings, conferences and practical experiments, a far more relevant pattern of local and regional training has begun to emerge. The principle of conducting basic training locally, in familiar cultural surroundings, and reserving international exposures for experienced personnel, has become part of today's communication training philosophy.

132. UNESCO's specific work in this area has taken various forms: for example, providing assistance to communication institutes and training centres; encouraging the formation of professional associations and groups; carrying out surveys of training needs; devising, producing and testing training materials; and offering advisory and consultant services, especially to the developing world. In 1957, an international meeting of experts on the training of journalists convened by UNESCO recommended that regional centres for education in journalism could play a useful role in upgrading professional standards. As a result, UNESCO co-operated with universities in the various regions in the establishment of such centres.

133. From 1957 through 1974, UNESCO assisted the Centre International d'Enseignement Supérieur du Journalisme (CIESJ) in Strasbourg, which during that time held 28 international colloquiums attended by over 1,200 persons, many of whom were from developing countries.

134. In 1958, UNESCO helped to establish the Centro Internacional de Estudios Superiores de Periodismo para América Latina (CIESPAL) in Quito. CIESPAL has organized annual two-month courses for teachers in journalism in Latin American countries, as well as seminars on the communication media and research. Over 800 teachers have benefited from its courses since its establishment.

135. At the University of Dakar, in Senegal, UNESCO collaborated in the founding of the Centre d'Etudes des Sciences et Techniques de l'Information (CESTI); many Africans have participated in its courses and a number have received its diploma. Subsequently, UNESCO helped in the development of a Mass Communication Institute at the University of the Philippines to serve the Asian region and, lastly, with the University of Nairobi in establishing the School of Journalism to serve East Africa.

136. Parallel with these regional efforts, UNESCO has continued to respond to requests of member States in establishing national schools and training centres in the communication field (for example, the Film and Television Training Institute of India and the Communication Studies Programme at the Universiti Sains Malaysia in Penang). In 1968, UNESCO assisted in creating the Department of Mass Communication at the University of Lagos. From a one-year Diploma course aimed at preparing broadcast practitioners for immediate needs, this Department of Mass Communication has developed a degree programme, increased its faculty, and steadily acquired professional communication training facilities.

137. Also in Africa, UNESCO initiatives led to the establishment, at the end of 1976, of the African Council on Communication Education (ACCE), based in Nairobi, Kenya. UNESCO's role here was not to set up an externally supported regional institution, but rather to provide the setting in which African communication trainers themselves could analyse their situation and create the institutions and structures necessary to solve their problems. The ACCE has begun by placing national training institutions in touch with one another, has undertaken studies on African training programmes, has launched regional co-operative training courses and activities, and is publishing a bi-monthly bulletin, Africom.

138. These communication training and education efforts have various strands of history, financing and evolution. A good example is the Asia-Pacific Institute for Broadcasting Development (AIBD), which struggled for years with inadequate finances and support, before it became a constitutional reality in August 1977, based on the Tun Abdul Razak Broadcasting Institute in Kuala Lumpur, Malaysia, as a regional intergovernmental broadcasting training institute.

139. As early as 1958, a resolution of the Asian Broadcasting Conference drew

attention to the urgent need for training professional broadcasters in Asia. This need was confirmed by later conferences, and in 1966 it was related to development-oriented communication by the UNESCO Meeting on Radio and Television in the Service of Education and Development, held at Bangkok. A subsequent UNESCO survey of training needs showed that, of some 35,000 media workers in Asia, 20,000 were in need of some form of training. In 1968, a meeting of experts in Kuala Lumpur unanimously approved a proposal for a regional institute to be located in Malaysia, and a UNESCO expert team subsequently prepared a report on the structure and organization of this institute.

140. UNESCO has contributed regularly, as has UNDP, to this Asia Regional Broadcasting Training Project, which began providing in 1972 a limited regional broadcasting training programme for Asia and the Pacific regions. AIBD's training programme has gradually expanded since that time. For example, by the end of 1977, 866 trainees had completed advanced broadcasting courses in Kuala Lumpur, while in-country courses had extended to 554 trainees in 19 countries and territories of the Asia-Pacific region.

141. UNESCO assistance is now organized under a three-strand action programme, comprising institutional development, analyses of training methodology, and the systematic design of training and educational materials and curricula.

142. In order to further technical co-operation among developing countries, special support is being given to national communication institutions capable of assuming a regional role. Current attempts to improve and broaden professional training focus on upgrading the skills of professional trainers and providing better training materials. Particular attention is now being paid to the development of communication systems adapted to the requirements of rural areas, which can help bridge the gap between urban and rural audiences.

143. In no way are UNESCO's activities intended to pre-empt the work of regional and national training centres: the intention is specifically to tap existing local expertise, and make it more available to others. In all of its current activities, UNESCO depends heavily on developing country experience.

144. Since 1973, emphasis has been given to the area of communication management, both in studies and practical workshops, and in 1974 the production and evaluation of a series of manuals and training aids was undertaken.

145. Especially important has been the recognition that the communicator in today's society requires a broad general education, going far beyond narrow technical training, with the result that teaching programmes in communication have increasingly appeared in the offerings of universities.

## 2. Institution building and infrastructural development

146. A direct offshoot of training and education programmes is institutional support: helping develop, maintain and expand institutions ranging from the national to the regional and international. Some of these may be attached to particular services (as, for example, national broadcasting systems); others may be professional or occupational groupings (for example, at the international level, mention may be made of UNESCO's support for the International Film and Television Council (IFTC) and the International Association of Mass Communication Researchers (IAMCR)).

147. A case in point is support to the broadcasting unions. Every continent now has its own Broadcasting Union. From different backgrounds, they have sought to create a feeling of pride, co-operation, and professional and technical competence in broadcasting, that has its growing effect on programming and broadcasting structures. In a variety of ways, UNESCO has provided assistance to these Unions, which has included, for example, the organization of a sequence of regional workshops on educational broadcasting.

148. Two recent examples of UNESCO's practical co-operation at the regional level are with the Arab States and the Caribbean countries. In the Arab States, assistance to the Arab States Broadcasting Union, as well as preparatory studies by UNESCO, contributed to a decision by the Arab Telecommunication Ministers to proceed with plans for a regional communication satellite. Other UNESCO studies, consultants and advisers have contributed to growing co-operative arrangements among the Gulf States in the area of training and mass communication development. UNESCO has also recently completed studies on film institutions for the Arab region.

149. In 1967, the Caribbean Heads of Government expressed dissatisfaction, at their annual conference, with existing national information and mass communication systems, including their lack of interest in development. They also decided at the same Conference to ask UNESCO for advisory support.

150. UNESCO's involvement since that time has been significant, both in terms of what has been accomplished - particularly for social, economic and cultural development - and in showing the organization's ability to remain flexible. An early UNESCO effort contributed to the founding of the Caribbean Broadcasting Union in 1969, but it was in 1972 that a major project on the "Development of Communication in the Caribbean" began, with a team of UNESCO experts, national and international advisers and consultants, and with the financial help of the United Nations Development Programme. From 1972 through 1976, this project, among other things, led to the following practical outcomes:

(a) Strengthened the Caribbean Broadcasting Union (CBU) - and established its broadcasting exchange system;

(b) Helped to create the Caribbean News Agency (CANA) - with its underlying principle of co-operation between government and private media;

/...

(c) Formed the Institute of Mass Communication of the West Indies;

(d) Founded the Caribbean Press Council;

(e) Helped to produce the Barbados Plan for the development of communication, and contributed to an experimental communication project for the communities of Trinidad and Tobago.

151. The former examples come mainly from broadcasting, but UNESCO has also been active in strengthening news and information services. For example, it has assisted member States in planning and establishing national news agencies, as in Malaysia, Thailand and Sierra Leone. UNESCO sponsored meetings of experts on the Development of News Agencies in Asia, January 1960 and December 1961, at Bangkok. A direct result was the founding in 1962 of the Organization of Asian News Agencies (OANA). The Union of African News Agencies was founded in April 1963, as a result of a UNESCO expert meeting at Tunis on News Agency Development in Africa. UNESCO also assisted the first Conference on News Exchange among African and Arab Nations, held in March 1975 at Tunis. In November 1976, UNESCO helped sponsor a meeting between news agencies in the Arab States and Europe, which resulted in the setting up of a joint bureau of Arab news agencies at Vienna.

152. A UNESCO meeting on news and information exchange in Latin America was held in June 1975 at Quito; this question was further considered at the Intergovernmental Conference on Communication Policies in Latin America and the Caribbean, in July 1975. Subsequently, UNESCO carried out a feasibility study on the possibility of a Latin American News Agency or a Consortium of existing News Agencies.

153. Inevitably, the increased emphasis on institutional strengthening and support led, in the early 1970s, to a realization of infrastructural needs within UNESCO itself. It was evident that, at the national or regional level, some kind of decentralization was needed, with a permanent communication presence in each region (not simply a liaison function, but the assurance of a strong, professionally competent adviser). The position was tried out experimentally in Asia from 1970 onwards, but full-time UNESCO regional communication advisers were stationed for the first time, in the 1975-1976 period, in the Arab States, Africa and Asia, and a regional communication adviser for Latin America was appointed in 1977.

154. The UNESCO regional communication advisers have been actively involved in consultations, project planning and co-ordination, training courses and advisory missions. For example, the regional adviser for the Arab States carried out, in 1975-1976, planning and training assignments in 10 countries and represented UNESCO in 6 regional meetings concerned with communication development, while the regional adviser for Africa carried out 12 country missions and attended 4 regional meetings.



### 3. Application of communication to development

155. Even in UNESCO's earliest years, the application of communication processes and systems to development was patently more than skills training and institution building: it implied the attachment of communication tools to the development process over-all, and to specific aspects of development (such as education).

156. However, when it was first suggested, in the 1950s, that communication might have a part to play in national development and modernization, this was normally identified with the role of information agent: a purveyor, from a centralized source, of development messages, in the interests of social mobilization. At the time of Wilbur Schramm's book, Mass Media and National Development, published in 1964, the mobilization theme was very much dominant: the approach was to be prescriptive, urgent, persuasive. Communication was interpreted as the "web of society", and its techniques were instruments to be applied to social and economic transformation.

157. These ideas led in the 1960s to the UNDP-supported and administered Development Support Communication Service (DSCS), based in Bangkok.

158. Comparable approaches were also taken up by UNESCO at the project level (usually with external support, particularly from UNDP). From 1973 to 1975, UNESCO worked with Costa Rica on the establishment and staffing of a Centre for Cinema and Television Documentary Film Production in support of national development, within the Ministry of Culture, Youth and Sport. By the end of this project, Costa Rica had a production staff numbering 23, fully trained and operational, producing an average of one 30-minute documentary film every six weeks for local broadcasting. Today, Costa Rica's National Film Production Unit produces monthly filmed TV programmes on a whole range of social, economic and cultural subjects.

159. From 1972 to 1975, UNESCO and the Government of Gambia worked on a number of projects to improve their audio-visual information, including educational film production. By 1975, the production staff of the latter service had four fully trained members and a production capacity of up to eight 20-minute documentary films a year. In 1975 and 1976, UNESCO also participated with Jordan in a project on film and video production for development support. This involved a video-workshop and on-the-job film training, including training for television.

160. However, more characteristic interests for UNESCO have been outside the project support field. On the one hand, the agency felt, and argued, that development over the long term would be better served by the improvement of communication infrastructures, talents and institutions, rather than by specific campaigns of project support. Secondly, a major concern of an organization devoted to education, science and culture was bound to be in applying communication techniques and technologies to its specific areas of work: as means of enriching and extending its programmes (indeed, in some cases, the mass media appeared to be the only means available of implementing programmes which involved communication with far-flung, rural populations, in societies where educational infrastructures

were few). A good deal of UNESCO's activity in the field, therefore, has been concerned with the development of educational media.

161. For example, placing radio in the service of adult education and rural development has been one of the preoccupations of UNESCO ever since the 1950s, when it was realized that the mere distribution of receivers to rural communities would not achieve much unless the people were taught how to listen to programmes and to discuss them among themselves.

162. In order to carry out a Radio Farm Forum Pilot Project, collaboration between UNESCO and the Indian Government began in 1956, concentrated on some 150 villages of the region of Poona, in Maharashtra state, with an audience which was largely illiterate, rarely exposed to radio and unused to organized, group discussion. It was concluded from this pilot project that, compared with literacy reading groups and rural animation, radio forums were superior in bringing about adoption of agricultural and health practices for both forum participants and non-participants.

163. These results were sufficiently encouraging for the Indian Government to expand the radio forum principle as widely as possible, although considerable difficulties were encountered in the expansion phase. Additional radio forum projects and experiments were subsequently carried out elsewhere: for example in Ghana, from December 1964 to April 1965.

164. In Senegal, UNESCO embarked upon a pilot project for the production, utilization and evaluation of a broad range of audio-visual media and materials, including radio and television, for adult education and development. This project began full operations in 1965 and ended in 1970.

165. The project fell into two distinct parts: experimental television, broadcast mainly during 1965 and 1966, but continuing until 1969; and rural educational radio, aimed at 57 organized listening groups by the end of 1968, but eventually expanded to cover audiences throughout the country. The TV portion embraced three key development themes: health and nutrition, women and development, and literacy. The radio portion, with the assistance of Radio Suisse Romande, was based upon reports and statements of farmers and villagers obtained by RER broadcasters; hundreds of letters also poured in, which were also read and analysed on the programme. Though playing a much smaller role than radio and television, film was also included in the project.

166. The Senegal Pilot Project was the subject of several evaluations. In particular, these helped to emphasize that neither television, radio nor any other medium is sufficient on its own; to achieve a desired effect, mass media must be coupled with effective community organization.

167. From 1966 through 1970, a pilot project on the use of television in higher education was carried out by Poland, with UNESCO's assistance: its aim was to upgrade the quality of instruction and to provide wider and more equal educational opportunities. Among the results of this project, it was shown that television could be successfully used in higher education, but that it could not create

self-sufficient educational forms; it suggested that the most rational way of using television in higher education is to create new educational concepts, practices and institutions based on the existing network of higher schools.

168. Communications for education, both in and out of school, have been a continuing function of UNESCO. In the Ivory Coast, the organization, together with UNDP, UNICEF, the World Bank, the Ford Foundation, France, Belgium, the Federal Republic of Germany, Canada and the United States of America, is one of the founder members of the Abidjan Club, which - under the direction of the Government of the Ivory Coast - acts as a co-ordinating committee for multi and bilateral assistance, and shares responsibility for the Ivory Coast's Educational Television Programme, 1968-1980. During this project, an Educational Television Complex has developed at Bouaké; teacher and technical training has progressed; and, among the many resulting publications, there have been 15 official studies of the project.

