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An exploration of the role of the telephone in Third World development.

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AN EXPLORATION OF THE ROLE OF THE TELEPHONE IN THIRD WORLD DEVELOPMENT

A thesis submitted to the Faculty of Graduate Studies and Research through the Department of Communication Studies in Partial Fulfilment of the requirements for the Degree of Master of Arts at the University of Windsor

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DEDICATION

This work is dedicated to my parents.

ABSTRACT

This thesis explores the role of the telephone in Third World development. Beginning with an investigation of the role of the telephone in First World development, three communication paradigms for national development are examined with an emphasis on the communication systems that each paradigm recommends. Major findings about the relationship between the telephone and development within the Third World context are reviewed and analyzed, as well as those policies for selecting and adopting electronic media in developing countries.

The thesis argues that the particular electronic media structure which evolved in the First World related to the economic evolution in theses societies and that different stages of social and economic development need different media. The three development paradigms were based on some unsupported assumptions and they postulated that a strong relationship exists between media and national development without examining the nature of each medium. Research findings suggest that the telephone is an indispensible tool in Third World economic development. Yet, ignoring the use of telephone for development has been a Third World phenomenon.

A critical analysis of electronic media development in China shows that economic development is not the major concern of its communication policy-makers. The Chinese government has consciously chosen the most suitable media for the purpose of propaganda or other considerations. This also appears to be the case in most other Third World nations.

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INTRODUCTION

Justification for the Thesis

The use of such expressions as "the Third World" or "the developing countries" has been causing controversies. People have argued about what constitutes "development" and found no standard answer for the question. Although the word has remained a topic of debate, it seems clear that everyone agrees that it indicates that basic needs are insufficiently met. Food, clean water, shelter, education, and medical care are all luxury items to the two-thirds of the world's population in the greater part of the continents of Asia, Africa and Latin America, which have been labelled as developing countries (Hedebro, 1982).

Although scholars from different fields or disciplines have been doing research and developing theories or paradigms to try to help the Third World improve its situation, many students in communications have thought that they are in a special position to assist in Third World development because they believe that modern communication tools are at the heart of the development process.

Since the 1950s, international communication scholars have contributed at least three major communication paradigms for Third World development. The first major paradigm, the modernization paradigm, was characterized by optimism. This paradigm emanated

from the United States in the 1950s and the 1960s and was regarded as a First World perspective. Since the early 1970s, the modernization paradigm has been criticized, in whole or in part, by many researchers (Servaes, 1986:130). However, the paradigm's characteristic of one-way electronic communications has never been seriously examined in terms of the history of the media development in the First World. The word "modernization" in the paradigm was conceived of "very much the same as westernization, that is, the underdeveloped nations should follow and copy western models (Servaes, 1986:129). The fact is that it is not clear whether the paradigm itself was developed from and based upon the western "stages" mode.

The second paradigm is the dependency paradigm. The paradigm focus upon a predominantly international level of analysis and argues that the domination of most of the Third World by the new imperialist powers occurs through a combination of power components, that is military, economic, political, cultural, and so on (Servaes, 1983:13). What the dependency paradigm has exposed is the exploitative imbalance between the neo-imperialists and the Third World. The paradigm is not fundamentally against one-way communication or information flow. Most Third World countries support the demand for an expansion of the free and balanced flow between and among countries, but not within the boundaries of their individual nations (Servaes, 1985:4).

The grass-roots development paradigm is the most recent one. Partly in response to the dependency paradigm's over-emphasis on international relationships or macro-structures, the grass-roots paradigm focuses upon the complex relationships among the classes within developing nations. Communication in the grass-roots paradigm is centred around a two-way, maximum feedback model with the promotion of ideas from the bottom up (Collins, 1988). However, the "two-way, maximum feedback model" does not refer to any fundamental change in the structure of one-way oriented electronic communication media which exist in many Third World countries. The grass-roots paradigm is more interested in interpersonal communication, for example, oral tradition.

From the modernization paradigm to the recent grass-roots paradigm, the main theme has been how to use media to promote Third World development. However, it seems that none of the paradigms are based upon a clear understanding of the role of the electronic media in First World development. No consideration has been given to the historical development or evolution of the electronic media in the First World as far as national development is concerned.

Today's electronic media structure in the First World is complex indeed. A telecommunication system may include telephone, radio, television, computer and cable. The development of two-way and one-way oriented electronic media are related to the needs of different stages of social and economic development. In other

words, there is a significant order in which these electronic media emerged. For instance, broadcasting was deferred for half a century while two-way networks for conversation (telephone) grew with remarkable speed in the United States (Pool, 1977:66).

It is necessary to point out that all three communication paradigms for development did not pay any attention to the order of the evolution of the electronic media in the First World. Although the telephone has been an indispensable communication medium for First World development, the paradigms, from the optimism of the modernization paradigm of the 1950s to the criticism of the dependency paradigm of 1970s and the communalism of the grass-roots paradigm of the 1980s and beyond, have excluded consideration of the telephone without any meaningful explanation. How important is the telephone to Third World development? Are there reasonable grounds for international communication scholars, who developed the paradigms, to ignore telephone as a mean of development? These questions lead us to the purpose of this thesis.

Purpose

If the telephone has been an indispensable communication means to support First World development since the stage of urbanization, then an examination of why and how such a communication means has been ignored by all the paradigms would be an important

clarification to the field of communication for development. Obviously, before we do any in-depth examination of the paradigms, it is necessary to determine the nature and the function of the telephone as well as broadcasting media in terms of these media's role in First World development.

The examinations of the three communication paradigms for development would naturally result in exploring the telephone's role in Third World countries. The exploration leads to the major purpose of this thesis: to assess the importance of the telephone in national development in the Third World.

Some Explanations about the Research Topics in this Thesis

It is logical to think that when Third World countries come to the West for telecommunication technologies, it is always important to examine what and how the technologies have done in respect to First World development. Thus, in this study, it is necessary to ask what are the roles of the telephone as an agent for social and economic progress in First World development, in a historical context, in order to determine the importance of the telephone in Third World development.

The justification for examining these paradigms, which purport to analyze communications for development, is that each paradigm is a set of concepts, built into theories, which become so

established within a particular discipline that they become accepted as accurate reflections of reality, and can be taken for granted by the researchers who employ them (Kuhn, 1970). In other words, paradigms represent patterns of thought or basic assumptions about a discipline which the majority of its practitioners come to accept.

In examining the three paradigms, some important questions should be asked and answered, such as:

* What are the main concerns of the scholars who designed the paradigms for Third World countries?
* What are the theoretical bases for the paradigms?
* What are the electronic media structures that the paradigms have recommended?
* What are the grounds for the paradigms to include or exclude certain electronic media for development?

In order to answer these questions, especially the last two questions, it is necessary to define the nature or feature of each electronic medium. For instance, some basic features of broadcasting media are: "to convey knowledge of a specific kind, to sell products, to distribute political propaganda" (Hedebro, 1982:3).

Since the late 1970s, several studies regarding the role of telecommunication in the Third World which have been carried out reached a similar conclusion: "The only factor that clearly showed

a direct influence on economic growth was telecommunication" (Stevenson, 1986:483). Clearly, it is necessary to review and analyze these studies to assess the importance of the telephone in the Third World.

Third World nations have their own standards in regard to selecting and adopting electronic media. Although telecommunications have direct influence on economic growth, that focus may not be the first choice of Third World governments. In fact, the telephone has been ignored by almost every developing country (Stevenson, 1988). Therefore, the question of why Third World nations have ignored the telephone as a tool for development should be answered and policies for selecting and adopting telecommunication technologies should be examined. To do the examination, China will be selected as an example.

Definitions of Terms Used

TELECOMMUNICATION

The term, telecommunication, has been used in different contexts with different meanings. A more precise and accurate definition is that telecommunication means any transmission, emission or reception of signs, signals, writing, images, sounds of intelligence of any nature by wire, radio visual or other electromagnetic system (Bird, 1988:556). In this thesis, for the convenience of discussion, telecommunication mainly refers to the

telephone as well as other two-way oriented electronic media.

HORIZONTAL COMMUNICATION

Horizontal communication was often cited to support the new regional news exchange mechanisms (Stevenson, 1988:106). In this thesis, it refers to people-to-people communication independent of the one way structure of mass media or government control. The mechanisms for horizontal communication are mail, telegrams and telephones.

VERTICAL COMMUNICATION

Vertical communication means one-way, top-to-bottom communication. The electronic media in a vertical communication system are radio and television as well as other one-way oriented mass media.

Research Method

The methodology for this thesis will be a combination of historical and critical approaches. The historical approach is important because the role of the telephone can be usefully examined as a medium in the context of different stages of development in the First World. The relationship between the electronic media and the stages may appear like this:

1. Urbanization....Telephone
2. Industrialization....Telephone + Radio

3. Post-Industrialization....Telephone + Radio + Television

The determination of the historical role of the telephone in First World development is developed from a review of the literature. To outline and review the historical development of the telephone in the First World, the electronic media structure is explored and the relationships between the telephone and other media will be analyzed in historical context. The main reference for the definition of the stages of First World development are Rostow's **The Stages of Economic Growth** and Riesman's **The Lonely Crowd**. Some schclars suggest that these two books are also the theoretical basis for the modernization paradigm which was mainly devised by American scholars (Servaes, 1983:7). Therefore, it is convenient to use the United States as an example to reveal the role of the telephone for development and to examine the media structures recommended by the communication paradigms for Third World development.

In examining the communication paradigms for development, a critical approach is appropriate to analyze the communication system that the paradigms recommend. This critical approach is also employed in reviewing and analyzing the literature concerning the role of the telephone in Third World development, as well as those policies used in selecting and adopting electronic media in Third World nations.

Organization of This Thesis

This thesis will be organized into five basic parts: An introduction, a first chapter discussing the historical role of the telephone in First World development, a second chapter discussing the communication systems that each paradigm recommends, a third chapter discussing the role of the telephone in Third World development, a fourth chapter analyzing the policy for selecting and adopting electronic media in developing countries, and a concluding chapter which summarizes the materials discussed in determining the role of the telephone in national development in the Third World. Within each chapter the works of the major contributors to the field will be examined in accordance with their specific approach to the evaluation of the electronic media for development. Particular emphasis will be placed upon the contributor's recognition of the telephone as an agent for social and economic progress.

CHAPTER 1

THE ROLE OF THE TELEPHONE IN FIRST WORLD DEVELOPMENT

Industrial Urbanization and the Telephone in the United States

According to Rostow, there are five stages of economic growth, namely, the traditional society, the preconditions for take-off, the take-off, the drive to maturity, and the age of high mass-consumption. The stage of the take-off refers to the interval when the old blocks and resistances to steady growth are finally overcome: Growth becomes society's normal condition (1960). While in an ear of "limits to growth" the concept of unlimited growth is suspect, Rostow's economic paradigm still serves our purposes here.

The take-off requires the existence and the successful activity of some group in the society which is prepared to accept innovations (Rostow, 1960:50). Rostow further argues that: "The introduction of the railroad has been historically the most powerful single initiator of take-offs. It was decisive in the United States, France, Germany, Canada, and Russia" (1960:5). And an American researcher, H. S. Dordick, observed that "Telephony and transportation evolved in most nations almost in parallel" (1983:32). Meier observes that the growing railway system in the nineteenth century needed to send large numbers of rapid messages in order to control operations. The technical groundwork was laid

then for the telephone systems that came into being about a half century later (1962:13).

The stage of take-off in the United States not only laid the technical groundwork but also created all kinds of necessary conditions for the telephone systems to emerge. One of the major characteristics of the take-off stage is its emphasis upon production rather than consumption. During the take-off, new industries expand rapidly, yielding profits of which a large proportion is reinvested in new plants; and these new industries, in turn, stimulate, through their rapid expansion, the requirement for factory workers, the services to support them, and for other manufactured goods. This leads to a further expansion in urban areas and in other modern industrial plants (Rostow, 1960:8)

The whole process of expansion in the modern industries was related to large scale urbanization and production. Industrial urbanization led to rapid growth, increased productivity and advances in economic and civic technology (Mckelvey, 1973:90). This led to the stage of the drive to maturity and suggested the need for the facilitation of communication, i.e., the telephone.

The stage of the drive to maturity is also a production oriented stage. In the United States, the take-off was completed by 1873 and the rough symbolic date for technological maturity is

1900 (Rostow, 1960:59,61). According to Rostow, the definition of the drive to maturity is that:

> Some sixty years after take-off begins (say, forty years after the end of take-off) what may be called maturity is generally attained. The economy, focused during the take-off around a relatively narrow complex of industry and technology, has extended its range into more refined and technologically often more complex processes; for example, there may be a shift in focus from the coal, iron, and heavy engineering industries of the railway phase to machine tools, chemicals, and electrical equipment (1960:9).

The "more refined and often more complex process" needs more complex organization and communication systems. The more complex organization and communication system was developed following the further urbanization in the stage of the drive to maturity. The urbanizing process in America in the 1800s was accompanied by accepting and adopting innovations, especially the inventions of technologies. The technological and organizational inventions contributed to the promoting and changing patterns of the cities' economy (Mckelvey, 1973:61).

Meier observes that "Cities were evolved primarily for the facilitation of human communication". An urban environment is required because a growing organization with an even more rapidly expanding circle of clients is posited (Meier, 1960:74). The process of agglomeration of commercial and professional activities towards a common location led to the growth of the downtown of

American cities. According to Pool, the telephone played a very important role in the process of creating the commercial downtown.

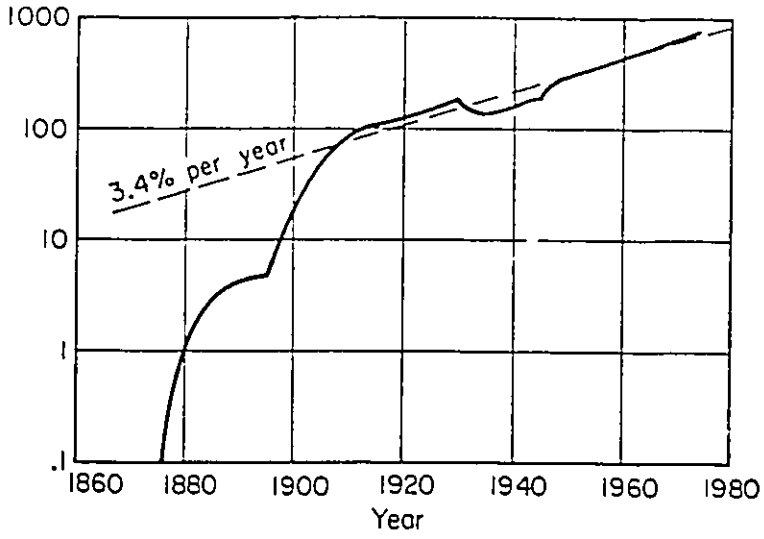
The telephone made it possible for the separation of plant and office. At the turn of the century the downtown of American cities changed from loft areas and manufacturing centres to concentrations of white collar workers in office buildings. In other words, the telephone enabled the company president to locate himself at the place where most of his most critical communication took place (Pool, 1983:41-43). With the help of the telephone, businesses could move to cheaper quarters and still keep in touch. Thus, the growth of skyscrapers was accelerated. "It should be recognized that lofty, dense skylines exist as much owing to the telephone as to the elevators" (Gottmann, 1977:309). Thus, it becomes understandable why the telephone has enjoyed the favour, especially among the cities since the middle 1870s.

> The 1880s and 90s were a time of expansion and consolidation. By March, 1880, there were 138 exchanges in the USA, with 30,000 subscribers, and by 1877 there were almost 750 exchanges, with 150,000 subscribers and as many miles of cable (Rutter, 1987:1-2).

Figure 1 indicates the number of telephone per 100,000 people against time in the United States. We can see that the average rate of growth of telephone increases rapidly from the year of its invention to the 1990s.

Figure 1

Telephones per 100,000 Population



Source: Pierce, J. (1977). "The Telephone and Society in the Past 100 Years", in I. Pool (ed.), **The Social Impact of the Telephone**, The MIT Press. P. 161

It was said that "The telephone was so important to business, commerce, and industry then that the fortunes of any Bell agency depended on proximity to concerns that could use the new media" (Aronson, 1977:30).

Of course, the telephone alone cannot create the city, its rhythm, its excitement. Large cities have functioned long before the telephone (Gottmann, 1977:312). Nevertheless, the telephone has made the modern cities greatly differ from the ancient metropolis such as Babylon, Jerusalem, Rome, and Constantinople.

The telephone has helped make the city better, bigger, more efficient, more exciting (Gottmann, 1977:312). More importantly the better, bigger, more efficient, more exciting cities in the United States helped make the "shift in focus from the coal, iron, and heavy engineering industries of the railway phase to machine-tools, chemicals, and electrical equipment possible. In short, in the organization of industrial and manufacturing activities, the telephone's uses were very important (Aronson,1977:28).

The cities of the United States in the 1800s were also characterized as merchant cities: "They served as commercial centres, but in a dynamic sense, for their merchants were promoters as well as traders, interested in the marketing of their products and in the development of new regional potentialities" (Mckelvey,1973:39). To transmission of information, exchange of money, or exchange of goods and services, the telephone's uses seemed unlimited. Thus, we can understand that in its first decades, the telephone tended to be the monopoly of businessmen (Aronson, 1977:27).

Aronson suggested that this started the trend toward a telephone in every American home because the rapid inroads of the telephone into the industrial and commercial worlds reduced the cost of service and many new independent telephone companies entered the telephone industry when Bell patents expired in 1894. This trend toward a telephone in every American home was a prelude

to the new stage: the age of mass consumption.

There is more than enough evidence to demonstrate the superior role of cities as generators of early and rapid industrialization (Chiu, 1980:90). We know that the telephone became indispensable to the industrial urbanization and commerce in the stage of the drive to maturity. As far as "the trend toward a telephone in every American home" is concerned, a pertinent question is: What made all Americans feel that they were ready for or needed the telephone?

The trend toward a telephone in every American home in the later 1800s is not accidental. According to Riesman, by the end of the last century, the individuals in American society had finished the transition from a tradition-directed person to an inner-directed person and begun to change to an other-directed person (1956: 26-38). The telephone as a two-way communication means has been a very important part of this social transformation from inner-direction to other-direction.

The tradition-direction oriented society refers to a relatively unchanging one. The conformity of the individual tends to be dictated, to a very large degree, by power relations among the various age and sex groups, the clans, castes, professions and similar relations which have endured for centuries and are modified but slightly, if at all, by successive generations (Riesman,

1965:26). Riesman and others further argued that "the individual in a society dependent on tradition-direction has a well-defined functional relationship to other members of the group" (1956:40). Because the range of choice, even for high-status people, is minimal, the apparent social need for an individuated type of character is also minimal (Riesman,1956:27). Very limited choice and the "well-defined functional relationship to other members of the group" suggest the minimal need for information or communication in any extensive way. In western history the middle ages can be considered a period in which the majority were tradition-directed (Riesman, 1956:27).

When a society has been transformed from the tradition-direction into inner-direction, it seems that the people have a wide choice of aims that are ideologically interrelated (such as money, possessions, power, knowledge, fame, goodness), and the selection made by any one individual remains relatively unaltered throughout his life. Although the inner-directed person is still considerably bound by traditions, he becomes capable of maintaining a delicate balance between the demands made upon him by his life goal and buffeting due to his external environment (Riesman, 1956:32).

One of the very important characteristics of an "inner-direction" oriented society is the decline of the extended kinship family (the type of tradition-directed family that may include

uncles, cousins, and other relatives) and in many cases, the inner-directed child "will choose a chum on the basis of an interest in similar games and hobbies -- hobbies that tend to be highly idiosyncratic and that are often continued into adult life" (Riesman, 1956:86-89). Riesman also observes that the fate of many inner-directed children is loneliness in and outside the home (1956:90).

a wide choice of aims, decline of the extended kinship family, and the loneliness of the inner-directed child are major characteristics of the inner-direction oriented society. These characteristics reflect the need for a relatively extensive communication system. For instance, when the telephone became available to the American adolescent in the late 1800s, they immediately distinguished themselves as talkers (Aronson, 1977:31). In other words, these factors were the background for the trend toward a telephone in every American home in the late 1800s.

There are other factors which accelerated the trend toward a telephone in every American family. For instance, urbanism is a very important part of the inner-direction oriented society and the specialization of the occupations is the core of urbanism. According to Moyer, "specialization makes individuals depend upon one another and upon interaction in a variety of forms" (1977:342). Lynd and his associate reported in 1920 that they found that even among the unstably and intermittently employed in a middle size

American town only one out of every four families with a phone said they would have it disconnected in order to economize and save scarce funds.[1] Clearly, the telephone became one of the major forms for interaction in an inner-direction oriented society.