169. In 1972-1974, the UNESCO/UNDP Feasibility Study of a Regional System of Tele-Education for the Countries of South America was conducted. This project derived from a request for a feasibility study of a regional satellite communication system by the Andean countries of South America. Subsequently, the orientation of the study was modified, but the revised Plan of Operations maintained three important principles, set out in the original request: the system studied was to be regional; it was to be a comprehensive system providing educational and cultural programmes for both school and out-of-school audiences; and it was to examine the principal means available for the transmission of signals, including the use of advanced technologies.

170. During the field phase of the project, an international team of experts collaborated with South American authorities and with the national counterparts appointed by the various countries. Two regional meetings were held during this stage of the work; at each the "model" of the system was discussed, analysed and improved. As a result, a meeting of national counterparts in Caracas, in 1974, recommended that the study should pay more attention to the use of existing distribution channels - particularly microwave networks - within the framework of national development plans, while maintaining the detailed examination of the satellite alternative which was seen as a longer term solution.

171. From December 1973 to June 1974, UNESCO carried out its Pre-Investment Study of Educational Mass Media in Thailand. This study, the first of its kind anywhere, is considered a special case of communication planning. It was, first of all, concerned with planning for all educational mass media and hence it operated at a complete sectoral level. Secondly, it was carried out by UNESCO with a multidisciplinary, multicultural team, working in a group setting. Each of these factors had its impact upon both the conduct and outcome of the study. The main object of the exercise was to produce a framework and elaborate a project, for the development of educational mass media in Thailand; the resulting information and mass communication system was to help improve educational quality and opportunity at both in-school and out-of-school levels.

172. This study, and others of its kind, helped bring about radical changes in orientation to educational media. It is no longer possible to speak of a single medium, such as educational television, for the promise of multimedia working has become a necessity and a reality. In view of the increasing importance of multimedia systems, there is a growing need for producers to be conversant with a number of formats, including radio, television, as well as print, film and audio-visual media.

173. Educational media are also finally escaping from the confines of the school, and adult and non-formal education, community education and development are featured more largely in comprehensive media systems.

174. Literacy education is a case in point. One of the reasons for the intransigence of this problem is that population increase is still outstepping educational efforts; traditional methods of personal instruction alone have been unable to reverse the trend and new methods and the use of mass communication are needed to help eradicate illiteracy at all levels. Radio and television, for example, are important not only in the direct instruction of illiterates, but also in the mobilization and continued motivation of those who are literate, and in the training of instructors. To collect information concerning earlier experience, and to lay the groundwork for further action on a broad scale, UNESCO carried out a world-wide survey on this question in 1970. The results were published in UNESCO's Radio and Television in Literacy.

175. A pilot UNESCO project using communication media for introductory courses on science and promoting technological understanding was begun in Egypt towards the end of 1971. It included, in particular: studies and research into the potential of mass media for technological development; the training of production teams for radio and television programmes and for the press; and the production of experimental programmes. The experiment continued until July 1973, when it was extended regionally to the Arab States.

176. Another major preoccupation of UNESCO has been the population problem. Population control programmes have traditionally set up goals elaborating numbers of clinics, optimal reductions in family size, etc., but the same programmes sometimes lose sight of such factors as children as an economic resource and carriers of culture and tradition; the cultural context of large families in a peasant society; the perturbation that arises when economic, social, cultural and moral values have to adjust to new situations arising from smaller families. As one 1975 UNESCO report suggested, "... it wasn't until clinic building exceeded clinic utilization, and dissatisfaction with services began to be expressed, that administrators began to think seriously about the need to study communication factors".

177. In 1968, UNESCO first sent a communication specialist and a specialist in adult education to a national family planning programme, at the request of the Tunisian Government. Since then UNESCO, at the request of its member States and with substantial UNFPA financing, has held numerous seminars, appointed national

and regional advisers, carried out campaigns and issued publications, and set up projects to provide communication support for many national family planning programmes.

178. Finally, innovation, both in communication technology and in its application to specific problem areas, has been a major interest of UNESCO spanning two decades, especially in the area of non-formal and informal education. Projects financed from extrabudgetary sources have been concerned with research into prototype programme production, with the creative use of film in a development context, and more recently with the interactive uses of film and video programming.

179. The UNESCO project on Television Programme Research and Prototype Production Unit in Poona, financed by the Ford Foundation, ran from September 1973 to June 1977. It developed formative research techniques for Indian Television and prepared a prototype programmes as examples to other Indian television stations. Part of UNESCO's large effort in Poona was an experimental television project, which covered 200 villages in the Poona area. It worked on the premise that there is a vast communications gap dividing the people who produce television programmes from the people who view them, and that if television is to become an effective organ or mass communication it must decentralize.

180. In all these activities, the traditional forms of print media cannot be neglected. The paradox persists, of increased book production, on the one hand, and of an immense and growing book "hunger" in the developing countries, on the other hand. The overwhelming concentration of book production and consumption in a handful of developed countries has therefore come to be regarded as a main obstacle to social and economic progress, and the UNESCO General Conference, at its fourteenth session, approved a long-term programme for book development. This resulted in the convening of a series of regional book meetings, between the years 1966 and 1972, in the developing regions of the world - for Asia, Tokyo 1966; for Africa, Accra 1968; for Latin America, Bogota 1969; and for the Arab States, Cairo 1972.

181. The long-term project culminated, under UNESCO sponsorship, in the 1972 world-wide celebration of International Book Year. This global effort by UNESCO on behalf of books and reading not only provided an opportunity for Governments, public and private organizations, and individuals to understand the problems posed by the production, distribution and utilization of books, but also suggested a wide variety of practical measures.

182. A major follow-up to International Book Year was initiated early in 1973. Close liaison was established with the regional book centres world-wide, some of which UNESCO had helped to existence, namely: Regional Centre for Book Development in Latin America and the Caribbean (Bogota); UNESCO Regional Centre for Book Development in Asia (Karachi); Tokyo Book Development Centre; Regional Centre for Book Development in Africa South of the Sahara (Yaoundé); Regional Centre for Book Development in the Arab States (Cairo).

183. In working with print media, the problem of language is particularly acute. In many countries, traditional societies and languages represent large percentages

(for example, in Africa they amount to 80 per cent of the people, who together speak 800 languages). Such languages, spoken in everyday life by the majority of rural people, are almost never used in education, administration, economic activities or in the mass media. In this context, literacy programmes, because they mainly reach the rural areas, have made the need to read a difficult one to satisfy in the short term. This is largely because national printing houses do not have sufficient equipment to produce educational books, or specialized works. Nevertheless, it is relatively easy and inexpensive to produce rural newspapers, which because of their regular circulation and variety of information can play a significant role in social development, deepening culture and furthering education. Indeed, it was the fear of returning to illiteracy which prompted the first attempts at a rural press in many developing countries.

184. The development of the local, rural press has been an area of UNESCO concern and action for some time, with renewed emphasis in the 1970s. In 1970, and again in 1972, regional seminars under UNESCO sponsorship gathered together several French-speaking African countries to prepare an operational plan; in addition, during 1971 UNESCO completed a survey of the local, rural press in French-speaking Africa. The results of this plan so far have demonstrated that the rural press can be more than simply "reading material for new literates", and that the growth of local, community newspapers depends not only on literacy, but on distribution and the attitude of Government.

185. To date, UNESCO has carried out consultancies leading to the creation or support of approximately 15 rural newspapers, in seven French-speaking and three English-speaking African countries.

186. One of UNESCO's most integrated and fully supported projects in this area is in Tanzania's Lake region, where UNESCO, through a Funds-in-Trust project with the Norwegian Agency for Development (NORAD), has helped the Government to develop a rural press, specifically in support of literacy and development. A complete offset printing complex and photo journalism laboratory has been provided, and the project's rural paper, Elimu Haina Mwisho (Education has no End) started in 1974 with a circulation of 20,000, and by 1978 had increased its circulation to 100,000.

187. The foregoing is by no means an exhaustive survey of UNESCO's attempts to enlist new communication technologies, especially mass media, in the service of national development. It reflects a traditional path - one which is still pursued, and which probably still accounts for the bulk of UNESCO communication activities, especially those financed from extrabudgetary resources. In the past decade, however, and especially over the past five years, analyses of the role of communication in development processes have gone deeper, prompted and stimulated by experimental activities conducted under UNESCO's Regular Programme.

#### 4. Technology transfer and adaptation

188. One of the first areas to be re-examined, as part of the process of rethinking communication strategies, was that of technology itself. Technology is the foundation of modern communications media, but it is discussed today in terms vastly different from a decade earlier.

189. In the first place (and this is by no means confined to communication) the concept of technology is no longer limited to hardware, but includes its supporting infrastructures, the education and training demands which it generates, and the processes by which it is transferred and assimilated. This broadening of outlook followed research into the industrial sector, which has produced a whole new literature of technology transfer, stressing such factors as the appropriateness of different technologies and techniques and the ways in which they interact with social as well as economic organization.

190. Technology transfer is now increasingly recognized as relevant to the communication sphere; it lies halfway between the theory of planning and the act of development. In 1977, a UNESCO survey mission visited Sierra Leone, looking primarily at broadcasting technology transfer, as it reviewed the historical emergence of the Sierra Leone Broadcasting Service. It became evident during this survey, and coincides with experience elsewhere, that while development policies and programmes are now spelled out with reasonable precision, the same is far from true of broadcasting policies.

191. Subsequently, a UNESCO's Experts' Meeting on Technology Transfer and Communication was held in 1977, in an attempt to find a suitable research base for investigating transfers of communication technologies. It was confirmed that, while there has been a certain amount of economic work at the macro-level on the cost of technology transfer, and a considerable amount on techno-economic impacts at the micro-level, there has so far been very little effort to study the wider issues which accompany technology transfers, particularly in terms of their socio-cultural impact.

192. UNESCO is now continuing its examination of the problem in a programme which includes case studies of national experience, to serve as a basis for more economical and appropriate decisions.

193. An offshoot of this more sensitive approach to technology is the further stimulus which it gives to analyses of process. Wilbur Schramm, for example, argued over a decade ago for the development of mass media industries in the developing countries, oriented towards cheap and relevant production, but in very few cases has this happened, outside of the receiver market. To decide why this is the case requires a particular kind of economic analysis, which looks at the character of communication industries, their organization and their management.

194. To assist developing countries in their search for appropriate communication systems, UNESCO is planning two new activities. The first involves the examination

of media organization and management structures in different cultural and social systems; this will include a new series of publications, beginning in 1980, in which the structures of media organizations will be analysed and alternative models proposed. The second consists of detailed studies of selected items of communication equipment, with the aim of proposing models better adapted to the production and maintenance problems experienced in many developing countries.

195. The move away from considering communication hardware of and by itself is particularly well illustrated by the example of satellites. A dozen years ago, the satellite itself had its own glamour, an offshoot no doubt of the over-all space programme. Accordingly, the General Conference of UNESCO in 1964 authorized the Director-General "to convene a meeting of experts ... to define the principles and main lines of a long-term programme to promote the use of space communication for the free flow of information, the rapid spread of education and for greater cultural exchange ...".

196. This meeting was held in Paris, in December 1965, and not long after UNESCO formed a small committee of communication experts "to keep under continuing review the broad implications for UNESCO's programme of the rapid evolution of space technology". The concern of UNESCO here was essentially with the content and purpose of what was carried, as well as with the international arrangements required to safeguard and develop cultural and educational objectives and a free and balanced flow of information.

197. UNESCO's space communication programme has since that time included a number of studies and meetings, both as sponsor and participant (for example, its January 1968 meeting on Space Communication for Broadcasters, and the September 1976 Seminar on Regional Co-operation for Education and Development in Africa using Space Communication, which UNESCO co-sponsored with the Economic Commission for Africa, the Organization for African Unity and the International Telecommunication Union). Today, however, UNESCO, like a growing number of others, views communication satellites more relevantly as links in a distribution chain, and pays far more attention to redefining their low-cost utilization. In the Indian SITE experiment, which examined the potential of the direct broadcasting satellite, it was programming, management and evaluation strands which were finally as significant as technology.

##### 5. Access and participation

198. The debate on the social utility and relevance of communication media has also been much affected by recent discussions of the concepts of access and participation.

199. UNESCO's current work in this area follows three main and related lines of approach. The first line is investigative: studies made of efforts, especially in the developing world, to broaden the range of media available to different social groups, and to extend the involvement of users in media production and management.



The second approach seeks to apply the findings of these studies in field situations, in direct support of community projects. The third approach is synthetic: it applies the experiences of projects concerned with access to the development of new planning strategies, in order to study alternative planning forms.

200. Since 1973, therefore, a major UNESCO emphasis has been on community media and the problem of access to media materials and participation by audiences. In this context, special emphasis has been placed upon local forms of radio and television and on small-format technologies. A study of new models in Europe and North America, for example, was accompanied by an experimental project in the Caribbean involving the community press, local radio and video work.

201. "GROW with Tobago" was conceived as a multimedia educational pilot project for women, in the context of International Women's Year, and lasted from 1974 through 1976. Its over-all objective was "... to use communication and communication techniques as a main generative force in community development, with particular application to functional education and the role of women in society". It was designed to have a strong evaluation component, and in general the project demonstrated that attempts to involve a local community in the operation of media systems require more planning, time and resources than had been originally foreseen.

202. Later studies concentrated on the information gaps existing between different social groups and societies and how the communication process serves certain groups. In 1977, UNESCO held an international meeting on Self-Management, Access and Participation in Communication, which was intended to review and summarize progress achieved so far.

203. The programme continues along the same related fronts, offering assistance to community-based projects (most recently in Peru and in Brazil), attempting to ensure that their experiences are adequately evaluated, and synthesizing the results of evaluation for more effective transfer elsewhere. The main thrust of the programme is now towards the adaptation of community media models in developing countries, and a monograph summarizing experiences is currently in preparation.

#### 6. Moves towards integration: communication policies and planning

204. One of the most pronounced characteristics of approaches to communication (as in other fields) over recent years has been an impetus towards integration, to ensure a more rational use of resources, and improved co-ordination of efforts. Partly this has led to more emphasis on multimedia working; projects are no longer seen in terms of radio, television, or film, but embrace a number of media, harnessed together supportively to meet specific development objectives.

205. Several projects have evolved in this way, in the field of integrated rural development. In 1969-1970 an agreement was signed between UNESCO and the Government of Peru which resulted in the pilot project PEIFEDER (Proyecto especial integrado

sobre la función de la educación en el desarrollo rural). This project was based on three rural provinces and ran from June 1970 to December 1973; it involved three sectors of UNESCO: education, social sciences and communication. Currently, a new project is developing in Honduras, employing radio and print media in support of rural development programmes, focused upon a particular community. A similar approach is being taken to a broadcasting development project, with UNDP financing, in Bangladesh, which also emphasizes rural growth.