Riesman believed that Canada, Europe, and the United States were still undergoing the transformation from inner-direction into other-direction when he wrote the book **The lonely Crowd** in the middle of the 1950s (1956:49). He describes the other-directed people as follows:

> ...their contemporaries are the source of direction for the individual-either those known to him or those with whom he is indirectly acquainted, through friends and through the mass media... the other-directed person learns to respond to signals from a far wider circle than is constituted by his parents. The family is no longer a closely knit unit of which he belongs but merely part of wider social environment to which he early becomes attentive (1956:37-41)

It is evident how important the telephone is to other-directed individuals. A "far wider circle" of communication cannot exist without such a device. Perhaps the most notable fact about telephones in an other-direction oriented society is their sheer distributional pervasiveness, i.e. in an other-direction oriented society, the widespread distribution is indicative of the telephone's explicit social definition: as a necessity.

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[1]See Donald W. Ball's "Toward a Sociology of Telephones and Telephoners" in M. Truzzi (ed) **Sociology and Everyday Life**, Prentice-Hall, Inc.1968

The Emergence of Radio and Television in the United States

In the First World, broadcasting had played two very important roles in national development. They are advertising and entertaining. The development of broadcasting media had been closely related with the stages of industrialization and post-industrialization or the stage of the age of high mass consumption. In other words, like that of telephone, the emergence of broadcasting in the United States depended on certain developmental stages. In beginning to examine the role of broadcasting in First World development, it is important to consider this statement:

> At the turn of the century there were two conceptions as to the most fruitful use of electronic voice transmission either for broadcast or conversation. As it turned out, broadcasting was deferred for half a century while networks for conversation grew with remarkable speed, especially in the United States (Pool, 1977:66).

Half a century, perhaps, is not a long time to many First World countries. However, an analysis of the reasons for this deferment of broadcasting could be very significant in assessing Third World development, as far as the selection and adoption of electronic communication systems is concerned.

Everett Hagen observes that if certain other conditions of modernization are fulfilled, the development of communication systems will somehow automatically follow (1962). Hagen's theory

may be not universally applicable. It is, however, very persuasive as far as the development of electronic media in the United States is concerned.

The telephone came to North America -- and to the rest of the world, in 1876, which was three years after the United States completed its economic growth stage of take-off in 1873 (Rostow, 1960:61). The United States finished the following stage of economic growth, the drive to maturity, in 1900 (Rostow, 1960:59). Twenty years later, the first radio broadcasting station in the United States went on the air in Pittsburgh (Head, 1987:53). It should be mentioned that the first formal broadcast in North America was made by a Canadian radio station. In 1917, Marconi radio station XWA in Montreal was issued a licence to broadcast. XWA Montreal made its first broadcast for the first time in North America in December 1919. This chronology is very important in revealing the background and the context of the emerging radio and television systems.

As we have discussed earlier in this chapter, the stages of take-off and drive to maturity share one thing in common. They focused upon production and accumulation of commodities rather than consumption. The stage of the take-off in the Unites States laid the technical groundwork for the telephone system. It emerged and developed in the stage of the drive to maturity in order to meet the requirements of the "shift in focus from the coal, iron, and

heavy engineering industries of the railway phase to machine-tools, chemicals, and electrical equipment" (Rostow, 1960:9). In short, the telephone was born and developed in the United States for the purpose of the production and accumulation of commodities.

Rostow's take-off and drive to maturity are corresponding to Riesman's inner-direction oriented society. According to Riesman, "inner-direction is the typical character of the 'old' middle class -- the banker, the tradesman, the small entrepreneur, the technically oriented engineer, etc." (1956:36). The inner-directed people have a generalized need to master resource exploitation on all the fronts of which they are conscious. They are job-minded and not expected to have fun (Rostow, 1956). In other words, "The sphere of pleasure and consumption is only a side show in the era of inner-direction, work being, of course, the main show" (Rostow, 1956:141). Obviously, the inner-direction oriented society in the United States has no market for the entertainment oriented radio because the inner-directed person was job-minded and was not expected to have fun. Naturally the telephone became the popular medium in this kind of society.

To suggest that the inner-direction oriented society has no room for radio does not mean that there is no relationship between the era of inner-direction and the new electronic mass medium -- the radio. It is necessary to know that the inner-directed person is consciously and sharply aware of the difference between work and

play (Riesman, 1956:14). These were the seeds of mass-consumption, as well as the emergence of the radio and television especially in the United States. This helped pave the way for an other-direction oriented society in the United States.

The evolution of the electronic mass media in the United States can be a long story. Nevertheless, there is a very clear clue in determining what has been the driving force for this evolution. The electronic mass media in the United States have been closely related to advertising. It was said that advertising became more and more important in the 1890s as manufacturers reduced price competition and stressed product differentiation, i.e. as manufacturing capacity came to exceed demand, firms used advertising to create additional markets (Bryant, et al., 1983). First radio and then television emerged as innovations of the modern American business world. Certainly among their functions has the business community been the serving of the means of disposing of an oversupply in an economy of excess. This is consistent with what Rostow has indicated, the age of high mass-consumption.

Rostow argues that:

> As societies achieved maturity in the twentieth century two things happened; real income per head rose to a point where a large number of persons gained a command over consumption which transcended basic food, shelter, and clothing; and the structure of the working force changed in ways which increased not only the proportion

> of urban to total population, but also the proportion of the population working in offices or in skilled factory jobs -- aware of and anxious to acquire the consumption fruits of a mature economy (1960:10).

The United States was the first of the world's societies to move sharply from maturity into the age of high mass-consumption (Rostow, 1960:74). It was also an excellent example to illustrate how mass communication is related to mass-consumption. The American 1920s was considered by Rostow as the first protracted period in which a society absorbed the fruits and consequences of the age of durable consumer goods and services (1960:76).

As mentioned earlier in this chapter, the First American radio station emerged in 1920. The number of licenced stations increased to 30 in 1922 and to 500 by 1924. The sale of radio advertising reached more than $10 million in 1928 (Bryant, 1983:192-3). The rapid growth of the number of radio stations reflected the strong demand from manufacturers of consumer products such as soaps, cereals, soft drinks, toothpaste, cigarettes, canned foods, as well as makers of durable goods, such as automobiles and home appliances, who were eager to purchase radio time. The story is similar with respect to television in the age of mass-consumption. The great post-war boom of 1946-56 in the United States was regarded as a resumption of the boom of the 1920s. Television was installed in 86 percent of American homes by 1956. Mass marketers saw the millions of viewers, and their children, as potential purchasers of their products. Television, and radio have been

working hand in hand --nationally, regionally, and locally -- to communicate advertisers' sales messages (Wright, 1982:146).

The electronic mass media are very important to the American business world indeed. Riesman also found that "the other-directed person's tremendous outpouring of energy is channelled into the ever expanding frontiers of consumption, as the inner-directed person's energy was channelled relentlessly into production" (1956:100). As discussed earlier, another crucial condition for media development is the public's need for entertainment. After the United States stepped into the other-direction oriented society, Americans were not only more capable of and more interested in maintaining responsive contact with others both at work and at play, but also had more leisure which goes with an opportunity for increased consumption of words and images from the new mass media of communications (Riesman, 1956). An other-directed person's relations with the outer world and with himself/herself are mediated by the flow of mass communication (Riesman, 1956:37).

It seems that Riesman's theory of other-direction is closely associated with Rostow's stage of an age of high mass consumption. Now, we may conclude that two conditions, the public's needs for entertainment and the business world's demands for advertising are the main driving forces for the emerging of radio and television in the United States.

The Relationship between the Telephone and the Broadcasting Media: Some Clarification

Both electronic media, telephone and broadcast have important economic significance. In the United States, the telephone emerged because of its historical role in business, commerce, and industry. The early history of the telephone was that it mainly used to help produce commodities. Broadcasting in the United States has been mainly a story of selling products. The broadcasting media have done very well to facilitate mass consumption. To some extent, advertising created the radio and television broadcasting systems in the United States (Bryant, 1983:184).

The emergence of broadcasting systems in the Unites States indicated that manufacturing capacity came to exceed demand. Bryant and others observed that advertising in the United States was not very important until the 1890s (1983:187-8). This may answer Pool's question about why broadcasting was deferred for half a century while telephone networks for conversation grew with remarkable speed. There was little need for advertising because in an economy of scarcity American manufacturers could sell almost all they produced, at the time that the telephone was born in 1876. There was no market for radio and television when people were not supposed to have fun in the stages of the take-off and the drive to maturity or inner-direction oriented society.

So far, we have discussed the relationship between the

electronic media and economic development in the United States. The relationship between electronic media and political development is also significant. Cherry argues that a highly developed, two-way communication service is an essential prerequisite to any form of "democratic" development. That is "Liberty rests not only on a foundation of defined authority but also upon the operation of a two-way communication service" (1977:124-25). As far as the telephone is concerned, one-to-one, or small group intercommunication systems, without switchboards, could have provided communication for elite groups. A universal switched network, however, allows any one to call any one. In other words, the technology of telephone networks favoured democratic social relations (Cherry, 1977)

The role of broadcasting media in political development is quite different from the role of telephone networks. Because of its vertical communication oriented characteristic, broadcasting lends itself to the top-down exercise of authority (Cherry, 1977). For instance, in most developing nations, broadcasting media systems are either totally controlled or partially regulated by their governments. The consequence has been the acceleration of political centralization (Habte, 1983).

In sum, the telephone has been directly related to the production of commodities. Broadcasting, on the other hand, has been engaged in selling goods. This is one of the major

differences between the two electronic media. Another major difference between the two media is their political features.

The difference between telephone and broadcasting does not suggest that they are independent from each other. They are an organic whole and have functioned in a complementary way. Meier observes that telephone and other media are interlinked and integrated to an astonishing degree. Often the new system takes on some kind of specialized kind of governmental or commercial duty (1963:14). For instance, "the modern assembly plant could not exist without the telecommunication which permits all the parts to arrive at the required place at the appropriate time. Similarly, the evolution of the corporate headquarters is a function of the ability of the communication system to keep people informed. Other communications media like the newspaper, radio, and television rely to a major degree on the availability of instant telecommunications" (Latham, 1983:47).

More specific examples regarding the interlinked and integrated relationship between telephone and broadcasting are numerous. Pool observes that the telephone has been used by radio journalists to speed reporting. The telephone network is also used for feedback from the broadcast audience to the head end of the broadcasting system. Thus for some kinds of programming such as talk shows or game shows there could be broadcast transmission downstream with the phone system being used for the upstream return

(1983:83,85). The telephone is also used for audience measurement and testing. Broadcasters need feedback that is free of their own personal biases and those of their social surrounding. The telephone is one of the main means of collecting data on which to base ratings (Head, 1987:373-79).

In short, the media structure is part of the evolution of the society. The communication system has to keep abreast of the time, that is different stages of social development need different media.

CHAPTER 2

ELECTRONIC MEDIA AND COMMUNICATION PARADIGMS FOR DEVELOPMENT: A CRITICAL REVIEW

It seems fair to say that the modernization paradigm is the first one to try to define the role of modern communication technologies in Third World development. Based upon the understanding that in social science "paradigms tend to accumulate rather than to replace each other" (Servaes, 1985:2), this chapter will focus on examining communication paradigms in terms of using the electronic media for development.

Modernization Paradigm

Although a number of scholars have contributed to the creation of the modernization paradigm of communication for development, D. Lerner, L. Pye and W. Schramm have been the major scholars whose research dominated the field for over two decades.[2]

The scholars who developed the modernization paradigm were inspired by patterns of development characterized by urbanization, industrialization, literacy and education, mass media, political unification, differentiation, and specialization of social

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[2]The framework of the paradigm was developed by Lerner (1958), Pye (1963) and Shramm (1964).

institutions and structures, plus a breakdown of traditions that retarded the industrial process (McPhail, 1987:42). For instance, the key point of Lerner's model is that mass media exposure increases urbanization, urbanization increases literacy, literacy increases mass media exposure, and increased mass media exposure stimulates greater economic participation (per capita income) and political participation through voting (Lerner, 1961:46).

The function of media in this paradigm of development was to "mobilize human resources by substituting new norms, attitudes and behaviours for earlier ones in order to stimulate increased productivity" (Hedebro, 1982:15). "Researchers consequently conceived of the media of communication (especially the mass media) as important tools in teaching the developing populations the skills necessary to participate in modern, western-style society" (Collins, 1988:15).

In short, development is viewed by the modernization paradigm as evolving beyond traditional structures that supposedly cannot accommodate rapid social change and economic growth.

Since the 1970s, the paradigm has received numerous criticisms. The failure to reach development goals in most Third World countries has indicated that the modernization mode is inadequate. In examining the paradigm, there will be no attempt to review every point of the criticism. Rather, the inclination

is to focus upon the question of whether the paradigm has drawn inadequate conclusions from the history of First World media development. Therefore, it is appropriate to begin by examining the assumptions of the paradigm.

The Modernization Paradigm's Assumptions and Bias toward Mass Media

The modernization paradigm developed from a number of assumptions. The most basic assumption, in my view, is that the modernization theorists take for granted that Third World governments would treat economic development as a matter of paramount importance.

Perhaps the most important reason for the modernization scholars to make the above assumption is because they observe that Third World countries are in a hurry and have little patience with the historical pace of Western development. What happened in the West over centuries, some developing countries seek to accomplish in years (Lerner, 1958:47). Hence, national development naturally should become the top priority on the agenda of Third World governments. Shramm told Third World governments that "the only way they can do it and keep the timetable they have in mind is to make full use of modern communication" (1964:19). In terms of the modernization model, the "modern communication" mainly refers to radio.

The modernization theorists further assume that the difference between the First World and the Third World is one of degree rather than of kind (Servaes, 1986:129). Therefore, they assert that Third World development could be equated with economic growth, especially the type of rapid growth the West experienced with a capital-intensive and technology-based industrialization (McPhail, 1987).

Based on these assumptions, Lerner developed his model of urbanization-literacy-media exposure-participation. The development of mass communication was regarded as part of a universal, inevitable sequence or pattern of changes that traditional societies must undergo in the transition to modernity (McPhail, 1987). According to Shramm, the mass media were agents of social change in the service of national development. The social change refers to

> the transition to new customs and practices and, in some cases, to different social relationships. Behind such changes in behaviour must necessarily lie substantial changes in attitudes, beliefs, skills, and social norms (1964:4).

In order to accomplish this social change, Shramm argues that (1) the populace must have information about national development; (2) there must be opportunity to participate intelligently in the decision process, and (3) the needed skills must be taught. These are the communication tasks behind the social change of national

development (1964:125).

Shramm observes that mass media can contribute substantially to the amount and kinds of information available to the people of a developing country. For instance, the mass media can determine in large degree what people know and talk about. By focusing attention on certain topics rather than others, they are able to make these topics play a larger part in the campaign for development (1964). Shramm emphasizes that the populace's attention must be focused on the needed change (1964).

As far as the second communication task is concerned, Shramm acknowledges that the mass media can only help to accomplish it. A basic argument of the modernization paradigm about the mass media's function on decision process is that when a country wants to develop, it has to widen the limits of political discussion and policy making.

> The ordinary people need to overhear the national policy debates so that they can form opinions and, at the proper time, act on their opinion. The policy makers need to understand, more clearly than before, the needs and wishes of the villages, so that they can take account of them in making their larger policies. To accomplish these things in a nation of any size, without the mass media, would be almost out of the question (Shramm, 1964:136).

Another major tenet of the modernization paradigm with regard to decision making is that the people in Third World nations have

to change their deep set attitudes, values, or social customs. It is said that mass media can help indirectly to change these strongly held attitudes or valued practices. In major decisions about these changes, Shramm acknowledges that the channels of interpersonal communication and influence are far more effective than the mass media (1964).

In terms of the modernization model, the most important function of mass media in Third World development is the teaching function while formal education, or the multiplication of knowledge resources may be one of the mass media's greatest potential functions. Shramm determines that the mass media can help substantially in all types of education and training (1964:140).

To carry out the three tasks (information, decision making and teaching), the modernization paradigm recommended one-way oriented mass media rather than a communication system with proper feedback. The modernization theorists's favourite medium is the radio. The use of radio in Third World development was believed to be very significant. It could carry news, development information, and information to help people participate in public affairs (Shramm, 1964:227). Shramm believes that radio can do almost too much. He concludes:

> Radio is so important in the early years of national development, and during those years it has such a unique ability to inform people outside the cities, that no radio policy should be adopted that

> would not use it as effectively as possible for informational purposes (1964:227).

Although the modernization theorists acknowledged that other forms of mass media, such as newspaper, film, and television, were also helpful to Third World development, they strongly recommended that the radio should be the first choice.

While the modernization theorists share the same view about the role of mass media in national development, their approaches regarding two-way, interactive communications are somewhat different. Lerner rarely mentions any form of two-way communication in his modernization model. He characterizes oral communication systems as biased, backward, authoritarian, non-participatory and limited in scope because of their traditional associations (1958).

Shramm offers a different view about interpersonal channels of communication. He observes:

> Interpersonal channels of communication play an important part in mediating the effects of the mass media even in the most advanced societies. In some of the developing countries, the interpersonal channels have to carry most of the job (Shramm,1967:11).

Shramm argues that the combination of mass media and interpersonal channels for speeding modernization-oriented messages are necessary in many cases. The employment of the interpersonal

communication channels is intended to establish a flow of information and opinion from some users of the media to other users (1964). The mass media should be concerned with feedback which is intended to provide a flow of information about the audience and the effects of the mass media to the program and policy officers of the media and to the leaders of national development (Shramm, 1964:176). However, it is necessary to point out that the "feedback" refers to communication research rather than any rating service.

Pye echoes Shramm to some degree in regard to the communication systems; Pye says:

> A modern communications system involves two stages or levels. The first is that of the highly organized, explicitly structured mass media, and the second is that of the informal opinion leaders who communicate on a face-to-face basis, much as communicators did in traditional systems (1961:25).

Pye's basic point here is to connect mass media with interpersonal channels within modern communication systems in a "two-step flow" model of information dissemination. However, like Lerner, he did not suggest how the receivers could communicate with communicators of the mass media.

To summarize, we may use the following diagram based on he ommunication models of Lerner Shramm and Pye.

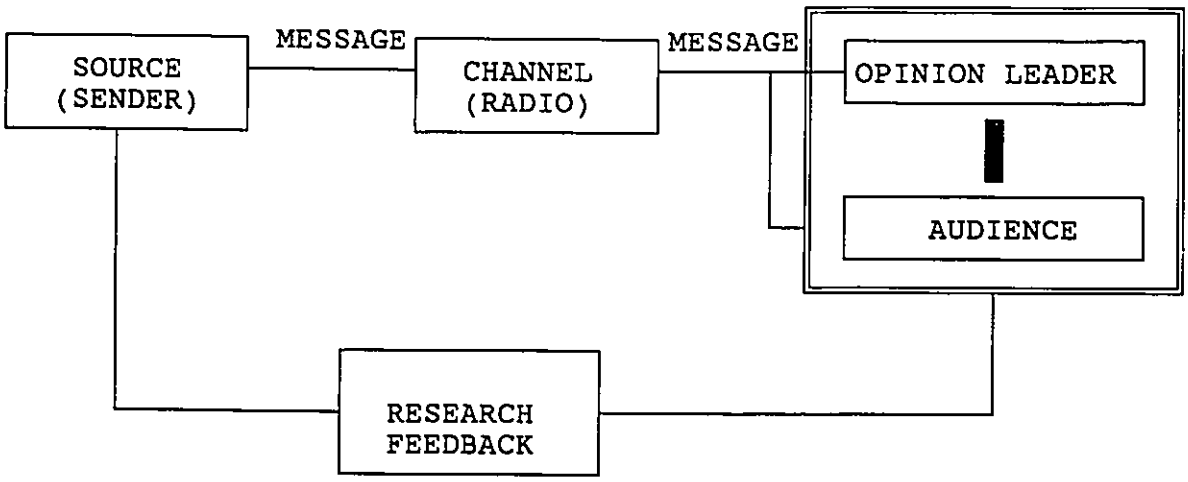

Figure 2: The Communication System within the Modernization Paradigm

Obviously, the key question is whether such a communication system can carry out the three development tasks (the information functions, the decision making functions, and the teaching function). Technically, we can believe that mass media (such as radio) may qualify to do the job since they have the ability to reach vast audiences simultaneously. In order to justify the modernization theory, we can further grant that mass communication does have significant influence on Third World audiences. However, we cannot assume that the "source" (sender) is always ready to send messages for the purpose of national development. What if a Third World government decides to use the very one-way oriented communication system for its own political interests rather than for national development? It appears that vertical communication has some close parallels to political and commercial propaganda.