206. The principle of integration is, however, most sharply realized in the context of communication policies and planning.

207. In the late 1960s and early 1970s, few people were talking about national and regional communication policies, and it was largely as a result of UNESCO's efforts that, by the mid-1970s, the subject was more widely discussed and its implementation begun.

208. The policies adopted to govern the development of information and mass communication systems in any country are essentially a matter for decision by the member States concerned; UNESCO cannot formulate such policies nor draw up rules for their consideration. The organization has, however, a key role to play in promoting the concept of communication policies and in helping establish mechanisms for their formulation and implementation. Basically the UNESCO programme on communication policies is founded on the premise that these policies are in most cases implicit rather than explicit, and the attempt to explain the basis of even concealed communication policy helps the policy-maker to recognize anomalies or difficulties, and to move the debate forward to a position of greater coherence.

209. The UNESCO programme on communication policies has been based on case studies carried out in different countries, meetings of experts and research conducted by various specialists. In July 1976, in San José, Costa Rica, UNESCO convened its first Intergovernmental Conference on Communication Policies for Latin American and Caribbean Countries. Its purpose, as set out in the Programme and Budget submitted to the UNESCO General Conference, eighteenth session, was "to exchange experience on communication systems in relation to economic and social development and to consider the establishment of governmental administrative, technical, research and training infrastructures at the national and regional level for the formulation, implementation and evaluation of communication policies".

210. The Conference's recommendations, both to participating countries and to UNESCO, were summarized in its "Declaration of San José", which was unanimously approved. Among other things, this Declaration held that "... it should be the joint responsibility of the State and the citizen to establish plans and programmes for the extensive and positive use of communication media within development policies". It contained suggestions on facilitating access to communications media, participating in their use, and ensuring a better balance in the circulation of information at the regional and international level. It also reaffirmed the principle of freedom of expression, and that communication systems, policies and

planning should recognize the existence of both a private and a public sector. A similar regional intergovernmental conference was organized by the participating nations and UNESCO for Asia in 1978, to be followed by one in Africa in 1979-1980.

211. Related to its work on communication policies is UNESCO's communication planning programme, which provides an essential link between the formulation of policies and the practical development of communication systems and infrastructures. In the past few years, there has been a growth, not only in the viability of communication planning as a field, but also a far greater sense of realism as to what planning can achieve.

212. The basis of the communication planning programme within UNESCO lies in treating communication as a resource: a view which puts communication on the same footing as other resources, inferring that it may be conserved, planned, and allocated within the development planning process. Its focus is upon the application of planning methods and techniques to a real-world situation, and it therefore attempts to incorporate, within a viable framework, decision-making as well as orthodox planning routines; it postulates an approach which, while systematic in character, still retains sufficient flexibility and pragmatism to respond sensitively to external pressures.

213. UNESCO's first work in this field was exploratory: concentrating on case studies, examining planning methodologies from other disciplines, investigating training needs, all in a field where the basic groundwork remains to be done. As a first field test of its findings in a developing country a six-month communication system survey was carried out in Afghanistan in 1977-1978, under UNESCO auspices, covering all media as well as utilization structures, and intended to produce a guidance plan for the following 12 years. This Afghanistan communication planning project was based upon a scenario which stressed continuous dialogue with Afghan authorities, focusing on the gradual evolution of system objectives, the presentation, discussion and resolution of specific alternatives, and the emergence, through consensus, of a total information and communication system framework.

214. A similar approach was used by UNESCO in its 1977-1978 UNDP-financed broadcasting development survey in Bangladesh, and for a 1977 regional Asian planning workshop. The results of all of these and earlier experiences will be included in a communication planning resource book to be published by UNESCO in 1979-80.

## 7. Conclusion

215. What has been written above reflects the position reached so far in a fluid situation; the more attention that the communication sector receives, the more complex its demands and potential are seen to be.

216. However, it is evident that, over the past decade, at least a general recognition has been secured that the problems of communication are of special significance to the development process. This point was strongly emphasized by the last General Conference of UNESCO, and the conclusions of that conference make an appropriate conclusion to this account.

217. The UNESCO General Conference, at its nineteenth session held at Nairobi in 1976, made the issue of information and communication in development a main concern of UNESCO, on the basis of a rich and lively debate. It recognized a growing concern among member States to "liberate the developing countries from the state of dependence resulting from specific historical circumstances which still characterizes their communication and information systems" and to utilize communication for a much more active role in national development.

218. In consequence, the General Conference urged the Director-General to allot to the communication objectives of UNESCO programme a substantial increase in the growth rate of resources.

219. The Conference subsequently approved a six-year medium-term plan of action for UNESCO (1977-1982) in which, for communication, stress was laid on the promotion of research and studies into the effects of communication in society, to help order national and local priorities. It envisaged direct action to assist developing countries in training their personnel and in strengthening their information and mass communication infrastructures. More work was also called for on the development of planning methodologies, on the problems of technology transfer and on the promotion of access to and participation in the communication process.

220. The same conference also considered that these tasks could not be successfully completed unless a number of fundamental points were clarified and took the view, in its guidance note, that "a review should be undertaken of the totality of the problems of communication in modern society", so that UNESCO's information and communication programme might remain in line with the evolving world situation.

221. The Director-General subsequently brought together a group of prominent personalities recognized in the communication sphere and selected on a broad geographical basis, b/ to form the International Commission for the Study of Communication Problems. Meeting under the chairmanship of Sean MacBride, barrister, politician and journalist, their terms of reference included the following points.

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b/ Canada, Chile, Colombia, Egypt, France, India, Indonesia, Ireland, Japan, Netherlands, Nigeria, Tunisia, Union of Soviet Socialist Republics, United States of America, Yugoslavia, Zaire.

(a) To study the current situation in the field of communication and information and identify problems which call for new action at the international level, taking into account the diversity of socio-economic conditions and levels and types of development;

(b) To pay particular attention, within the framework of this study, to problems relating to the free and balanced flow of information in the world, as well as the specific needs of developing countries;

(c) To analyse communication problems, in all their different aspects, within the perspective of the establishment of a new international economic order and the initiative to be undertaken to favour the installation of a "new world information order";

(d) To define the role which communication might play in sensitizing public opinion to the major problems confronting the world and in helping towards their progressive solution through concerted national and international action;

(e) To define the new role which communication media of every kind could play in furthering the progress of education, science and culture, taking account of the diversity of situations in the world.

222. By July 1978, the 16-member Commission had met on three occasions. In addition to the inaugural meeting in December 1977, one session was held at Stockholm and featured an international seminar on the Infrastructures of News Collection and Dissemination. Ninety-two institutions (news agencies, the press, broadcasting organizations, professional associations and press institutes) participated, drawn from 47 countries. This seminar reviewed the major problems raised by existing press infrastructures and the pattern of news flow; four working groups were set up to study, specifically, information content, accuracy and balance in the supply of information, the rights and responsibilities of journalists and the economic and technical evolution of communication system.

223. The third meeting of the Commission, held in Paris in July 1978, concentrated on the preparation of an interim report for submission to the 1978 Session of UNESCO's General Conference (document 20C/94). This report was divided into two parts: the first comprising a description of the Commission's work since its establishment, and the second containing an outline of those problems which the Commission intended to study in greater depth. Although prepared in a relatively short space of time, the report attempted to highlight and place in perspective, all the major issues still to be faced by the Commission and to identify the main directions in which acceptable solutions to current problems might be found. It drew attention to three principal questions lying at the heart of the international debate: the rôle of communication in the liberation and independence of peoples and in the process of building and safeguarding peace; the place and role of the individual in the community and in society; and the potential of communication development.

224. To complement its work, the Commission has also sponsored numerous papers and monographs, produced both within the UNESCO secretariat and by outside specialists. Members of the Commission and of its secretariat have travelled widely to review their work with governmental authorities and other agencies, and they have participated in specialized meetings throughout the world. In general, the work of the Commission has aroused considerable interest, in professional, academic and political circles alike.

225. From January 1979, three further meetings are envisaged, beginning with an analysis of the General Conference's discussions. The last two meetings will be devoted to the preparation and approval of the final report, which is to be completed by July 1979.

## B. International Telecommunication Union

### 1. Introduction

226. The expression "mass media" covers the dissemination of information of all kinds (writing, pictures, sounds ...) for the benefit of a community. For centuries these media centred on the invention of printing. It was in the middle of the last century that the establishment of telegraph links gave them a new dimension, making possible the spread of topical news, with the rapid transmission of information even between continents. At the beginning of the twentieth century, another discovery - radio - was to pave the way for the instantaneous spread of spoken news among the public at large. Later the first television programmes were to provide the public with moving pictures.

227. Telegraphy and broadcasting (sound and television) both constitute a form of telecommunication, which is defined as follows in the International Telecommunication Convention:

"Telecommunication: Any transmission, emission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems".

228. Telecommunication therefore implies a practically instantaneous transmission of information. Telecommunication is also characterized by the fact that once the system has been established, it requires no physical transport. However, both ends of a telecommunication system often equipped and associated with signal recorders (particularly for sound or picture signals) when the signals are not intended for immediate use.

229. The two examples quoted above as stages in the development of international telecommunications, namely, telegraphy and broadcasting, are representative of the two major telecommunication categories of significance for the mass media:

(a) Point-to-point (or common carrier) telecommunications, the purpose of which is to convey a message by a correspondent to another correspondent (or a restricted number of correspondents). This is the purpose of the telegraph, telephone, telephotograph, data transmission, teletex, teleconference and teleprinting services; it is also the purpose of sound or television broadcasting from a given source of programmes to one or several broadcasting networks (for example: the long distance transmission of television programmes by satellite for broadcasting in distant countries). All the above telecommunication services come into play at some stage in the mass media;

(b) Broadcasting c/ (sound or television). The most conventional medium currently in use is based on terrestrial transmitters, but two other very different techniques are bound to become very important: cable broadcasting (or distribution) and satellite broadcasting.

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c/ The term "broadcasting" hereinafter covers both sound and television broadcasting.

230. The above examples given for the various telecommunication services are not intended to constitute an exhaustive list. In fact, one of the particularities of telecommunications is their extremely rapid development characterized by the following main features, which are moreover interdependent:

(a) Extremely rapid technical progress (ranging from pure research to industrial manufacture);

(b) A lowering of costs;

(c) Increased consumption due not only to the two above factors, but also to a growing awareness of the importance of telecommunications for the economic and social development of nations.

231. There are currently 400 million telephones in the world and almost as many television receivers. These figures, impressive as they are, should not blind us to the fact that telecommunications are still very unevenly distributed throughout the world. Whether the figures correspond to the number of telephones taken as an indicator of the importance of point-to-point telecommunications or to the number of television receivers taken as a yardstick of broadcast telecommunications, more than 80 per cent of either medium is currently accounted for by a mere 10 countries. However, statistics also show a distinctly more rapid increase in telecommunication media in the developing countries.

232. The importance of these media was acknowledged well before our time, since as soon as the first major telegraph networks were set up (the importance of which had already been recognized as far as press communications were concerned) Governments set about erecting a suitable international framework for this first telecommunication development. It is significant that ITU (which at the time was called the International Telegraph Union) was set up in 1865 and thus constituted the first intergovernmental international organization of universal scope.

233. The basic ITU instrument currently in force is the International Telecommunication Convention (Málaga-Torremolinos, 1973), the purpose of which is:

(a) To maintain and extend international co-operation for the improvement and rational use of telecommunications of all kinds;

(b) To promote the development of technical facilities and their most efficient operation with a view to improving the efficiency of telecommunications services, increasing their usefulness and making them, as far as possible, generally available to the public;

(c) To harmonize the actions of nations in the attainment of those ends.

234. Since 1947, ITU has been recognized by the United Nations as the specialized agency responsible for taking such action as may be appropriate under its basic instrument for the accomplishment of the purposes set forth therein.



235. The Union currently comprises 154 member countries enjoying the rights and subject to the duties laid down in the Convention. The Regulations supplementing the Convention are binding on all members.

236. Some of the provisions in the Convention that have particular implications for those telecommunications used in the mass media are briefly outlined below.

237. Article 18 (The right of the public to use the international telecommunication service) stipulates that members recognize the right of the public to correspond by means of the international service of public correspondence. The services, the charges and the safeguards shall be the same for all users in each category of correspondence without any priority or preference.

238. Article 22 (Secrecy of Telecommunications) states that members agree to take all possible measures, compatible with the system of telecommunication used, with a view to ensuring the secrecy of international correspondence.

239. Article 33 (Rational Use of the Radio Frequency Spectrum and of the Geostationary Satellite Orbit) requests members to bear in mind that radio frequencies and the geostationary satellite orbit are limited natural resources, that they must be used efficiently and economically so that countries or groups of countries may have equitable access to both in conformity with the provisions of the Radio Regulations according to their needs and the technical facilities at their disposal.

240. Recommendation No. 1 (Unrestricted transmission of news) states that members of the Union should facilitate the unrestricted transmission of news by telecommunication services.

241. ITU activities with respect to telecommunications for use by the mass media are conducted through its "organs":

(a) The Administrative Conferences, which are governmental conferences that draw up legislative texts with force of treaty at the international level consisting of, as far as the scope of the present document is concerned, either provisions of the Radio Regulations or broadcasting plans.

(b) The General Secretariat which is, among other duties, responsible for ITU technical co-operation activities.

(c) The International Frequency Registration Board (IFRB) whose chief task is the systematic recording of frequency assignments for the various countries.

(d) The International Radio Consultative Committee (CCIR) and the International Telegraph and Telephone Consultative Committee (CCITT), which are ITU permanent organs. These committees are responsible for the drawing up of technical standards and for operating and tariff matters. Broadcasting is dealt with by the CCIR.

## 2. Development of telecommunication techniques

### Common carrier telecommunications

242. Nowadays it is considered perfectly natural to be able to call a correspondent at the other end of the world simply by dialling his number or pushing the appropriate buttons. It is often forgotten that it took more than a century of study and research to achieve that result. At this moment, thousands of research workers in pioneer scientific teams are working to develop even more sophisticated and efficient devices.

243. In order to make the outcome of this research "universal", specialists from national administrations, private agencies and scientific and industrial organizations meet within the various study groups of the International Telegraph and Telephone Consultative Committee (CCITT) of ITU to study and draw up international standards aimed at facilitating human communications.

244. The technical progress thus achieved in telecommunications, particularly over the past few years, has led to the development of communication media which neither the public nor those responsible for the dissemination of information would have thought possible in the past.

245. In addition to broadcasting the mass media make use of world-wide telecommunication systems handling land, satellite and cable radiocommunications on telegraph channels, data links or telephone channels.