Who controls the source (the sender) for what purpose is a very serious issue to any one-way communication system. Unfortunately, no modernization theorist paid significant attention to this matter. They simply took for granted that economic development would be the top priority in the Third World and the mass media by their nature would play a significant role in facilitating the development programs.

The research feedback may help the media

> be aware of how much the audience knows about the topics on which information is to be sent; what attitudes they had that might affect their acceptance or rejection of the information; what kind of language and symbolism they can comprehend, and all the other sorts of information which one would know or could speedily find out in talking face-to-face to an acquaintance (1964: 180).

Nevertheless, the research feedback is helpful only if the content in the communication system is development message. Moreover, the feedback could be very slow and inefficient since it takes time to measure and study media effects.

In short, the assumptions and the rationale of the modernization theory can be summarized by means of Lasswell's words:

> Who
> Says What
> In Which Channel
> To Whom

With What Effect? (Shramm, 1964: 180)

"Who" refers to communicators or communication organizations. The modernization theorists take for granted that "who" will hold national development as his/her top priority. Under this assumption, they believe that whatever the "who" says will relate to national development. Hence, their job is find a proper channel for the "who" (communicators) to deliver their messages. The modernization theorists further assumed that the difference between the First World and the Third World was one of degree rather than of kind (Servaes, 1986: 129). Therefore, they determined that the channel should be mass media, essentially radio, in order to accomplish in a few years what happened in the West over centuries.

It should be pointed out that some modernization theorists realized that there was no guarantee that the "sender" would carry out the programmes for the purpose of national development. Lerner expressed his anxiety that the government would move toward the extremes of political action which meant that the mass media might become instruments of propaganda, agitation and violence (1958:402). Shramm also acknowledged that mass communication could make a substantial contribution to national economic and social development only if they are used appropriately. Nevertheless, the fact that one-way communication media could be easily used inappropriately by either political interests or commercial interests was never seriously addressed.

It should be mentioned that modernization theorists such as Shramm and Rogers were aware of some restrictions about their communication models for development. Shramm pointed out that his model could function only under the condition of freedom of the press and free flow of information. Rogers argued that under the modernization paradigm, central economic planning of development was "a legitimate and reasonable means by which a nation should seek development goals" (1976:215). In the real world, it seems very difficult to find a meaningful positive correlation between the "central economic planning of development" and the "freedom of the press". At least, very few Third World nations have both central economic planning of development and freedom of the press (Habet, 1983 & Jones, 1984).

The Modernization Paradigm's Theoretical Basis: A Clarification

Several scholars, Hedebro (1982), Servaes (1983), and McPhail (1987), have identified that the major theoretical basis of the modernization paradigm is Rostow's "Stage" theory. Shramm also acknowledged that there was a close relationship between Rostowian theory and the modernization model (1963:37-38). Since Rostowian theory was based upon the historical development of First World countries, the modernization paradigm in practice was viewed as westernization, that is, the developing countries should follow and copy Western models (Servaes, 1986: 129). This argument may be

true to some extent. However, if we look at both the modernization paradigm and Rostowian theory carefully, we may find that the modernization paradigm is not quite consistent with Western stages of economic growth so far as the communication systems are concerns.

The major difference between the two theories is the role of media in national development. As explained in the first chapter, the main function of the telephone in economics has been to facilitate production during the stage of the "drive to maturity". The electronic mass media, radio and television, did not emerge until the "age of high mass consumption". One of the basic roles of radio and television in the First World, especially in the United States, has been helping manufacturers sell goods. In terms of the modernization paradigm, the role of communication media is to educate Third World people and to change their traditional behaviours and attitudes. The modernization theorists did not show much interest regarding the historical role of communication systems in the First World. They simply believed that mass media could change the Third World if these media were used to convey development information.

Since the emergence of radio, to the communicator (the sender), the usage of electronic mass media have been defined as: to convey knowledge of a specific kind, to sell products, to distribute political propaganda (Hedebro, 1982:3). Unfortunately,

the employment of radio and television for selling products or for distributing propaganda has proved much more common and successful than for conveying knowledge of a specific kind.

It is evident that radio and television have been fully utilized and even abused in order to distribute goods in many First World and Third World nations. In fact, we may say that advertising created these media systems to some extent (Bryant, 1983: 184). Commercial broadcasting has been very effective in facilitating high mass consumption. The top priority for a commercially controlled broadcasting medium is profit rather than anything else like national development.

Another area in which mass media have demonstrated their extreme power is propaganda. "Without the mass media there can be no modern propaganda" and "each medium is particularly suited to a certain type of propaganda" (Ellur, 1965: 10,102). For instance, the loud speaker and radio had decisive significance for the election of the Nazis (Innis, 1951 & 1972). The effect of broadcasting was evident in the breakout of the Second World War and was intensified during the progress of the war. It was used by the armed forces in the immediate prosecution of the war and in propaganda both at home and against the enemy (Innis 1951:81). Since broadcasting media favour centralization and bureaucracy (Innis, 1951), a centralized government has a natural tendency to control the media for its political interests. Therefore, when

many Third World governments are attracted by radio and television, communications-for-development scholars have to be very cautious to determine what are their real purpose. In other words, it is difficult to justify that mass media would perform the role that Shramm has suggested under a centralized government.

In terms of the modernization paradigm, the role of mass media in Third World development is neither selling goods nor distributing political propaganda. Rather, it is supposed to convey knowledge of a specific kind. Hence, one should identify what kind of political environment can allow and promote a mass communication system whose main function is to convey development information. We may get some sense about this from the experience of Canadian public broadcasting. When Canada decided that the task of its broadcasting system was "to safeguard, enrich and strengthen the cultural, political, social and economic fabric of Canada" (Caplan, et al., 1986:4), it created a decentralized Canadian Broadcasting Corporation (CBC). CBC is publicly owned and the control system is decentralized. No single political or any other interest group can totally control the messages. Obviously, Canadians are not confident that either a commercially controlled broadcasting system or a state owned broadcasting corporation can carry out the task of Canadian national development. This is also true in many First World countries (Wiio, 1987), but not the case of the Third World. Hence, it is not safe to expect that the main purpose of the mass media in the Third World is to convey

knowledge of a specific kind.

In short, the modernization theorists did not give any consideration to the historical role of electronic media, especially the telephone, in First World development when they recommended radio to Third World countries for national development. Without identifying the necessary political environment and in spite of the fact that mass media's most successful stories were selling goods and distributing political propaganda, the modernization theorists determined that the role of mass communication systems in the Third World must be to educate and change the people. Since the modernization theorists believed that the initial stage of development in the Third World should be teaching people skills and changing their traditional behaviour and attitude rather than setting up modern factories or promoting commerce, the telephone was completely ignored.

Dependency Paradigm

As mentioned, in the social sciences, paradigms tend to accumulate rather than to replace each other. The emergence of the dependency paradigm was based upon examining and criticizing the modernization paradigm. However, there is no fundamental difference between the two paradigms as far as their recommendations about the communication systems, especially electronic media for Third World development, are concerned.

In the 1970s, a school of thought in Latin America defined the failure of Third World development in terms of dependency (Stevenson, 1988:6). Dependency theory extended the examination of communication for development to the international level. It viewed the world as a single system and observed "imperial centres", notably the United States, which controlled the flow of goods, services, and capital between themselves and nations on the periphery of the system (Stevenson, 1988). Dependency theory was echoed in Europe, as European theorists in the 1970s argued that North American theorists had looked in the wrong place to find the causes and cures for Third World poverty and instability (Stevenson, 1988:7).

Dependency theory indicated that the most important obstacles to development were not lack of capital or management skills, but were the result of the international division of labour. To remove these obstacles, each peripheral country should strive for self-reliance and search for new allies within the framework of a New International Economic Order (NIEO) (Servaes, 1986).

The dependency paradigm revealed that the free flow of information at the international level and the market approach to communication resulted in the introduction of a conservative and capitalist ideology and consumptive culture to the Third World. "As the Third World begins to achieve emancipation economically and politically cultural dominance increases" (Servaes,1986).

These arguments have been part of the basic grounds for the New International Information Order (NIIO).

So far as the communication paradigm building is concerned, one may argue that the emergence of the dependency paradigm is a big improvement of the modernization model, mainly at the international level. The dependency paradigm did not suggest any significant change regarding the one-way communication systems at the national level, which were designed by modernization theorists more than a decade ago. Servaes observes that most Third World governments support the demand for an expansion of the free and balanced flow between and among countries, but not within the boundaries of their individual nations (Servaes, 1985:4). Therefore, it is not a surprise that telephone has no position in this paradigm.

Grass-Roots Paradigm for Development

The grass-roots theorists suggest that there is no universal path to development. "Development must be conceived as an integral, multidimensional and dialectic process which can differ from country to country" (Servaes, 1986:132). The grass-roots paradigm rejected the more economic and political oriented views of the modernization and dependency paradigms. It indicates that the West is not the model, at least not the only model, for Third World development and the problem of development is a relative one.

No part of the world "can claim to be developed in all aspects" (Servaes, 1986:132).

Based on this understanding, the grass-roots theorists have tried to find an alternative. The result is the grass-roots paradigm for development. A clear distinction between the modernization paradigm and the grass-roots paradigm is that the latter did not suggest any lofty objective of development like "industrialization". The grass-roots paradigm begins with the satisfaction of the basic needs of those,

> dominated and exploited, who
> constitute the majority of the
> word's inhabitants, and ensures
> at the same time the humanization
> of all human beings through the
> satisfaction of their needs
> for expression, creativity, equality
> and conviviality besides
> understanding and mastering
> their own destiny (Servaes, 1986:133).

To accomplish these goals, the grass-roots paradigm emphasizes the principle of self-reliance, i.e. society should rely primarily on its own strength and resources. Moreover, the development has to be based upon structural transformations. These structural transformations are necessary in social relations, in economic activities and in their special distribution, as well as in the power structure, "so as to realize the conditions of self-management and participation in decision making by all those affected by it, from the rural or urban community to the world as

a whole" (Servaes, 1986:133). The introduction of these concepts correspond to changes in the communication field. The grass-roots theorists have suggested that the communication systems for development should be two-way, interactive and participatory.