246. The information transmitted over these networks may consist of news, photographs, data, speech or facsimile signals. Very often, computers are used for the automatic routing of the message.

247. One of the significant achievements of the last two decades has been the setting up of modern long-distance transmission systems such as submarine cables and satellite communication networks. The development of these transmission systems has paved the way for automatic switching in the telephone and telegraph services. The world telecommunication network is currently the largest integrated and continuously expanding system established by man. The harmonious development of the various national systems, which have become subsystems of the world network, calls for international studies and agreements not only in terms of manufacturing techniques but also in terms of operation and economics (tariffs, charges, profitability, etc.).

248. It is a difficult task to evaluate the quality of communication transmission, because it involves attempting to forecast the opinion of the user, which depends on physiological and psychological factors that are essentially variable. This is the objective of the transmission plan under study by the CCITT, whose basic aim is to guarantee that users, particularly telephone users, can exchange calls with an acceptable degree of clarity and convenience at a reasonable cost. Thorough studies have been carried out and further objective electrico-acoustic research is currently under way in order to ensure that subscriber sets receive speech

signals at a sufficient level. Moreover, limits have been fixed for delay, which is an important factor for communication by a geostationary satellite.

249. As far as the design of transmission systems is concerned, several CCITT and CCIR study groups have defined the standards essential to guarantee that systems remain compatible outside the boundaries of the country of origin. In addition, it has proved possible to reduce the actual cost of the main long-distance transmission arteries both by means of a combination of advances in basic techniques and by taking into account the vast future potential offered by optical fibres and waveguides as transmission media.

250. With respect to transmission over very long distances, the studies of the CCIs aimed at bringing the continents closer together have been crowned with success. The first trans-Atlantic submarine telephone cable was laid some 20 years ago (in 1956). This cable has a capacity of 50 conventional telephone channels; the latest cable laid, which increases the number of cables linking Europe and North America to six, can handle 4,000 telephone conversations simultaneously, while the latest generation of INTELSAT satellites provides 6,000 channels.

251. The use of this wide range of possibilities facilitates not only the task of public telecommunication services but also news transmission by various modern media, including world-wide television broadcasting and "live conferences".

252. The user who requests a call or sets it up himself by dial or push-button scarcely realizes the amazing number of operations and contacts that occur during the infinitesimal period of time that elapses before he is able to speak to his correspondent.

253. Agreements had to be reached and a world numbering plan drawn up before automatic operation (in telephony and telex) could be introduced on an international scale, under which every receiver was assigned a unique identity (the number in the case of the telephone).

254. With automatic telephony, the world network has become a giant computer complex which is undergoing a rapid transition from electromechanical to electronic technology. The recommendations and standards laid down by the CCITT in this respect are essential instruments for equipment manufacturers.

#### Radiocommunications (including broadcasting)

255. Long-distance communications remained practically impossible except for telegraphy until the discovery of an "amplifying" device to offset the power lost in a circuit.

256. In the initial stages, the only source of radio energy was the spark, which had a number of major disadvantages. The introduction of thermionic valves eliminated these drawbacks. Thereafter, it was possible to transmit not only telegraph signals, but also speech and music. In addition, the improvement of receivers and transmitters resulted in a considerable increase in the possibilities

for simultaneous radio transmissions. However, demand exceeded the number of channels available, and since the lower frequencies were already occupied, technology looked towards the higher frequencies.

257. Research quickly revealed that radiocommunication was feasible at frequencies very much higher than those hitherto contemplated. A new service, sound broadcasting, could therefore be introduced and it soon spread throughout the world to provide the public directly with news and entertainment programmes.

258. Towards the end of the 1920s it was found that emissions could be transmitted and cover very long distances, which opened up entirely new prospects for message transmission and intercontinental broadcasting.

259. The development of radar systems during the Second World War drew attention to frequencies considerably higher than those so far envisaged for radiocommunication purposes. The outcome was the emergence of multichannel systems capable of carrying thousands of telephone and television channels from one point to another.

260. In 1957, the successful launching of Sputnik I by the USSR opened up entirely new vistas in radiocommunications.

261. At a certain orbital altitude, a satellite can describe in 24 hours in the plane of the Equator a full circular orbit around the Earth while appearing immobile to an observer on the Earth's surface, thus being able to act as a repeater station between two points on the Earth's surface at a considerable distance from one another. This orbit is situated at an altitude of 36,800 kilometres above the surface of the Earth. Modern technology was immediately set the task of developing launchers capable of placing a satellite on that orbit. These satellites now operate as relays in intercontinental communications and it is already planned to use them for the direct broadcasting of television programmes for the general public.

#### Regulatory framework for technical development

262. The operation of systems as complex as telecommunications systems raises a considerable number of international problems. It would not be possible to operate the world-wide telephone network without harmonizing certain equipment characteristics, operating procedures, etc. Moreover, in the case of radiocommunications, account should also be taken of the well-known fact that radio waves know no frontiers. The ITU therefore prepared two sets of regulations, the Telegraph and Telephone Regulations and the Radio Regulations.

263. These Regulations are drawn up by the administrative conferences in which all ITU members may take part. The final acts of the conferences are signed and then ratified, whereupon they come into force as international treaties.

264. The Radio Regulations are of great importance for the mass media, since they include provisions on broadcasting, particularly the Table of Frequency Allocations giving the limits of the various bands allocated for broadcasting.

265. The Radio Regulations also contain a number of provisions aimed at ensuring proper operation free of interference. They also give a number of general directives on broadcasting programmes. Certain frequency ranges, for instance, are intended for national coverage, particularly in the case of satellite broadcasting in the 12 GHz band.

266. Broadcasting transmitters are usually installed under international planning arrangements (see paras. 270 and 271 below). Where there is no broadcasting plan, the Radio Regulations detail all the relevant procedures for notifying frequency assignments to a broadcasting station and for the co-ordination needed in certain cases.

#### The International Frequency Registration Board (IFRB)

267. The International Frequency Registration Board is responsible for implementing the Radio Regulations and for all the procedures concerning the assignment of frequencies to broadcasting stations. It consists of five independent members elected by the Plenipotentiary Conference. Its main duties are the following:

(a) To effect an orderly recording of frequency assignments made by the different countries so as to establish, in accordance with the procedure provided for in the Radio Regulations and in accordance with any decision which may be taken by competent conferences of the Union, the date, purpose and technical characteristics of each of these assignments, with a view to ensuring formal international recognition thereof;

(b) To effect, in the same conditions and for the same purpose, an orderly recording of the positions assigned by countries to geostationary satellites;

(c) To furnish advice to members with a view to the operation of the maximum practicable number of radio channels in those portions of the spectrum where harmful interference may occur, and with a view to the equitable, effective and economical use of the geostationary satellite orbit;

(d) To perform any additional duties concerned with the assignment and utilization of frequencies and with the utilization of the geostationary satellite orbit.

#### Planning

268. It is preferable, whenever possible, for frequency plans to be available either on a continental or on a national scale. This makes for a better utilization of the frequency bands allocated for broadcasting and ensures the higher-quality reception of a greater number of programmes in any given area.

269. The planning conferences based their work on the latest technical data available as provided by ITU International Consultative Committees. For some 20 years, computers have been used for the successive plan updating operations. The two overriding considerations at these planning conferences are: the optimum

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utilization of the radio frequency spectrum and the geostationary orbit, and observance of the equal rights of all countries irrespective of size.

270. We have just seen that the fascinating evolution in world telecommunications over these last years and their remarkable pace of development are bringing countries and continents closer together day by day. This achievement of telecommunications is the outcome of impeccable co-ordination between nations in the use of the various telecommunication systems.

271. The ITU and particularly its International Consultative Committees were set up to meet this need. In the beginning, studies were geared to technical standards for long-distance transmission and to operating and tariff matters. Technical progress has now brought within reach the interconnexion of the automatic networks of various countries, marking the beginning of international planning for telecommunication media and services.

272. The countries members of ITU, aware of the importance of co-ordination and the harmonious use of telecommunication media, have set up Plan Committees (the World Plan Committee and the Regional Plan Committees). Their role is, on the one hand, to establish an over-all international network development plan aimed at assisting administrations and recognized private operating agencies when reaching agreements with a view to the organization and improvement of international services between their respective countries; on the other hand, to examine in various parts of the world the technical, operating and tariff problems posed directly or indirectly by the implementation of the various stages of the plan, to list those matters of interest to the developing countries and to recommend studies to be undertaken by the appropriate CCI or in collaboration with both CCIs.

273. Important statistics and data on telecommunication development are circulated as a result of the work of these Committees, which have a predominant part to play in "development" and the "transfer of technology" within the CCIs.

### 3. Development of telecommunication services

274. The importance of telecommunications for the operation of the information network is such that there would be virtually no information transmission network without them. The information transmission network makes use of various telecommunication services, often the most sophisticated. Telegraphy was harnessed by the information services as soon as it was developed. However, telegraphy is a relatively slow method of communication in which the writing and the transmission of the text constitute two distinct operations. Nevertheless, in many countries, the telegraph service constitutes the most common medium of information transmission, particularly multi-channel telegraphy. Nevertheless, the telex service has acquired considerable importance. For both services, the CCITT has standardized a large number of terminal equipments and drawn up recommendations forming the basis for the International Telegraph Regulations. These standards and regulations are essential for interconnexion, operation and charging in these services at the international level.

275. Nowadays, information services increasingly resort to data transmission, which has had far-reaching repercussions on telecommunication media. The information services have found in data transmission, in computers and display screens media of unprecedented efficiency. The CCITT has also carried out studies on public data networks and international standards have been adopted with a view to expanding the data service.

276. As far as the telephone service is concerned, it is taken for granted that an efficient telephone service has become a sine qua non for any kind of business activity. Surveys have shown that even in the developed countries, companies with insufficient telephone lines are liable to lose a considerable number of orders. The telephone service has become a working instrument not only for management but also for information purposes.

277. The telephone service and its special facilities introduced on a national or international scale on the initiative of the CCITT, such as the "latest news", the weather forecast, rate of exchange, are complementary to the information services. Furthermore, special telephone circuits have been assigned to other services, such as phototelegraph transmission, etc.

#### Current evolution of services

278. Taking into account the work of the CCIs, telecommunication techniques have forged ahead and now provide solutions for a number of new and useful services, particularly in the field of the dissemination of information. Moreover, given the constant increase in the cost of energy, the time has now come to study means of supplying these services in such a way as to cut down on travel, thus reducing energy consumption.

279. Twenty-five years ago, telecommunications comprised telephony, telegraphy, telex, sound and television broadcasting. Since then, technical innovations such as the transistor, integrated circuits, large-scale integration and their applications in telecommunications, calculators and computer science have created many new needs and have been accompanied by many developments.

280. With cable television, the time is approaching when every individual will have access to wideband transmission in the home or work place. This implies a substantial increase in digital transmission for a variety of purposes, a considerable growth in traffic over the telephone network and mobile radio services and good prospects for cable television networks and other applications of wideband transmission.

281. In the past, the telephone and telegraph met initial requirements for spoken or written communication at a distance. At the present juncture, telecommunications are evolving towards a high-speed exchange of enormous volumes of information and still or moving pictures. Many networks will therefore have to be equipped for the extensive bandwidths required for this type of transmission. The CCIs of ITU are engaged in a wide range of studies aimed at solving these problems for the benefit of mankind.

282. Spectacular headway has also been made in the transmission of television and sound broadcasting programmes between transmitters within the same national network or between countries often situated at considerable distances from each other.

283. Thirty years ago, it was only possible for transmission to cover a few hundred kilometres with coaxial cables. The installation of radio relay systems then extended transmission to a continental scale. With the use of world-wide satellite system, it is now possible to transmit a sound or television programme from any point in the world to any national network, sometimes with the use of a transportable earth station. Here also progress is to be expected, for example with the use of new systems of encoding the signals conveying the programmes.

#### Broadcasting Service

284. For some 50 years, ITU has taken a special interest first in sound and then in both sound and television broadcasting through, inter alia, the International Radio Consultative Committee (CCIR).

285. As far as sound broadcasting is concerned, this Committee has studied the various technical problems involved and over the years has drawn up recommendations to facilitate broadcasting at the world level.

286. In all fields of radiocommunication, there has always been a trend towards using increasingly higher frequencies. This trend has made it possible to broadcast very high quality ("Hi-Fi") programmes and paved the way for many further uses of the radio frequency spectrum:

- stereophonic transmission, which enables the listener to receive not only the sound of the programme, but also a sense of the source of the sound in spatial terms. This new technique was developed thanks to the use of frequency modulation, which is much less vulnerable to interference and also allows the transmission of a wide enough band of frequencies to ensure faithful reproduction of orchestras and singers over a register hitherto inconceivable. In parallel with the development of stereophonic transmission, which is based on two transmission channels, experiments are under way with "quadriphonic transmission" in which the use of four sound channels gives the listener the illusion of being completely surrounded with sound.

287. In television broadcasting, CCIR has consistently played an active part in all technical developments since its very inception. For instance, CCIR examined the problem of the various television standards which began to proliferate from 1947 onwards. After numerous discussions, CCIR finally succeeded in standardizing two television systems, one system of 525 lines/frame and at 60 frames/second and another system of 625 lines/frame at 50 frames/second. The line and frame synchronization signals have also been standardized together with the levels of the signal corresponding to the black and white portions of the picture.



288. The introduction of colour television in the 1950s raised even more intractable standardization problems. It was not until 1966 that CCIR succeeded in standardizing three colour transmission systems. It was thereby possible to inhibit the evolution of colour television systems in such a way that the signals can be converted from one standard to another with relative ease.

289. In a number of countries, particularly developing countries, it is common to speak more than one language or even several dialects. It would therefore be very useful if the television picture could be associated with several sound channels, each in a different language. To solve this problem, CCIR has proposed the adoption of certain techniques which would allow the simultaneous transmission of several sound channels in different languages, through the use of a device fitted to the receiver to enable the viewer to choose the language in which he wishes to hear the sound channel associated with the picture.

290. Startling new prospects have also opened up for broadcasting organizations with the possibility of satellite broadcasts that can be received by the public. With such broadcasts, it would be feasible to cover an entire country or several countries with a single broadcast from a satellite.

291. In order to establish the regulations governing this service before it was brought into operation, the ITU convened a World Administrative Broadcasting-Satellite Conference in 1977. This Conference established the bases for frequency assignments and the orbital positions of geostationary satellites. However, there remain serious practical problems to be overcome in order to adapt the television receivers currently available for the reception of such broadcasts (inter alia, the antennae and frequency and modulation converters), although solutions are likely to be found in the near future.

292. An important aspect of broadcasting, which is particularly valuable for developing countries whose internal transmission networks are sometimes inadequate, is the possibility of international exchange of recorded programmes. The CCIR, in close collaboration with the International Electrotechnical Commission (IEC), has already adopted a series of standards for recordings on magnetic tape (both for television and sound) so that it is now easy to send recorded programmes either from one country to another or from one part of a country to another. The corresponding recorders are so advanced that it is now possible for a reporter, for instance, to use a portable camera combined with a portable magnetic tape recorder and thus to shoot colour films directly without passing through the intermediate stage of the cinefilm.

293. The ever-increasing use of television, which in some countries has now become a fixture of almost every home, has given rise to the notion of transmitting information other than for entertainment purposes. Conventional television broadcasts have thus been combined with broadcasts of an entirely different nature. Many viewers are interested in subjects such as: the news in written form, particularly the latest events; educational television programmes; the weather forecast, accompanied by over-all charts; sports results, e.g. football, etc.

294. There are already a series, for example, that are known as "Teletex", which enable the viewer, by pressing a button, to substitute one of the above special facilities for the normal television picture. Such a system would be of considerable value in developing countries where news or educational programmes could be broadcast in several languages.

295. Finally, mention should be made of an entirely new technique known as "digital" modulation (or pulse code modulation). This system obviates a number of problems which until now had created substantial difficulties. For example, with digital modulation it would be perfectly feasible to transmit colour television pictures without having to take account of the coding system used for the transmission of the colour information. In these conditions there is no difficulty in switching from one standard to another and the international transmission of colour television will be considerably simplified.

296. Prospects are therefore good for television, so that CCIR, which is at the centre of the international discussions of these problems, will be able when the time comes to take the appropriate steps to improve these communication media throughout the world.

#### The gathering and dissemination of news

297. The dissemination of news is largely the responsibility of news agencies which are, in principle, private organizations. These agencies use telecommunication networks known as "press networks". Most links are provided by telegraphy, either over leased circuits, particularly telegraph circuits, or over the international telex switching network. For picture transmission, the facsimile service is used (see paras. 244-249). Press users, most of whom benefit from reduced rates recommended by ITU, generally make use of the telegraph service.

298. ITU regional experts participate in the study and implementation of planned press networks, particularly in Africa and Asia. These press networks are distributed among the regional telecommunication networks, in the study of which ITU has taken an active part (see paras. 272-275).

#### Mobile services

299. The land, maritime and aeronautical mobile services provide for communication either between a station on land and a mobile station or between two mobile stations. Studies are in progress within both the International Consultative Committees of ITU, notably in order to develop communication facilities between ships at sea and aircraft by means of communication satellites. These modern media are used to back up the existing facilities in order to meet current information requirements and to safeguard human life and the environment. It is also interesting to note that radio is the only method of communication for the mobile services. Above all, the radiocommunication facilities supplied to mobile users are of the utmost importance for the safety of life and property.

300. The CCIR studies all the forms of communication of concern to the Maritime Mobile Service, for example, port communications, short- or long-distance communications, radionavigation, radiodetection, radio beacons, the facsimile transmission of weather charts and newspapers. These forms of communication are of considerable importance for developing countries, since they enable them to contact the fishing fleets in order to transmit the weather forecast, location of shoals, etc., and for the coast guard.

301. The safety of life at sea is, of course, the essential feature of this service. Among other types of communication, public correspondence plays a highly important part in the merchant navy. Links with the public telecommunication network (telex and telephony) through coast stations constitute the only method of communication for ships' crews.

302. A large part of the work of CCIR has been centred for a number of years on the application of space technology to maritime communications. The use of satellites makes it possible to establish reliable high-quality links over great distances.

303. Communications also have a vital part to play in terms of safety in the Aeronautical Mobile Service. Without radiocommunications, the development of civil aviation as we know it today could not have taken place. Public correspondence for passengers is still limited in application, although its potential usefulness is considerable. This service is also invaluable for developing countries, since it provides for communication between aircraft in flight and airports, thus ensuring the safety and efficiency of the aeronautical service.

304. The Land Mobile Service is the radiocommunication service which has undergone the greatest expansion over these past years. Given this rapid development, priority is given to work on the most economical utilization possible of the radio frequency spectrum. Further means will have to be found to economize on frequencies, particularly through the use of new modulation techniques.

4. ITU technical co-operation

(a) General

305. In the period 1965-1976, ITU provided developing countries with technical assistance evaluated at \$US 108,227,791, 60 per cent of it during the last four years. The bulk of this amount (\$93,432,560) came from the United Nations Development Programme (UNDP); the rest of the assistance was supplied on a funds-in-trust basis, through associate experts or through ITU participation in various assistance projects sponsored by the United Nations.

(b) Volume of ITU technical assistance (1965-1976)

306. The data given below illustrate the spectacular increase in technical assistance provided by ITU between 1965 and 1976:

- 1,099 experts provided 28,096 months of service. The annual number of missions accomplished increased from 160 to 500;
- 4,485 nationals of developing countries received fellowships to study abroad; 1,412 of these fellowships were awarded for short periods, to enable the recipients to attend ITU seminars or working groups on specific subjects;
- supplies costing \$21,848,900 were delivered for the implementation of various ITU projects;
- 20 projects were wholly or partly executed by subcontractors;
- under the various projects, over 130 countries received assistance through the intermediary of ITU. This includes 60 large-scale UNDP projects for which ITU was appointed as the executing agency.

307. The total expenditure for all kinds of projects breaks down as follows: 34 per cent for Africa, 22 per cent for America, 22 per cent for Asia and the Pacific, 20 per cent for Europe and the Middle East and 2 per cent for interregional projects.

308. The annual value of the assistance provided by ITU to the developing countries increased from \$3.36 million in 1965 to over \$20.2 million in 1976. This increase was not, however, uniform throughout the period under consideration.

(c) Assisted sectors - different categories of project

309. With regard to telecommunications, ITU has always tried to help the developing countries to consolidate the necessary infrastructure and to overcome the shortage of skilled personnel. This task has taken the form of projects falling into one or another of the three categories described below.

(i) Development of regional networks

310. Acting in conjunction with UNDP, the Governments concerned, the United Nations economic commissions, the regional and subregional telecommunication organizations, the World Bank and the regional banks, ITU has exerted considerable efforts to attain the objectives defined by ITU World Plan Committee and Regional Plan Committees. These joint endeavours are aimed at the concerted integration of the telecommunication networks in Africa, Asia and America. Special mention should be made of the preliminary work - the pre-investment surveys, the feasibility studies and the inquiries which have played such an important part in Africa and Asia and have certainly served, at least partly, as a basis for the establishment of the Pan-African Telecommunication Network and the Asian Telecommunity. A new and very important pre-investment survey is now being conducted for the Middle East and the Mediterranean Basin.

(1) Africa: the PANAFTEL Network

311. With the close co-operation of the African countries and within the framework of a project administered by ITU, teams consisting of engineers, economists, technical operating staff and workers in other branches of telecommunications have carried out a pre-investment survey which confirms the viability of the African regional network. These experts helped to draw up a detailed plan of the network, in accordance with regional specifications and, in many cases, participating in the supply and installation of equipment and in field studies. The Union also acts as adviser on telecommunication matters in a Co-ordinating Committee, the other members of which are the Organization of African Unity (OAU), the Economic Commission for Africa (ECA) and the African Development Bank (ADB); this Committee is responsible for supervising the installation of the network in stimulating (and in some cases also evaluating and carrying out negotiations for) the necessary investments. It will soon be possible for the first time to ensure the direct inter-connexion of more than 30 African countries, through a network of over 20,000 kilometres of transmission arteries and 18 international transit exchanges for routing and exchanging radio and television programmes and press messages.

- A preliminary ITU/URTNA study is in progress for the use of PANAFTEL as the medium for an AFROVISION network.
- ITU regional experts, in collaboration with the OAU and ECA, have also prepared a preliminary project for a Pan-African regional press network.

(2) Asia: Asian telecommunication network

312. In connexion with a UNDP/ITU project and in close collaboration with ESCAP, ITU experts have carried out a preliminary feasibility study in co-operation with experts from 12 countries covered by the study, representing 95 per cent of the population of the region. As soon as this preliminary study was completed, in 1972, a detailed study of transmission artery requirements (radio relays - submarine cables - land coaxial cables - ground installations, etc.) was undertaken with a view to introducing semi-automatic service by 1980 and full automation by

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1985. The network is in the process of installation; co-ordination is being effected by a team of ITU/ESCAP experts and experts from administrations divided into five subregions; although considerable progress has been achieved, a host of new and very complex problems requires intensified UNDP/ITU assistance in the field at the subregional level; there can be no doubt that this network will lead to a spectacular development of sound broadcasting and television on the regional scale; the same applies to the press sector, for the development of which ITU experts are working together with those of UNESCO.

(3) South Pacific

313. The ITU has undertaken a two-stage feasibility study of the installation of a regional telecommunication network for the South Pacific. The preparatory stage of one year was completed at the end of 1976. The detailed study began early in 1977 and should be completed by the end of 1978. This project is being conducted in close co-operation with SPEC (South Pacific Economic Co-operation Office).

314. Noteworthy progress has been made in these studies. For example, traffic requirements have been determined and basic traffic data have been brought up to date. Special assistance has been provided for the study of the establishment of a satellite network, including siting, calculation of costs, economic analysis, tariff questions and the preparation of technical specifications for earth stations.

(4) Mediterranean - Middle East

315. For the Mediterranean and the Middle East, a feasibility and preinvestment study is now being conducted by UNDP and ITU; a master plan has been drawn up for connexions between 27 countries. The study has shown that, for an international network with wideband transmission, investments of \$US 2,000 to 3,000 million will be required for the period up to 1990. This amount comprises the cost of an international terrestrial network and an international satellite network, providing telephone and telegraph services and relaying sound broadcasting and television programmes. It also includes the cost of a very interesting project, a specialized regional satellite service for the countries of the Arab League, which is expected to come into operation in the early 1980s.

316. It should be mentioned for information that this project, originally designed for broadcasting, could be economically justified only by integrating the total requirements of all the telecommunication services in the region. The international co-operation machinery needed for the management of this satellite system is now being studied. The regional satellite system will also make it possible to provide a community television service. It is estimated that an investment of \$US 500 million over the period 1980-1990 would meet the operational requirements of two satellites which would be brought into operation successively. It will be noted that telecommunications in the Arab countries are undergoing a spectacular development. Investment in national networks will of course be much greater.

(5) Latin America

317. A preliminary preinvestment study for Central America was conducted in 1962 with the co-operation of ITU, with the World Bank as the executing agency. At the same time, the COMTELCA (Regional Technical Committee for Telecommunications in Central America) was set up to carry out the study. A network linking all the five countries concerned between themselves and with North America via Mexico and with South America via Panama was completed in 1971.

318. For South America, an inter-American telecommunications commission (CITEL) was established in 1965 for the rapid installation of the inter-American telecommunication network (ITN). The ITU has participated in the detailed studies since 1966, under an agreement concluded with the Inter-American Development Bank. The operational plan was signed by the 14 countries concerned in 1969.

319. The frontier interconnexions have already been largely completed; regional interconnexions are being installed, in particular the Arica-La Paz artery linking Brazil and Chile by land via Bolivia.

320. Most of the countries of the region have been or are being supplied with earth stations for very long-distance links; the prospect of televised retransmission of the World Cup football championship in Argentina in June 1978 helped to speed up the work.

(ii) Improvement of technical services and telecommunication installations

321. In many developing countries which are extending and modernizing their telecommunication installations, ITU has been called upon to provide advice or operational assistance for the solution of planning, technical, administrative and organizational problems.

(iii) Development of human resources required for telecommunications

322. Nearly all ITU technical co-operation missions comprise a local staff training component, which may take the form of in-service training, advice on training methods, organization of training centres, or courses or lectures provided directly to the people concerned. Every year, more than half the ITU experts participate directly in vocational training in its various forms. Moreover, with the assistance given for the establishment of training centres in the developing countries, the organization of seminars, group training and fellowship awards, more than 60 per cent of the funds spent in the field are assigned to the development of the human resources required for telecommunications.

323. In this connexion, special emphasis should be laid on the particular role of ITU seminars, which have proved to be an extremely effective means of disseminating technical and vocational information, conveying know-how, introducing new techniques and services and imparting new technologies to the developing countries.

324. During the past four years, ITU has organized 16 seminars, attended by 1,052 participants from some 130 countries. These seminars are intended to meet the needs of the countries concerned and deal with subjects such as the following, which are closely related to development: planning of broadcasting systems, frequency management, rural telecommunications, transmission questions, switching techniques, charging and signalling, maritime radiocommunications, traffic engineering and network planning and satellite broadcasting.

325. But all this is only one aspect of the Union's activities: it takes a great many other measures to ensure that the developing countries have the qualified staff they need.

(d) Forms and areas of co-operation

326. In the early years, ITU technical co-operation consisted mainly of providing the recipient countries with assistance in the form of advice on the general development of telecommunications; this advice was often accompanied by the award of fellowships for senior staff. This co-operation has gradually changed, however, in the direction of the training of medium-level (technicians and engineers) and non-technical staff. Another consequence of the constantly growing demand for telecommunications in the developing countries is the need to draw up long-term master plans to improve telecommunication services at the national and regional levels; the preparation of these plans is preceded by preinvestment surveys and feasibility studies. Since funds are too short to allow capital investment in ITU/UNDP activities, the results of these studies and surveys serve as basic documents for countries wishing to obtain international financial assistance or loans.

327. The growing need for telecommunications has thus led to the emergence of new forms of assistance designed, on the basis of the preinvestment surveys, to facilitate the transfer of responsibilities and the mobilization of investments in the developing countries. The main types of assistance are the following: advisory assistance, operational assistance, establishment or expansion of professional and educational telecommunication centres, establishment of experimental and development centres, award of fellowships, organization of group training and seminars, feasibility and preinvestment studies and introduction of new services and techniques.

328. Although most requests for assistance relate to conventional areas (advice or training), there has been a gradual increase in the number of requests for assistance in very complex sectors, such as space communications, data transmission, monitoring of emissions, rural telecommunications and so forth.

(e) Specific ITU action for the development of the broadcasting sector

329. It has been explained that, during the second United Nations Development Decade, ITU focused its technical assistance efforts on the training of staff in all specialized branches, including broadcasting, and on the development of

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national and regional wideband telecommunication networks capable of carrying sound broadcasting and television programmes.

330. It should be emphasized, however, that it is only during the last three or four years that the requests for "specific" assistance in the "broadcasting" sector have begun to increase.