The Rationale of Two-Way Communication for Development

Since many communication-for-development scholars have made their contributions to the most recent communication paradigm -- the grass-roots paradigm, it is difficult to summarize their works in a few pages. However, there will be no dispute if we say that this paradigm is a model of two-way communication and the essential feature of this model is participation.

In terms of the grass-roots paradigm, the need for two-way communication in national development is because (1) communication "is not a reaction to something, nor an interaction with something, but a transaction in which man invents and attributes meanings to realize his purposes. It should be stressed that meaning is something 'invented', 'assigned', 'given', rather than something 'received'" (Barnlund, 1970:68); (2) "communication is linked to terms such as sharing, participation, association, fellowship, and the possession of a common faith" (Carey, 1975:6); (3) "communication is always a joint occurrence, a mutual process of information--sharing between two or more persons (Rogers and Kincaid, 1981:63); (4) communication is a process. As such it is

continually operating, through feedback, with the environment and with everyone and everything in that environment (Singer, 1987:66). Moreover, it seems that all the grass-roots theorists agree that communication is dynamic and continuous.

In employing the two-way model, grass-roots theorists have focused upon forms of communication which provide maximum opportunities for dialogue. However, they believe that how the forms are employed is more important than what they are employed for. They argue that "Within the modernization paradigm, even forms of communication which lent themselves to two-way dialogue (such as interpersonal or group communication) were employed in a one-way, top-down fashion (Collins, 1988:92). This may be one of the major reasons why the grass-roots theorists have not suggested any meaningful change regarding the vertical oriented electronic media structure which is typical of many Third World nations.

The grass-roots theorists strongly advise employing various forms of interpersonal or group communication. The emphasis here is on small-scale and group media within the community. Nothing has been mentioned about electronic media oriented to horizontal communication (such as the telephone). The structure and the practice of grass-roots communication can be illustrated by two UNESCO reports, one published in 1979 by Frances Berrigan and one published in 1980 by Jerimian O'Sullivan-Ryan and Mario Kaplun.

The Media and the Structure of Grass-roots Communications

In his report, **Community Communications: the Role of Community Media in Development**, Berrigan defines community communication as:

> media to which members of the community have access, for information, education, entertainment, when they want access. They are media in which the community participates, as planners, producers, performers. They are the means of expression of the community, rather than for the community. Community communications describe an exchange of views and news, not a transmission from one source to another (1979:8).

The justification for community communications is that it allows communications access and participation. Berrigan argues that development is concerned with behaviour change. Two-way, interactive communication is much more powerful than mass media to change people's behaviours (Berrigan, 1979). Moreover, community communications can prevent the danger of direct manipulation.

Berrigan acknowledges that it is necessary to use mass media to support development initiatives by beaming messages or directives encouraging people to support development projects. However, this is not enough. "Media could and should do more for development than be the means of message transmission from one source to another. Advocates of community media believe that through involvement in the process of communications itself, development can be progressed" (Berrigan, 1979:10). Media for

community communication can use the technological sophistication of radio, photographs, audio and video cassette tapes or the relative simplicity of folk drama, drawings and posters (Collins, 1988). It is interesting to note that all these media for grass-roots communication have the nature of vertical communication.

Community communications (communications access and participation) are very attractive indeed. As "planners", "producers" and "performers", members of a community can make their expressions. However, it seems that no one has seriously asked how much Third World people would have to pay to obtain this access and participation. Community communication media such as radio and video require a certain investment and maintenance expense. Since community media are supposed to be open to every community member, there could also be difficulties regarding the time allocation.

Folk drama, drawings and posters are certainly more practical and probably more effective. The real issue here is why we try to use one-way oriented media to do the job of two-way communications. Folk drama, drawings and posters cannot result in direct interpersonal communications. To this model, it seems that any media has the chance to be employed for development, except for the telephone.

Another question for community communications is to what degree Third World governments or vested interests allow horizontal

communication and participation. "Communications access and participation threaten vested interests" (Berrigan, 1979:9). Clearly, community communications need a defined environment which can guarantee a certain degree of freedom of expression. Without such an environment, any serious political and economic discussion regarding development of the community media can be dangerous.

In 1980 O'Sullivan-Ryan and Kaplan submitted to UNESCO a report, which was a discussion of the Latin American perspective of communication and grass-roots development in the Third World. O'Sullivan-Ryan and Kaplan believed that the best summarization about the grass-roots communication was from a UNESCO conference in 1976 which stated:

> In the past, the role of communication in human society was seen essentially as to inform and influence people. It is now being proposed that communication should be understood as a process of social interaction through a balanced exchange of information and experience.... This shift in perception implies the predominance of dialogue over monologue. The aim is to achieve a system of horizontal communication based upon an equitable distribution of resources and facilities enabling all persons to send as well as to receive messages (O'Sullivan-Ryan and Kaplan, 1980:3).

To achieve a system of horizontal communication, O'Sullivan-Ryan and Kaplan believe that there is a need to define "access" and participation in a more specific manner. They indicate that

one of the best conceptual definitions of participatory communication was from a UNESCO conference in 1977. At the conference "access" was related to both the level of choice and the level of feedback available to individuals (O'Sullivan-Ryan and Kaplun, 1980). The conference also pointed out that access implied an interaction between producers and receivers of communication messages so that audience members maintained a means of contact with administrators of communication organizations through which they might comment and criticize (O'Sullivan-Ryan and Kaplan, 1980).

Participation is defined as the involvement of the public in the production and management of communication systems. It is suggested that the public have unlimited opportunities to produce communication programs with the aid of technical facilities and professional help. Furthermore, the public are encouraged to be involved in decision-making concerning the planning of the programs, the management of communication organizations and the formulation of national, regional and local communication policies.

This approach to the creation of grass-roots communication systems is idealized to a great extent. In Third World nations there could be numerous restrictions to prevent the emergence of such communications systems. Nevertheless, it is significant that all the grass-roots theorists including O'Sullivan-Ryan reached a conclusion that equitable participation, self-management,

independent production of messages, horizontal communication and the creation of shared inter- or intra-group meanings through dialogue are the fundamental elements of communication for development. At the same time, however, they have no desire to change the one-way oriented media structure which has existed in many Third World countries. This report did not suggest any industrial production or commerce. In terms of these two reports, it seems that the relationship between the two-way communications or interpersonal communications and economic development has very little to do with Third World development. The telephone is not a part, at least not a significant part, of the two-way communication systems within the grass-roots paradigm.

The Similarity among the Three Paradigms: A Summary

The modernization paradigm, the dependency paradigm and the grass-roots paradigm are indeed quite different from each other. However, so far as modern electronic media are concerned, all these paradigms promote vertical communication oriented mass media (such as radio) and ignore today's powerful two-way oriented communication means, the telephone. Clearly, there should be an explanation about these three paradigms similar approach to electronic media.

The main reason for the modernization theorists to promote mass media, especially radio is because the mass media have the nature of vertical communication. The modernization paradigm was

based upon several assumptions and Rostowian theory. These assumptions indicated that Third World nations wanted to be industrialized in years rather than centuries and would put national development as a top priority and that the difference between the West and the Third World was one of degree rather than of kind. Therefore the West could be a model for Third World development. Rostowian theory revealed the Western stages of economic growth. The modernization theorists determined that Third World nations could be industrialized in years rather than in centuries only if they made "full use of modern communication" referring mainly to radio (Shramm, 1964:19).

In the modernization paradigm, the mass media were agents of social change in the service of national development. They could help substantially in changing attitudes, beliefs, and social norms by disseminating information about national development, teaching skills, and indirectly creating opportunities for political discussion and policy making. Obviously, there is no room for the telephone in this theory.

There may be hundreds of explanations about the failure of the modernization paradigms. One of the causes is because of its ignoring two-way communications (Beltran, 1980). In my view, this paradigm's bias towards one-way oriented electronic media was mainly because it adopted inadequate assumptions.

The dependency theorists extended the discussion of communication for development to the international level. The dependency paradigm indicated a new communication picture among countries. However, this paradigm did not suggest any fundamental change regarding the vertical oriented electronic media structure which was typical of Third World nations. Hence, no special consideration was given to any two-way communication medium in the dependency model.

In the 1980s, some communication for development scholars finally reached a conclusion that a communication system for Third World development has to be two-way, interactive and participatory. They built a grass-roots paradigm and emphasized forms of communication which provide maximum opportunities for dialogue. Unfortunately, those concepts did not lead to serious examinations of the structure of electronic media in Third World nations.

The grass-roots paradigm rejected the idea that the role of communication in human society was essentially to inform and influence people. Rather, it "should be understood as a process of social interaction through a balanced exchange of information and experience..." (Ryan and Kaplan, 1980:3) According to the grass-roots theorists, "a balanced exchange of information and experience" can be achieved by means of small-scale and group media within the community. The small-scale and group media can be radio, photographs, audio and video cassette tapes or folk drama,

drawings and posters. It is not difficult to tell that these media are not oriented for two-way communication. The grass-roots's approach in its adoption of the media to be used assumes that the forms of communication employed are more important than the purpose for which they are employed. Ironically, it seems that this approach also assumes each medium can be employed for the purpose of two-way communication but never considers the telephone.

As far as the Third World nations's domestic communication systems are concerned, all three paradigms focused upon the relationship between the change of people and communication, that is, what kind of communication (one-way or two-way) could be most effective to change people has been the main thesis for the modernization paradigm and the grass-roots model. No serious research has been done about the nature of electronic media. No paradigm has pointed out the direct relationship between modern communications and industrial production and distribution. Therefore, the telephone has been ignored by all three paradigms without any meaningful explanation.

CHAPTER 3

THE ROLE OF THE TELEPHONE IN THIRD WORLD DEVELOPMENT

As examined in the first chapter, both electronic media-the telephone and broadcasting have important economic significance in First World development. In the United States, for instance, the telephone emerged because of its historical role in business, commerce, and industry. That is, the early history of the telephone was mainly a story of facilitating production. This chapter discusses the usage and socio-economic impact of the telephone in developing countries. The literature concerning the role of the telephone in Third World development is reviewed and analyzed.

Since the 1960s, there have been a number of writings regarding the role of telecommunications in development. However, most of the studies focus upon the relationships between telecommunications and development indicators (for instance, GNP or GDP per capita) and avoid the question of causality.[3] This chapter will report the studies which have shed the greatest light on these relationships and focus upon three parts: (1) the role of the telephone in commerce and industry in developing countries,

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[3]See, for instance, International Telegraph and Telephone Consultative Committee, 1968, 1972; Gilling, 1975; Gruise O'Brien, et al., 1977.