331. It should be mentioned in this connexion that for historical reasons ITU maintains direct relations only with the national public telecommunication administrations of member countries; this absence of direct relations with other services, particularly broadcasting, is a considerable handicap in identifying and expressing specific requirements at this sector level and in the co-ordination and integration of ITU assistance at the country level; this is particularly vital, since this sector is now embarking upon a phase of very heavy investment in both equipment and personnel. The ITU is the organization best suited to effect this co-ordination; such regional organizations as ABU, URTNA and ASBU are beginning to encourage their member agencies to co-operate more closely with the telecommunication administrations; at the same time, ITU and UNESCO are attempting to co-ordinate their activities in this sphere, particularly by engaging in joint technical assistance projects; on the other hand, certain projects originally designed for public telecommunication administrations are evolving successfully towards a degree of versatility, whether they relate to preinvestment studies, maintenance or vocational training.

332. The technical assistance provided by ITU under the auspices of UNDP generally covers the following areas:

(a) Feasibility of preinvestment study, choice of sites, routing of arteries, dimensioning, etc.;

(b) Planning the development of broadcasting infrastructure, co-ordination with other sectors;

(c) Preparation of technical specifications - evaluation of tenders;

(d) Study of radio/TV coverage - planning of frequency requirements;

(e) Development and equipping of studios and production;

(f) Organization of services for operation and maintenance of equipment;

(g) Vocational training in technical sectors: engineering - planning - installation - operation - maintenance - frequency management - monitoring of emissions, etc.

Some examples

Asia and Pacific region:

INDIA

333. Several specialized agencies of the United Nations have participated in the Indian project SITE (Satellite Instructional Television Experiment). The ITU has been directly involved in space technology in India since 1965 and UNESCO indirectly since 1971. These two international organizations, together with UNDP, which was responsible for financing, management and administrative assistance, made substantial contributions to the SITE project, particularly by providing equipment and experts' services.

334. An experimental earth station, ESCES (Experimental Satellite Communication Earth Station), was installed at Ahmedabad under the ITU/UNDP project entitled "Research and training centre for the use of satellite communications", between December 1965 and the end of 1968. This centre took part in practical tests and research relating to satellite telecommunication technology and trained Indian and foreign engineers, scientists and technicians in the technology of space telecommunication systems and in the design, construction and operation of earth stations and associated equipment.

335. One of the main positive consequences of the project was the formation of a team of engineers, scientists and technicians who had acquired enough experience and self-confidence to undertake even more extensive tasks. This was proved in 1971, when a group of engineers from ESCES successfully established the first Indian commercial earth station at Arvi, not far from Poona.

336. Since November 1967, ESCES has been operating an international training programme in satellite telecommunication technology. Since then nearly a hundred foreign fellowship-holders from 31 different countries have taken three-month courses, which were originally assisted by ITU and UNDP, but have been administered exclusively by the Indian Government since 1968. Since the ultimate aim of all UNDP-assisted projects is to transfer the management responsibility to the host government as quickly and efficiently as possible, the initial ESCES project may be said to have been highly successful.

337. In 1971 the Indian Government launched the second phase of the ESCES project, again with the co-operation of ITU and UNDP. This time the objective was to help the Indian Government to extend the ESCES installations at the Ahmedabad Space Centre and to provide it with assistance in related areas, so as to equip it for participation in the SITE project as the main station. The ESCES project is connected with the UNESCO/UNDP project for the establishment of a Centre for production and training in technical television operation in Poona.

338. In order to be able to communicate with the ATS-6 satellite under the SITE project, the earth station had to be equipped for wideband FM television transmission and reception. The necessary adaptations were carried out between

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1971 and 1975 under the ITU/UNDP project. They entailed the specification and planning of electronic circuits for the various earth station subsystems, the selection and procurement of components, the design of prototype subsystems, testing and evaluation of the installations and finally their integration in the earth station ready for operation. Unlike the preceding project for which the operational equipment was provided by a foreign supplier, the design and construction of the subsystem of the earth station during the second phase were of Indian origin, with the result that India now has its own capacity for designing and constructing very elaborate microwave subsystems as well as earth station subsystems. Certain items, such as klystron power amplifiers and varactor diodes, naturally still have to be imported, but the bulk of the equipment is of Indian manufacture. Moreover, the equipment developed for satellite telecommunication stations is also useful for associated telecommunication systems, such as microwave radio relays and tropospheric scatter links.

339. Another important feature of the second phase of the project was the fitting out of a television studio to meet the requirements of the SITE project. The Ahmedabad studio, supplied by ITU and conceived as part of the UNESCO project, was deliberately designed to provide experience with low-cost video band techniques and uses relatively cheap chains of Plumbicon cameras. Since India already had studios equipped to operate with film, the amount of this type of equipment was reduced in order to give producers greater opportunities for acquiring experience in the techniques peculiar to live and video tape recorded television. Instantaneous reproduction and on-the-spot assembly enable the producer to collate his programmes more easily and more effectively than by film. Moreover, in India the cost of an inch-wide video band is about half that of a 16 mm film per hour of production; the tape can be erased and used again; and its quality is much higher.

340. In addition to its activities connected with the programming of the SITE project by the staff of All India Radio and the Space Centre, the Ahmedabad studio has been used as the source of most of the SITE programmes designed for transmission to the satellite through ESCES. These programmes, mainly produced by All India Radio on video tape at the base production centres of Cuttack, Hyderabad and Delhi, were sent to the Ahmedabad studio for reproduction via the satellite.

341. The ITU and UNDP also supplied a low-power television transmitter which was installed in the town of Pij, near Nadiad (Gujarat State). This transmitter, operated by All India Radio, is used together with satellite emissions for the qualitative appraisal of the concept of "limited retransmission".

342. The special converter used for village receivers to convert the satellite signals into a form suitable for a television screen was developed by the Electronic Systems Division of the Ahmedabad Space Centre. The ITU and UNDP took part in this work by providing the services of experts on questions of environment and reliability.

343. Under the ITU/UNDP project, a number of Indian students were awarded fellowships for courses in foreign countries on such subjects as: earth station subsystems, studio equipment and techniques, design and operation of television transmitters and processing of television signals.

344. ITU activities under the SITE project provide an excellent example of the kind of technical development that can be achieved in broadcasting in a developing country with adequate manpower and material resources. The ITU/UNDP project provided, in expert services and equipment, the basic elements which could not have been obtained otherwise but which were the key to the success of the project.

345. BANGLADESH: UNESCO - ITU project: this is a large-scale project conducted jointly by ITU and UNESCO with a view to restoring and developing broadcasting and television services for "rural development"; the project is based on the training of all categories of personnel (technical - technical-artistic - programme - network operation and maintenance).

346. The project is due to last more than three years and a half and the UNDP contribution is about \$2.2 million. The project is in the process of execution.

#### SEMINARS

1970 - Malaysia: Technical aspects of broadcasting

1973 - Indonesia: Preparations for the regional administrative broadcasting conference

1974 - (Kuwait): Planning of broadcasting systems

1976 - Japan: Satellite broadcasting in the 12 GHz band.

#### Africa region

347. SAHEL: Study of desirable contributions for the rehabilitation of eight Sahelian countries.

348. "LDC" COUNTRIES: Special study for the English-language countries of West Africa on the share of broadcasting in integrated projects for rural areas.

349. CONGO - UPPER VOLTA - MAURITANIA - CENTRAL AFRICAN EMPIRE: Planning of frequency requirements for LF/MF coverage.

350. Regional project for the whole continent on the organization of frequency management and emission monitoring services.

351. Preliminary study on personnel requirements in the Radio/TV sector; this study, conducted by ITU at the request of URTMA, has not yet been completed; it is mainly concerned with the establishment of regional vocational training centres.

SEMINARS

- 1969 - Dakar: Improvement of broadcasting and television in Africa
- 1971 - Lagos: Planning of broadcasting systems in Africa
- 1973 - Nairobi: Preparations for the regional administrative LF/MF broadcasting conference for Regions 1 and 3
- 1976 - Khartoum: Satellite broadcasting in the 12 GHz band.

Europe - Middle East

352. BULGARIA: Development and research centre. One of the purposes of this project is to prepare the technical specifications and broad outlines of a system for the monitoring and automatic supervision of national Radio and TV and to form a national team for planning the Radio and TV coverage of the country.

353. SAUDI ARABIA AND KUWAIT: In the two training centres established in these countries, a Broadcasting/TV section trains the necessary technical staff for the installation and maintenance of transmission equipment, broadcasting and studios.

354. GULF STATES: Study on propagation for television: to avoid interference between countries, ITU and ASBU will shortly undertake a study on propagation and will submit proposals for a new frequency plan for the Gulf States.

355. ARAB REGIONAL TELECOMMUNICATION INSTITUTE: This is a large-scale project designed for the training and retraining of personnel for new technologies. Thirteen special branches are provided for, two of them for Radio and TV, including studio techniques and other general subjects such as frequency management, monitoring of emissions and general management.

SEMINARS

- 1975 - Khartoum: Ground wave propagation and measuring techniques
- 1976 - Khartoum: Preparations for the World Satellite Broadcasting Conference for the 12 GHz band. The seminar was financed jointly by ABEDA and FADES and was organized by ITU for the Arab and African countries.

Latin America region

PROJECT RLA/74/028

356. Since Region 2 needs a regional plan for the broadcasting service, ITU, in collaboration with the administrations of the countries of the region, carried out under Project RLA/74/028, financed by UNDP, the preliminary work of preparing ground conductivity maps of the participating countries.

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357. A regional technical meeting was held at Lima from 13 to 24 October 1975 to determine the standards to be observed by countries during measurement campaigns, on the basis of a careful study of existing standards and of the measuring equipment parameters.

358. The total cost of the project, including the seminar, was \$220,000.

PROJECT RLA/71/223

359. Project RLA/71/223: a study of the viability of a regional tele-education system for the South American countries was conducted from 1971 to 1974. The total cost was \$127,300 and the participants were one co-ordinator for a total of 43 months and three experts covering the land network, satellite and radiocommunication sectors.

360. EUROSPACE also participated in the project by preparing a technical and economic study on television receivers capable of receiving emissions from satellites (satellite broadcasting receivers).

C. Other organizations of the United Nations system

361. Within the United Nations itself mention should first be made of the United Nations Development Programme, which has provided resources for numerous projects aiming at the development of communication systems. Since the implementation of these projects is entrusted to the specialized agencies concerned, the scope of activities carried out through UNDP financing has already been reviewed in the preceding sections. In addition, since the late 1960s UNDP has itself operated a special service to provide assistance to member States for the specific purpose of mobilizing communication support to development projects. Similarly the United Nations Fund for Population Activities has been active in the communication field, again in large part working through the executing agencies.

362. The Department of Economic and Social Affairs is concerned with the application and use of mass communication techniques, notably through its Office for Science and Technology and its Centre for Social Development and Humanitarian Affairs. The Economic and Social Council in its report on the World Plan of Action for the application of Science and Technology to Development has underlined the need to take into account the social science elements and to establish a better flow of information towards developing countries. In its resolution 1899 (LVII) of 1 August 1974, entitled "Mobilization of public opinion in relation to the World Plan of Action for the Application of Science and Technology to Development and the regional plans", the Council urged Governments and the organizations concerned within the United Nations system to effect a wide response to the World Plan of Action by conducting intensive campaigns through appropriate mass media. The Centre for Social Development and Humanitarian Affairs is particularly interested in the role of popular organizations as a means of mass communication in development. It has observed in many countries that a major vehicle for communication between national leaders and the people is the medium of the mass organization, whether this is expressed as political parties, labour unions, co-operative federations, systems of community development societies, or ad hoc popular assemblies; furthermore mass organizations as a communication channel have the advantages that a message originated at the national centre can be diffused quickly through stages and at each stage, and it provides for rapid feed-back.

363. The Committee on the Peaceful Uses of Outer Space was established to provide a specialized forum for consideration of political and legal issues, while at the same time furnishing the focal point for international co-operation in the peaceful uses of outer space. Its co-ordination activities concern all related programmes within the United Nations Secretariat, the specialized United Nations agencies, as well as other governmental and non-governmental organizations. In the scientific and technical fields, the Committee works for the exchange of information and encouragement of international programmes, especially with regard to space applications. Of particular interest for communication is its Working Group on Direct Broadcast Satellites, established by the General Assembly in 1968. The Outer Space Affairs Division of the Secretariat provides the administrative services for COPUOS and its various bodies.

364. The regional economic commissions have, to varying degrees, been concerned with the development of communication facilities. As has already been noted, the Economic Commission for Africa (ECA), the Economic Commission for Asia and the Pacific (ESCAP) and the Economic Commission for Latin America (ECLA) have co-operated with the International Telecommunication Union in the design of telecommunication networks. ECA has recently become involved in the use of radio and print media as delivery systems for its integrated rural development programmes, has co-sponsored seminars on the potential of satellite broadcasting for education and development, and is planning the co-production of television and documentary films focusing on critical areas of development at both the regional and national levels.

365. The mass communication activities of the Food and Agriculture Organization of the United Nations (FAO) form part of its efforts to involve the rural masses, particularly the poorest and most deprived sectors (small farmers and landless labourers) into the mainstream of development. In addition to the well-known factors which negatively affect the possibilities of these sectors to become more productive such as illiteracy, unemployment, lack of skills and training, there is also a lack of motivation and sense of participation in socio-economic-cultural life. FAO is aware of these problems and has over the past years developed programmes aimed at agriculture/rural information and communication. In 1971, FAO established its Development Support Communication Branch, which deals exclusively with development communication and which includes these activities: communication training, especially in the area of rural broadcasting; providing specialists to assist its member countries in such areas as radio and tape utilization, production of instructional filmstrips and slide sets as training aids for rural development; and local, rural TV for rural reform.

366. An FAO-assisted project in Afghanistan, originally limited to rural broadcasting, has now obtained interesting preliminary results with technical programmes recorded on cassette tapes and given to extension workers for use in the field; because of the flexibility of this system, it appears to have possibilities even greater for training.

367. Of the more technologically complex audio-visual media, video tape recording has potential for the same reason. In Peru, FAO is using video-recording and closed-circuit TV to train semi-literate farmers in agricultural techniques. Early results indicate that videotape has great potential for supplementing the often insufficient skills of extension workers in many countries with technically sound and didactically appropriate training materials.

368. Projects involving the use of local rural TV have also been launched by FAO. For example, in the Sudan, use is made of the Sudan Rural TV, in the Gezira Province, in backstopping the Sudan Gezira Board extension service. Viewers' clubs are established where farmers watch and then discuss - under the guidance of a monitor - rural programmes especially directed to them. A summary of their discussions, viewers' questions and requests for further information, are fed-back to programmers who will then build them into following programmes. The ultimate purpose of this project is to elicit farmers' participation in development programmes and to expose and train them in applying new practices and improvements on their farms.