(2) the role of the telephone in rural development, and (3) the usage of telephone services.

R. J. Saunders and Telecommunications and Economic Development

In 1983, Saunders and his World Bank associates published a book under the name of **Telecommunications and Economic Development**. This book critically reviewed some 300 publications and 30 different methodologies. The publication of this book is significant because international development institutions have placed a low priority on telecommunications (Hudson, 1984:8).

Saunders and his associates began to work on their book in 1975. It seems that the International Telecommunication Union's CCITT[4] 1965 study into the correlation between telephone density and GNP per capita, and the 1968 study which examined the density of telephone lines for a single country as its per capita GNP increased through time, left a deep impression on Saunders.

The two studies from the CCITT are illustrated in the first part of Saunders's book. In 1965, the CCITT employed the cross section data from thirty industrial and developing countries to examine the correlation between the density of telephone lines (d)

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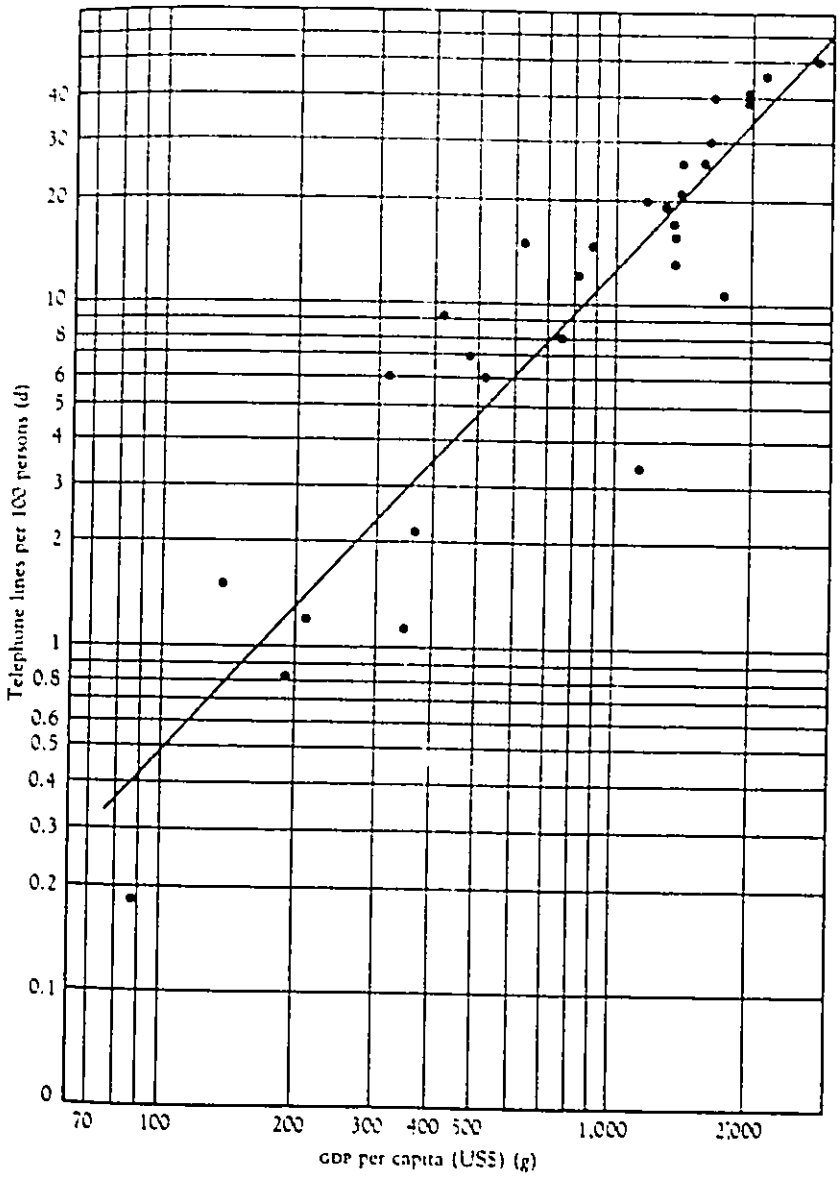
[4]The International Consultative Committee on Telephone and Telegraph (CCITT, from the French name) is one of the International Telecommunication Union's four permanent divisions.

and GNP per capita (g). The result, as shows by Figure 2, is a strong cross-country relation between the variables.

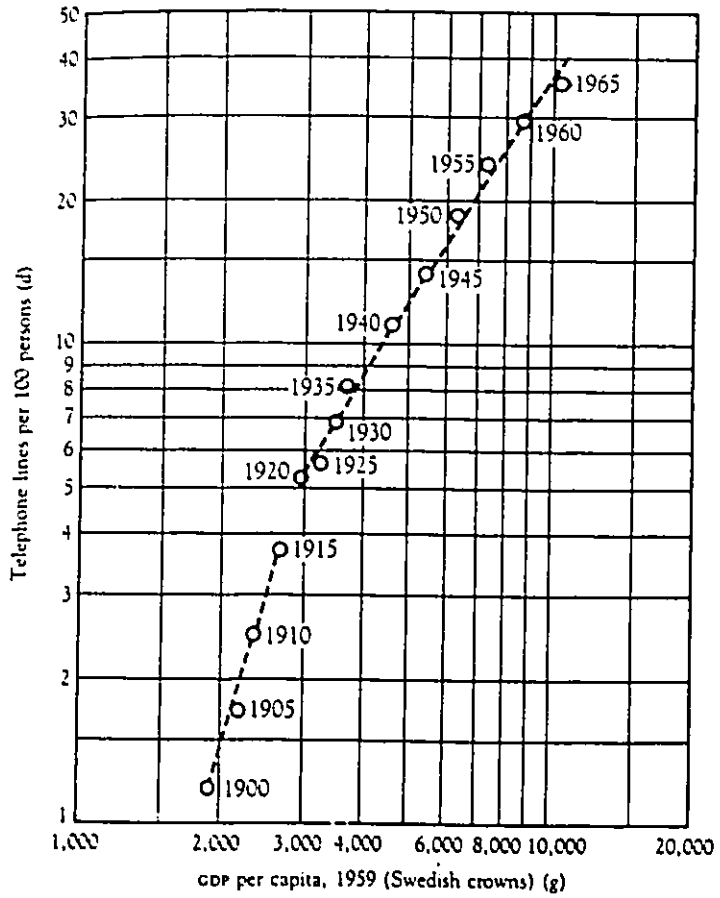
Figure 3. Density of Telephone Lines as a Function of GDP per Capita for a Cross Section of Countries, 1965



Source: CCITT, Economic Studies at the National Level in the Field of Telecommunications (Geneva: ITU, 1968). Copied from Saunders, R. (1983). **Telecommunications and Economic Development**, The Johns Hopkins University Press, p. 75.

The correlation coefficients were from 0.91 to 0.92. This study was repeated in 1955, 1960, and 1965. Over the ten-year period, the relationship between the GNP per capita and the telephone density remained almost identical. In other words, the rate at which density varied with per capita GNP in the countries examined remained essentially constant (Saunders, 1983:75-76).

Figure 4. Density of Telephone Lines as a Function of GNP per Capita in Sweden, 1900 to 1965



Source: CCITT, Economic Studies at the National Level in the Field of Telecommunications (Geneva: ITU, 1968) Copied from Saunders, R. **Telecommunications and Economic Development**, The Johns Hopkins University Press. p. 77

The CCITT's other study indicated that the density of telephone lines in Sweden increased as its per capita GNP increased through time (see Fig. 3). A very high coefficient of correlation was obtained (r=0.99), indicating a very strong relation between the two variableds.

We can see that the Swedish data shows two different trends, which represent different rates of exponential growth of telephone density in relation to the corresponding growth rate of per capita GNP. Obviously, the first trend, starting in about 1900 and ending in about 1920, had a greater increase rate (Saunders, et al., 1983:76-78). This is consistent with our determinations in the first chapter regarding the emergence and the adoption of telephone in the stage of the drive to maturity.

It is important to understand that high correlations do not suggest or imply a causal link between telephone provision and the growth of GNP. The high coefficients of correlations from the CCITT studies, however, are significant enough to indicate that there is no grounds to ignore telecommunications. According to Saunders, at least, we should understand that

> If a strong telecommunications
> infrastructure is indeed essential
> for rapid and efficient development
> its neglect may severely hinder
> the success of development efforts
> in both directly productive and social
> sectors, and could impose inefficient
> spatial settlement patterns on the

> rapidly growing urban areas in the developing world. If, however, the present level of telecommunications service in developing countries is sufficient (although in many towns, villages, and informal urban settlements it is virtually nonexistent), then massive investment would be not only a misdirection of resources, but would create serious burden of unnecessary administration, training, and maintenance (1983:18).

Saunders and his associates made a comprehensive review of the available evidence on the role of telecommunications in development and determined that the telephone is a significant communication means for Third World development. They liken telecommunications to petroleum or electricity. Telecommunications infrastructure is an input to a productive process and this is particularly true in the Third World because in developing countries commercial and industrial uses of telecommunications far outweigh residential uses (1983).

Perhaps one of the most important parts of the Saunders' book is the discussion of the relationship between telecommunications and transport and energy consumption. Transport and energy consumption are crucial parts of any developing economy. Saunders and his associates determined that there are strong interactions between telephone and alternative transport models. They argue that a smoothly running transport system will stimulate telecommunications demand by promoting trade and other interaction.

An efficient road and rail travel system relies to a considerable degree on telecommunications "and good telecommunications facilities may enable some trips to be avoided, while facilitating the organization of others on short notice" (1983:121). It is necessary to mention that telecommunications has been experiencing changes in technology. Because these changes have resulted in a decline in the cost of providing communications services, telecommunication services have become much less costly relative to transport. Hence, in developing countries telecommunications can help to conserve energy resources by reduction of waste and improved efficiency in the use of fleets of road vehicles, and substitution of telecommunications for certain types of travel (Saunders, et al., 1983).

Saunders and his associates found that there was at least one study for a developing country showing that poor communication caused much unnecessary movement of empty vehicles. This study indicates that in terms of a sample survey of fertilizer distribution in India, out of all vehicle trips made by farmers to fertilizer distribution points, the proportion of trips that failed (because the intermittent pattern of supply and demand had, unknown to the farmer, resulted in the required fertilizer being unavailable) was typically 10 to 25 percent, and for some locations, it was more than 50 percent of all trips (1983:125).