369. Film-strips and slide-sets as training aids for rural development, and especially among illiterates, have long been recognized as one of the cheapest and most effective media. FAO has been pioneering special film-strip production techniques in order to facilitate assimilation of visual messages by grass root level audiences. Each film-strip or slide-set is also accompanied by an illustrated written commentary which can be kept by the extension agent or farmer as a future reference. Film-strip production in recent years has been carried out for a large number of Governments in Africa, the Middle East and in Latin America. In addition, a number of training film-strips of a regional nature has been produced.

370. FAO also provides assistance by helping extension services of several countries to produce audio-visual and mass media material and by training nationals in the production of such media. In addition, workshops for training in rural communication are organized at both national and subregional levels; and FAO continues its co-operation with national and international communication training organizations.

371. The International Freedom from Hunger Campaign was launched on 1 January 1960, with an important communication component. Originally scheduled to run for five years, the Campaign was later prolonged for an indefinite period. Under the leadership of FAO and with the co-operation of the United Nations system, Governments, governmental, non-governmental, and professional organizations, the Campaign seeks to create a universal awareness - through whatever communication and information means are best available - of the problems of hunger and malnutrition, and to give impetus to the ongoing fight against them. National committees are active in over 100 countries, furthering the activities of this Campaign.

372. The United Nation Children's Fund (UNICEF) has, with other agencies of the United Nations system, long recognized the importance of communication in supporting and enhancing its work. Assistance, frequently in co-operation with other agencies, such as UNESCO and FAO, has been given to communication projects which directly or indirectly improve the welfare of children. Film, radio, television, video and low-cost audio-visual media have all been used, individually or in combinations to educate and inform children, their teachers and their parents. UNICEF-sponsored specialists in project-support communication have been deployed in each of the world's developing regions to work with national media organizations, with community groups and individuals whose programmes or activities are directly related to UNICEF's mandate. Equipment and expert assistance has been frequently provided to national radio and television organizations for training and production of educational programmes for teacher-training and schools.

373. Certain education projects funded by the International Bank for Reconstruction and Development (World Bank) have made use of mass communications techniques. A number of countries have become interested in using educational technology, particularly radio, for increasing efficiency and improving quality in education. Two such projects are in an advanced stage of preparation at the Bank. One of these is a three-year pilot project for developing the use of communications technology for education in the Philippines. Its main purpose is to develop and

evaluate the cost-effectiveness of two alternative ways of using radio for improving quality in elementary education, concentrating radio programmes on teacher training or broadcasting directly to students. In addition, the project aims at exploring the use of radio for rural education, and at continuing the examinations of the technical options for production, interconnexion, transmission and reception, should the Government of the Philippines decide on a major expansion of its use of communication technology for education. The project cost is estimated at \$3.5 million, of which \$1.5 million would be the foreign exchange component.

374. The second project is for nutrition education in Colombia. Its purpose is to support, develop, produce, pre-test and disseminate messages to improve nutritional habits. A network of 127 stations will reach rural families even in remote villages and provide coverage of urban population as well.

375. The Bank is also preparing a revision of its Education Sector Working Paper, which will refer more clearly to the use of mass communications in education. Drawing on the first lessons of experience in this field, the Bank published in late 1977 "Radio for Education and Development: case Studies", a staff paper of two volumes. The cases discussed are taken from a score of countries; technical and economic considerations conclude the paper. Both volumes have been widely distributed.

376. Another sector of Bank activity relevant to mass communication is, of course, telecommunication. In 1977, the Bank made two loans for telecommunications for a total of \$140 million, compared with \$84.6 million in 1970. One loan provided \$60 million to Colombia for a project designed to meet a sizable demand for telecommunications services, particularly in small towns and rural areas. The project includes installation of microwave and multiplex equipment and the expansion of existing facilities concerning a total of 170,000 users. The other loan, in an amount of \$80 million, was made to India to support a project that will alleviate congestion in intercity and long-distance telephone network, improve telex services and bring telephone service to 220,000 new subscribers.

377. Besides the projects in which mass communications have a pre-eminent or exclusive role, there are other Bank activities relevant to General Assembly resolution 11/139. The Bank's "new style" projects typically aim to reach large groups of people, in some cases all the inhabitants of a region. This necessarily involves mass communications. Population projects make provision for large and small scale information programmes. Urban and rural development projects, to be effective, must extend technical assistance and training to a great number of persons. Lending for the three sectors amounted to \$2.4 billion in fiscal year 1977, compared to \$414 million in 1970. In all these projects, the mass communications components are inextricably interwoven with other components, and it is not feasible to separate out their costs and benefits. Nevertheless, account should be taken of their considerable effect in transfer of knowledge, in involvement and participation.

378. The International Labour Organisation works with the world's labour force

involved in communication technology and organizations; for example, the ILO handles the labour aspects of printing and has followed the social and economic problems of journalists for a considerable time. It also has a small unit for labour information, which has produced for film and television, while the various ILO offices around the world provide local national and regional communication organizations with ILO information. Also, managers of ILO-executed co-operative and technical projects, especially in the fields of management development and vocational training, use appropriate mass communication channels to convey to the people of the country and/or region involved information and ideas about the labour problems they are working on.

379. Although the World Health Organization is constitutionally not in a position to assist or co-operate with its member States in the development of their mass communication systems, its Division of Public Information has constantly endeavoured to provide mass media, particularly in developing countries, with printed and audiovisual material intended for social progress and development especially in the field of public health. In addition to its sophisticated electronic day-to-day information service on important international diseases, WHO's TV work, like that of most of the United Nations system, falls into two categories: (a) producing films for TV, to be used worldwide by TV networks and others, and (b) encouraging co-operation with TV organizations and networks in the production of programmes concerned with WHO's work. These are typically used for public information and training, at all levels.

380. This has all been recently strengthened in WHO's Sixth General Programme of Work, covering the specific period 1978-1983, which advocates "the promotion of health education and information of the public with particular emphasis on the responsibility of the individual and active community involvement". The target could be the systematic introduction in all WHO's programmes, at all relevant levels, of a health education and information component for the general public and the active involvement of the population.

381. The emphasis of the Universal Postal Union has always been on the co-operation and improvement of the postal services among and between countries. It is thus directly involved in many ways on the international and regional flow of information.

#### D. Other intergovernmental organizations

382. As with the organizations of the United Nations system, so among the considerable number of other intergovernmental organizations are to be found those that are more particularly concerned with communication and those which, in pursuing more general aims, have programmes which touch upon communication development or use in one way or another.

383. Among the first are the various regional and subregional telecommunication organizations. In the section devoted to the work of the ITU mention has already

been made of the Inter-American Telecommunication Commission (CITEL) and of the Central American Telecommunication Commission (COMTELCA). The Arab Telecommunications Union was created in 1956 to promote co-operation in the organization and improvement of telecommunications among its member States, to seek reduction of tariffs for the benefit of Arab people, to promote co-operation in the fields of academic and applied research related to telecommunications, to encourage the installation, development and improvement of telecommunication equipment and networks in the new and developing Arab States, and to co-ordinate the views of member administrations in meetings of international and regional organizations.

384. The Arab States Broadcasting Union was formed officially on 9 February 1969, within the framework of the Arab League. Its particular objectives are: to promote the spirit of Arab fraternity and develop joint Arab trends; to draw up a concerted plan to be followed by the Arab States Broadcasting programmes; to acquaint the peoples of the world with the Arab nations, their potentialities, aspirations and causes; to develop, co-ordinate and study all issues related to broadcasting; to organize the use of radio frequencies in the Arab World and to uphold the Arab countries requirements at international organizations. ASBU has played an active role in promoting news exchange, in the planning and preparation of an Arab Space Communication network, and in the establishment of training facilities for broadcasters.

385. The Asia-Pacific Institute for Broadcasting Development (AIBD) has been actively engaged in the upgrading and training of broadcasters from countries within the ESCAP region and member organizations of the Asia-Pacific Broadcasting Union (ABU) since late 1972, although it was formally established as a regional intergovernmental organization in August 1977. Its activities have included:

- (a) Organization of Training Courses/Seminars/Workshops on a regional, sub-regional and in-country basis;
- (b) Preparation of training materials and kits;
- (c) Provision of consultancy services;
- (d) Production of experimental and prototype programmes;
- (e) Development of regional expertise in broadcasting training.

386. These activities have accounted for 866 and 554 trained personnel at the regional and in-country levels, respectively, in such fields as rural and agricultural development broadcasting, educational broadcasting, commercial broadcasting, management of broadcasting resources, training methodology, audience research and utilization, newer and emergent technologies in broadcasting, population communication, communication planning, applications of broadcasting for national development, use of film in television, etc. In the area of training materials, the Institute, in collaboration with other organizations in related fields, has published a series of manuals and handbooks in specialized broadcasting fields.

387. In the second category are the various regional and subregional groupings of States such as the Organization of American States and its Inter-American Council of Education, Science and Culture, which has provided support to journalism training and has promoted the use of mass media as part of its programme in the field of educational technology. The Organization of African Unity has frequently concerned itself with communication; it has set up an Inter-Governmental Council for Information in Africa which is charged, among other things, with the establishment of a Pan African News Agency. The Arab League Education, Culture and Science Organization has done work in the field of mass communication as an instrument for the dissemination of education and scientific awareness, and has studied the cultural and social effects of the media. It has recently set up a Department of Information and Communication Media which will focus on the development of the media in the Arab States and the raising of professional standards of media personnel. The Council of Europe's recent work in mass communication has been mainly in three sectors: human rights, legal affairs and cultural co-operation. Specific examples would include its work on press concentrations, its European Convention on Human Rights (1950), and a draft Convention relating to foreign correspondents. In 1976 its Committee of Ministers established a Committee on Mass Media, and its Council for Cultural Co-operation includes in its regular programme a series of activities under the heading "Culture and the Media".

388. Among the subregional organizations, mention may be made of the Association of South East Asian Nations, which has permanent committees on Transportation and Communication and on Culture and Information. It has worked on the improvement of telecommunication networks in the region and has promoted the exchange of radio and television programmes, films and visual aids. The Organisation commune africaine et mauricienne has worked to promote film production and distribution in its member countries.

389. There are also inter-regional organizations, such as the Agence de Co-operation culturelle et technique which has laid particular emphasis on the use of communication techniques in education, communication in rural development, and the development of mass media and the training of media personnel. The Commonwealth Fund for Technical Co-operation has made regular contributions to the training of media professionals, particularly in radio and television through courses mounted by the Commonwealth Broadcasting Association. Since 1976, the CFTC has also provided grants to the Asia-Pacific Institute for Broadcasting Development both for AIBD training staff and for training courses held in the Pacific and in the regional centre in Kuala Lumpur.

390. Finally, special mention must be made of the work of the group of Non-Aligned Countries in the field of communication. The question was first raised at the fourth Conference of Heads of State or Government of the Non-aligned countries in Algiers in September 1973, when the participating countries expressed the need to set up a common plan of action in matters concerning mass communication and the flow of news. In 1975 the foreign ministers of the non-aligned countries, meeting at Lima, approved the creation of a Press Agencies Pool. In July 1976, a meeting of

ministers of information of the non-aligned countries at New Delhi approved the statutes of the Press Agencies Pool, proposed the constitution of an Intergovernmental Co-ordination Council of the Non-Aligned Countries on Information and the Mass Media, and adopted a programme of action to strengthen mutual co-operation and to reinforce the communication systems of the non-aligned countries. These decisions were ratified by the Fifth Conference of Heads of State or Government of the Non-Aligned Countries, held at Colombo in August 1976. Since that date, a number of meetings have been held, of the Inter-Governmental Co-ordination Council, of the Co-ordination Committee of the Press Agencies Pool, of the Committee of Co-operation of the Broadcasting Organizations of the Non-Aligned Countries, and of International Telecommunications Experts, which in their various fields have taken decisions on action programmes to increase mutual co-operation in the strengthening of communication media.

E. International non-governmental organizations

391. This century has been marked by the development of international and regional professional organizations, of which there are now over three thousand. Several are concerned with the broad field of mass communication from one aspect or another. Their structure and composition vary considerably, some being founded on institutional membership, others on individual membership, others again being federations of organizations which are themselves international. Some are fully international, some are regional, some reflect political or denominational links. There are organizations concerned with broadcasting, such as the regional broadcasting unions, with the press including associations both of publishers and of journalists, and with the cinema among which are to be found many specialized groups concerned with art films, scientific films, films archives and many others. Some organizations, stemming originally from concern with a specific medium, have expanded their sphere of activity to embrace the field of communication in general.

392. The following notes attempt to do no more than give a sample of these many organizations which, established for the defence and promotion of their common interests, play an important role in the development of communication media throughout the world.

393. The International Radio and Television Organization is inter-regional, having members in several continents. Its purpose is to promote international co-operation through the exchange of technical information and projects for broadcasting development. It ensures the exchange of television programmes through the Intervision programme.

394. Among the regional broadcasting unions may be cited the following (it should be noted that while pursuing essentially the same objectives, the Arab States Broadcasting Union was established as an intergovernmental rather than non-governmental, organization and has therefore been mentioned in the preceding section).

395. The Union of National Radio and Television Organization of Africa is organized, in the first place, for the standardization of broadcasting materials used by its members, the better diffusion of broadcasting programmes, and to facilitate the exchange of programmes among its members and non-members. With the improvement technically in Panaftel and the introduction of satellites in the 1980s, URTNA is working towards an even better exchange of information and programmes to all parts of Africa, and outside the continent. URTNA has been particularly concerned with the advancement of the professional training of broadcasting personnel among its member organizations.

396. The Asian Broadcasting Union is similarly concerned with the development of broadcasting in the Asia-Pacific region. It maintains a technical centre, has organized seminars on news exchange and children's programmes, and has co-operated closely with UNESCO in developing professional training facilities. In this regard it assisted in the establishment of the Asia-Pacific Institute for Broadcasting Development and contributes to its operating budget.

397. The activities of the European Broadcasting Union extend well beyond the European region, since it has members or associate members in 75 countries. Among its purposes is the promotion and co-ordination of studies on all matters concerning broadcasting and the exchange of information of interest to its members. Since 1962 it has organized seminars for the further training of producers of educational television broadcasts. Its television news exchange system extends beyond the European region, either by agreement with its associate members or through arrangement with other regional unions.

398. The Inter-American Association of Broadcasters is concerned with furthering its members interests in private, mostly commercial, broadcasting. Among the more important AIR actions and documents pertinent to this report are the following. In 1967, the IXth General Assembly of AIR, in Buenos Aires, adopted the bases of uniform legislation for American broadcasting. These bases have had an important influence on the broadcasting legislations of many of the American nations. At its Xth General Assembly, in Miami, 1971, it approved the bases of Policies on Education for Private Broadcasting in the Americas. In 1972, AIR organized at Rio de Janeiro, the Second World Conference of Broadcasting Unions. The same year AIR organized, also in Rio de Janeiro, the First International Seminar of Comparative Broadcasting Legislation. In 1975, AIR created its Special Commission of Cultural Action. In October 1976, on the occasion of its thirteenth anniversary, its Extraordinary General Assembly that year, in Suaruja, San Pablo, Brazil, was centered on the theme, "The role of Broadcasting in education and culture".

399. The Caribbean Broadcasting Union's members are the broadcasting organizations of the Commonwealth Caribbean countries. It provides assistance in the fields of training, technical development and management, and produces programmes of regional interest for use by its members.

400. Other organizations concerned with broadcasting include the Commonwealth Broadcasting Association, which aims at the improvement of broadcasting in its member organizations and the promotion of public service broadcasting as an instrument of economic, social and cultural development; the Ibero-American Television Organization whose purpose is to develop co-operation among television organizations in the Spanish and Portuguese-speaking countries; and the International Catholic Association for Radio and Television, which has organized training programmes, particularly in the developing countries and has promoted media education in schools. In the educational field, the Latin-American Association of Radiophonic Education provides service to affiliated radio schools in Latin America, oriented to the development of popular culture through literacy teaching and human development. It provides training for radio school staff through fellowships, training courses and workshops.

401. In the field of the printed press, the International Press Institute was born from a call for an international institute of press and information which came in the first instance not from the press, but from a technical subcommission of UNESCO, in 1947, which was concerned with the postwar restoration of the media's role in the flow of cultural ideas and information worldwide. Aiming for world membership, the proposed institute was to operate in a professional, rather than



a political climate, and it was to be independent of governments. The IPI was formally established in May 1951. Affirming the belief that sound information was the basis for understanding among peoples, which was itself the best safeguard for world peace, the IPI preamble to its Constitution concludes that "fundamental step" towards that goal is "understanding between journalists", the objectives of the IPI are therefore:

(a) The furtherance and safeguarding of freedom of the press, by which is meant: free access to the news, free transmission of news, free publication of newspapers, free expression of views;

(b) The achievement of understanding among journalists and so among peoples;

(c) The promotion of the free exchange of accurate and balanced news among nations;

(d) The improvement of the practices of journalism.

402. It has been actively concerned with journalistic education and ethics. For example, since the early 1960s, the IPI has sponsored a continuing series of seminars and training courses in Africa and in Asia.

403. The International Federation of Newspaper Publishers is made up of national newspaper organizations; it aims at safeguarding the ethical and economic interests of newspapers and promoting conditions favourable to the development of press activities. It has worked to assist the development of the press through training and technical studies, particularly in Asia and Africa.

404. The Commonwealth Press Union aims to promote the welfare and efficiency of Commonwealth newspapers, to seek improved facilities for the transmission of news, and to promote the training of journalists.

405. The Press Foundation of Asia has also conducted training programmes for journalists, and has helped to set up national press institutes in the countries of the region.

406. The primary goal of the Inter American Press Association is the defense and promotion of a free press. In pursuance of its main goal, IAPA has initiated other activities that exert contributing influences: a scholarship programme for young journalists and journalism students; and a technical assistance programme; it organizes seminars and issues a number of publications.

407. The International Organization of Journalists' activities towards the improvement of mass communications, especially in the developing countries, include the following. It has conducted courses and studies, along with organizing centres of information. It has helped to develop the Institutes of Journalism training in Budapest, Berlin and Bucharest where several hundred journalists from developing countries have received training. It organizes international colloquia

on relevant issues. It has helped countries, for example, Viet Nam, to rebuild their communication systems.

408. The International Federation of Journalists has initiated many activities contributing to the improvement of mass communications. For example, it has organized a number of seminars in Africa since 1964, which have been specially oriented towards the training of journalists.

409. The International Film and Television Council provides information and undertakes various activities of international interest concerned with the audiovisual media and communication. It works principally through its members, be they regional broadcasting unions, organizations of film producers and distributors, or organizations concerned with specialized types of film. Each of its sectors addresses itself to the progress and over-all development of film, television and the other audiovisual media of communication.

410. The International Catholic Film Organization has long been involved in all areas of film development. Among its studies have been such questions as "the true and just liberty of information", "the right to information", and "new means to communicate", while its activities have included film development, especially in Latin America and Africa, participation in Film Festivals and co-operation at many levels.

411. The World Association for Christian Communication is deeply involved in developmental activities, such as the promotion of a just society and bringing into question oppressive and iniquitous economic, social and political structures. In pursuit of these goals, WAAC has enabled the construction and operation of studios and printing presses in some 50 countries (entirely in the developing countries); financed the purchase of air-time and the publication and printing of books and periodicals; set up an institute for training communicators in the African continent; and organized and financed training workshops, scholarships and seminars in the third world. In carrying out these functions, the WACC has been constantly mindful of the need for small and more appropriate technology for the developing countries. Its headquarters staff function largely in a supportive and consultancy role to the operations supported by WACC in the developing countries.

412. In general terms, the subject area of the application of mass communications for social progress and development continues to be a major priority area in the programme of activities of the International Institute of Communication. Among the specific IIC activities which are directly focussed on communications and development, the following are of particular relevance:

Continuous monitoring, reporting and discussion. In its publications, particularly its bi-monthly magazine INTERMEDIA, special attention is paid to theoretical, policy and practical aspects of the use of communications for development.

Special seminars and other meetings. It has, in co-operation with concerned national institutions, organized seminars on information and communication for development, with particular reference to African, Asian and Caribbean countries. These continue to be followed by seminars and meetings on more specific aspects such as "communication, development and the environment", "planning in preparation for the World Administrative Radio Conference 1979", and "rural communications".

A number of study and research projects. For example, a series of case studies on national broadcasting systems; studies on national situations and patterns of international and bilateral co-operation among Francophone countries and among countries which are members of the Union latine; a major project on the international and regional flows of television programmes, materials, equipment and training.

Co-operation and consultancy. The IIC co-operates with international, regional and national institutions in the area of communications and development, by participating in and contributing to meetings, seminars and conferences, undertaking joint studies and publications and by providing, on request, consultancy and advice.

413. The Asian Mass Communication Research and Information Centre has as its main aim to act as a clearing house of information on mass communication in Asia; it has also paid particular attention to problems of professional training and has organized several seminars and refresher courses aiming at the development of the media in the region.

414. Finally, though not strictly speaking established in the form of international organizations, there are a number of centres and institutes which in fact play a regional or international role. One example is the East-West Communication Institute which is one of the problem-oriented institutes of the East-West Centre, adjacent to the University of Hawaii. While the Centre's organizational charter stipulates that its primary focus is on problems and projects of mutual consequence to nations of Asia, Oceania and the United States of America, its interests do extend beyond these geographic bounds, and the Centre does a great deal of work with colleagues in other regions of the world, including accepting fellows and interns from these other areas.

415. The Institute will be completing work in 1978 documenting the flow of news patterns among the island nations of the South Pacific as well as a comparison of television news in nations of Asia and the United States of America. It sponsors a programme for professional enrichment of mid-career journalists, and is engaged in field research to trace longitudinal effects of the introduction of new media technologies into societies. The Institute is conducting research to study several aspects of the role of broadcast media in socialization processes, and it is planning new work in the general field of the impact of broadcast media content on the educational process. It is advancing on a series of case studies of policy and planning related to communication at both the national and

institutional levels, and is considering future work on the question of transnational communication enterprises. The Institute also intends to implement by the end of 1978 a series of core seminars designed for faculty development in the specific areas of communication theory, research, policy and planning.

#### IV. CONCLUSION

416. As the preceding chapters of this report have shown, considerable progress has been achieved over the past fifteen years in the development of communication systems. This has been due, on the one hand, to an exponential growth in communication technology: on the other to an increasing knowledge of the way in which communication functions in societies and between nations.

417. The report has attempted to give a picture, though far from complete, of the multiplicity of organizations and programmes - governmental and non-governmental, regional and worldwide - which are today contributing to the application and improvement of mass communication for social progress and development.

418. Although much has been achieved there are still great gaps, imbalances and distortions in the development and use of communication systems. It must first of all be recognized that there is no model of a perfect system. Communication is an organic process, constantly evolving in capacity, content, style and purpose: catalysing change on the one hand, lagging on the other. In some societies there is at least academic concern about "information overload": too many communication systems and media competing for the attention of audiences. In others, communication extends no further than the range of the human voice.

419. At a national level, the greatest advances have been in radio. Thanks to the transistor, every nation can at least conceive of a system whereby the entire population is able to hear at least one or more national transmitters. This is not to say that it will be achieved tomorrow or in the next decade. Many countries still do not have adequate transmission facilities and many more are unable to assure the economic environment in which everyone can own a receiver. Likewise, literacy is still a basic impediment to the growth of communication and to the press which depends upon and supports it.

420. These are problems reaching well beyond the context of communication alone. Communication technology, despite its rapid development, is still costly, complex, difficult to operate and even more difficult to maintain. The education of engineers and technicians becomes more specialized with each technological stride. Although 60 nations are making or are ready to make transistors, fewer than 6 can produce the electronic chips which will make conventional transistors as outdated as the vacuum tube.

421. Disparities in the world's communication resources, or anomalies in needs and capacities, will not be resolved by international legislation alone or even by consensus. What has become clear in a growing body of academic work in this

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field, and in the international work of UNESCO, ITU and related organizations, is that movement toward a more equitable and efficient use of communication must begin by defining realistic goals and planning for their achievement. The media in themselves are not a panacea for anything. Education can be inhibited by television as much as it can be helped. Without credibility the press is a waste of newsprint. A film unit is not an asset without an efficient system of distribution. Existing and potential resources must be examined in the light of communication needs and objectives, and the basis of these are clear and well-defined policies.

422. Given a policy, the use and development of resources can be planned. Whether this planning is centralized or decentralized, based on one political philosophy or another, does not invalidate the process itself. The more meagre the resources, the less the potential for expansion, the greater the need for care and thoroughness in planning.

423. For some years to come, many countries will need external financial and technical assistance to develop their communication infrastructures and skills. Articulated policies and effective planning can do much to attract and make optimum use of this assistance and to forge the links between national planning agencies, telecommunication authorities and media administrations which are essential to coherent communication development.

424. For their part, UNESCO and ITU have strengthened their own co-operation to help bring together national organizations concerned with communication. They have collaborated on integrated communication planning surveys, and in 1978 the two organizations jointly sponsored a seminar organized by the Asia-Pacific Institute for Broadcasting Development for broadcasting engineers of the region, in preparation for the World Administrative Radio Conference which ITU will convene in 1979.

425. It is now generally accepted that development should be needs-oriented, self-reliant and based on endogenous technological capacity. Until comparatively recently, concern over the transfer of technology from the developed to the developing world was primarily related to the economic and technical aspects of transfer. More recently, interest has been shown in a wider perspective, considering not only the instruments and techniques of technology, but also its supporting infrastructures and its social and educational setting. This has the potential to affect fundamentally both the form and the direction of the development process, as well as having a direct influence on individual and community perceptions and attitudes.

426. The role of communication has been interpreted hitherto mainly in terms of messages, designed to achieve specific goals and objectives of development, such as innovations in education, social and economic areas, etc. But precise definitions have not been sought for the role of other forms of communication which are present in everyday life, or for the means by which their messages are currently produced, disseminated and perceived. Nor has it been shown that a

direct causal relationship exists between one message and its effects, without taking account of the other messages which together constitute the larger process.

427. In practical terms there are some development tasks in which the mass media can be of more direct help than in others. In countries where people have had the most experience in using the media for development there is less talk of "media" than of "campaigns" or "systems".

428. This is because it is now better recognized that the great struggles of development are continuing ones, and the results come less from the impact of single messages or single media than from a succession of related and reinforcing messages and channels.

429. Thus, those involved in development campaigns now find themselves thinking of and preparing more for communication information and communication systems, rather than media. The key question is what combination of messages and channels, in what order and time, will be of most help in assisting to bring about the changes and evolution that appear necessary.

430. Development is a total process which involves government, administrators, public and private enterprises, the nation as a whole, the local community, the individual, as well as regional and international groupings. Such total involvement is impossible without a continuous flow of communication between all levels of authority and knowledge, throughout the entire fabric of society.

431. The use of communication to assist schemes of social progress and development is becoming steadily more explicit and more systematically researched. There is a new interest in using both traditional and electronic media to create awareness, to deliver information, to provide support for both large-scale campaigns and strategies and specific projects in such areas as individual and cultural identity, health, education, etc.

432. All this calls for the creation of multi-level means of communication, from people to people, people to communicators and people to government, leaving them free to discuss a variety of issues, especially those that concern themselves and their communities most intimately.

433. The processes of social progress and development, in any society, require mass participation. Mass participation basically implies three things: (1) adequate knowledge by the members of a society of the policies, plans and priorities of their Government; (2) motivation on the part of the population towards development goals; and (3) appropriate actions on the part of the population so that development goals may be achieved. These goals cannot be achieved without some medium to convey the message, and just as importantly, to provide the means for ongoing dialogue.

434. The role of communication in social progress and development has therefore been a subject of growing theoretical speculation and practical experimentation. Yet the precise role of communication in most countries has still been only vaguely defined and understood; the links are very tenuous between communicators and development agents at all levels; trained communicators, researchers, etc., are in short supply in many countries of the world; resources, technology and communication know-how are equally in short supply.

435. This report has been primarily concerned with the contribution of communication to development: it has dealt mainly with societies where the development process is itself an imperative, which determines forms of social and political organization. The arguments advanced above, in support of coherent policies for communication, and for the creation of media infrastructures which help advance these policies, are not dependent upon a particular form of media organization or ownership: indeed, throughout the world, in both industrialized and developing countries, communication pluralism is the norm, and the nature of ownership and control of media industries is both varied and diffuse. This is an historical fact; the problem of the communication sector is tenuous. What is needed, for communication to be applied successfully to the development process, is a viable mechanism for policy formulation and planning: a means whereby communication users (especially the development ministries and agencies) can articulate their needs, so that the media organizations and industries can meet their requirements, and telecommunications infrastructures can provide the necessary support. Such a process is mainly a matter of sensitization, and of commitment to developing themes.

436. Our attitude to the relationship between communication and the development process is therefore undergoing constant revision and change. Progress will inevitably depend upon new analyses and studies, new tests and experiments. But no matter what the future opportunities, challenges and difficulties may be, the basic issues for the mass media remain the same: what is the substance of the communication; who has access to it; and what is its proper role and task? The contribution of communication to the development process mirrors the relevance of the questions asked.

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