Regarding the value of substitution of telecommunications for

travel, some limited evidence can be found from two regions of Kenya. A survey showed that telephone subscribers in the Eldoret region tended to make about 80 percent more telephone calls per day than those in another region, Nyeri, and that they tended to rely much less on personal visits and vehicles to facilitate communication (Saunders, et.al., 1983:130).

Saunders and his associates acknowledge that improved and extended telecommunications systems will generate additional telecommunications traffic. However, they argue that "Additional traffic is not necessarily undesirable; the benefits of the additional energy consumption may well exceed the cost" (1983:130). In other words, the overall energy efficiency of communication will have increased, since presumably a larger share of total communication will be carried by telecommunications. In most developing countries, where telecommunications networks are highly inadequate, travel is often used reluctantly as a substitute for telecommunications with high costs in terms of energy, use of capital in the transport system, and time (Saunders, et al., 1983).

In the Third World, almost 90 percent of the expenditure on telephone services is accounted for by subscribers in industry, banking, transport, and government (ITU, 1976). However, this does not suggest that there is an adequate telephone service for commerce, industry, and government. Saunders and his associates observe that throughout the developing world the unsatisfied demand

for telephone lines typically far exceeds supply and it is not unusual for new applicants to wait from two to five years to obtain service (1983). Under this kind of circumstance, a survey in six developing countries showed that even residential telephones are employed to an important extent for economic activities related to production and distribution (Saunders, 1983:207).

Saunders and his associates argue that the lack of adequate investment in the telecommunications sector in Third World nations is not because telecommunications entities lose money or require government subsidies. In fact, reasonablely well managed telecommunications entities can generate large financial surpluses in local currency (1983:12). They reported that in twelve telecommunications investment programs partly funded by the World Bank in the 1980s, nearly 56 percent of the new construction funds required would be generated internally, and the operating entities were very conservatively estimated to average more than 13 percent annual rate of return on overall net plant in service, revalued to current prices over the five years following project appraisal by the bank (1983:13).

Saunders and his associates disagree with the view that although telecommunications investments are profitable in a financial sense, only a relatively narrow and privileged sector of the community benefits directly and think that such opinions are usually based upon intuition rather than upon substantive analysis

(1983).

Saunders and his associates argue that in some of the relatively higher-income Latin American countries, telephones are well dispersed among the different classes. For instance, in 1980 the distribution of the residential telephone in Montevideo, Uruguay is about 6 percent at the upper class level, 15 percent in upper middle, 56 percent lower middle, and 22 percent in low-income level areas (Saunders, et. al., 1983:196-7). Saunders and his associates also indicate that in Medellin, Colombia, almost 70 percent of the planned 1980-90 investment in residential telephones is proposed to meet the demand of middle-and low-income families (1983:197). The ITU also reported similar findings in its publications and these will be discussed later.

As far as business telephones are concerned, the lack of necessary telecommunication service can only hurt small and middle-sized business since big enterprises are financially in a much better position to employ the necessary communication means including a telephone system.

In short, Saunders and his associates determine that

> unmet demand, high economic returns on investment, a wide diversity of effects related to development, and declining unit costs suggest that telecommunications should have a relatively high priority for new investment in developing countries (1983:181).

Heather E. Hudson and the Role of Telecommunications in Developing Regions

Hudson is one of the very few communications scholars who has consistently explored the role of telecommunications in development. Born in Vancouver and trained in communication at Stanford, Heather Hudson admitted that she had not learnt about the role of two-way communication in development until she went to the Canadian north and investigated complaints from residents of remote villages on the Labrador coast about their poor communications services. She reported that "I heard about the importance of two-way communications again and again as I investigated the requirements for communications among native people in Canada's remote north" (1984:xiii). Since then, she has paid close attention to telecommunication services in Third World nations and especially in their rural areas. In 1984, she published a book entitled **When Telephones Reach the Village: The Role of Telecommunications in Rural Development**, which was an attempt to bring together the research in the field of telecommunications and put the research questions and findings within a development framework (1984:4).

Hudson argues that the lack of definitive studies concerning the role of telecommunications in Third World development has had a negative influence upon development strategies. Telecommunications have been regarded as an urban luxury for

wealthy businessmen and nations. Hence, there is a need to develop a theory on the role of telecommunications in development (1984).

Hudson believes that telecommunications are important because of their relationship with information. Information has become more and more important in today's economy. It is also critical to organizational and cultural development. Since the function of a telecommunication system is to convey information, the ignorance of telecommunications development has resulted in an obvious disadvantage in a developing nations's ability to obtain the information required for optimum decision making (1984). According to Hudson, this is especially true in Third World nations' rural areas (1984).

To develop the theory on the role of telecommunications in development, Hudson formulated three hypotheses which were related to rural development (1984:23-25):

* Telecommunications permits improved cost-benefits for rural economic activities.
* Telecommunications permits improved cost-benefits of rural social service delivery.
* Rural telecommunications permits more equitable distribution of economic benefits.

Hudson did not test these hypotheses against the empirical evidence in her book. Nevertheless, she provided a number of studies in several Third World nations and showed that

telecommunications might be particulary beneficial at certain key points in the process of rural development.

Based upon her own studies, Hudson reports that the telephone system can really enable people to participate in their own development.

> the communication system is considered important for regional development by the Indian people of northern Ontario who cited communication as their top priority for many years. In a region where travel is difficult and expensive, the telephone allows leaders to plan, discuss priorities, and coordinate strategies. Previously the village chiefs had no way of coordination for their planning until they arrived at meetings with government or commercial agencies -- which clearly placed the agencies at a strategic advantage (1984:31).[5]

In northern Canada, the introduction of exchange telephones has also facilitated the transaction of local business and services and made it easier for the Indian people to live and work (Hudson, 1984).

Hudson presented another study in her book which was conducted by Kaul (1981). This study examines usage of telephone service available in rural India and indicates that the rural telephone density is very low. Of India's 2.01 million telephone lines in

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[5]Although the emphasis here is on the role of telecommunications in developing regions, studies conducted in rural areas of industrialized countries, such as northern Canada, are also used because of the insights these studies can provide on the role of telecommunication in rural development.

1980, only 6.9 percent of the total were located in the 580,000 villages which account for 80 percent of the country's total population. In other words, the rural areas have an average telephone density of 0.03 per hundred people (Hudson, 1984:64). Although incomes of the subscribers were higher, they were far from affluent. The rural subscribers were employed either in business or in agriculture (Hudson, 1984).

As far as the long distance calling capability is concerned, the utility of this service is very effective. "Over 75 percent of the users stated that their last call was often of an urgent nature. Nearly 90 percent of those who considered their last call urgent would have been prepared to travel personally to convey their message" (Hudson, 1984:62). That is, the telephone users have benefited from the difference between the cost of the call and the total cost of travelling personally to convey the message. "This benefit is at least four or five times higher than the cost, perhaps as much as ten times the cost of a telephone call, given the actual travel time required" (Hudson, 1984:63).

This study reveals that the telephone users have a substantial saving from the cost of travelling. A conservative estimate is that this benefit is at least four times higher than the cost. The benefit of telephone use tends to increase with distance (Hudson, 1984:63). Hudson also claims that because the telephone density in rural India is very low, rural telecommunications tends to be

a money-losing operation, and that this has prevented the further development of rural telecommunications (1984:62-63).

Perhaps the most significant finding from this study is "that demand for rural telecommunications increases substantially once rural modernization has begun" (Hudson, 1984:67). This is consistent with the history of First World electronic media development.

Hudson's other empirical evidence about benefits of rural telecommunications is studied in the analysis of the benefits of rural telephone service in Egypt by Kamal (1981) and his associates. This analysis is similar to the Indian study described above. It is based on interviews with nearly 3000 villagers in a sample of 146 villages located in 7 agricultural provinces. Since the main telephone users in rural Egypt are in nonagricultural sectors, the study focuses on key officials and tradesmen in the villages (Hudson, 1984:65).

The major conclusions from Kamal's study are

* Rural telecommunications services offer a potentially high ratio of indirect benefits to costs (85:1).

* In Egyptian villages, the service organizations derive greatest benefits from telecommunication followed by large proprietors, the trade sector, and artisans.

* Distance from major centres also correlates highly with telephone benefits. Benefits were also correlated with education levels:

> the higher the education level, the greater the benefits derived (Hudson, 1984:66).

These conclusions are significant. However, simply having a telephone in a community does not necessarily mean that it is accessible to potential users. Hudson observes that two-way radios in government offices in the Canadian north are not considered accessible by native residents, and that many communities in Canada face a major dilemma in finding the most accessible location for a village phone (1984:129).

Hudson's empirical evidence about benefits of rural telecommunications from these studies have caused criticism. For instance, B. Wellenius observes that

> --- the economic concepts utilized appear confusing. In particular, total benefits, user benefits, consumer surplus, and external benefits are not adequately distinguished (1986:162).

Nevertheless, it seems that the empirical evidence presented by Hudson is enough to support her conclusions:

* Demand for telephone service in rural areas is almost always greater than would be predicted using standard estimating techniques.
* Benefits of telephone use are greatest for provinces most distant from major cities and for villages most distant from regional centres (1984:130).

International Telecommunication Union and Telecommunications for Development

Since the 1960s the International Telecommunication Union (ITU) has occasionally addressed the issues of telecommunications for development since the 1960s. In August 1983, a joint investigatory effort of the Organization for Economic Cooperation and Development (OECD) and the ITU resulted in the publication of eighteen individual studies and their synthesis **Telecommunications for Development**. The 1983 publication made the following points:[6]

* The telephone really does seem to be a far more important factor in the development process than previously thought.
* The telephone plays a much more important part in economic development in the developing countries than in industrialized countries.
* The lower the level of a country's development, the greater the potential contribution of telecommunications to economic development.
* "Home"-telephones play a far more important role in the developing countries than was generally believed and planners no longer have any grounds for disregarding them as they have done in the past.
* The rural dweller would have faster and more reliable contact with everyone from the authorities, agricultural co-operatives to the police.
* The whole marketing process of agricultural goods would be improved.

These points were further enhanced by the report of the commission for World-Wide Telecommunications Development. The

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[6]See **Media Development**, 1986. Vol. XXXIII, No. 2, p. 4

Independent Commission further points out that in the 1980s the lack of funding for telecommunication investment is no longer the issue since several development banks have indicated that they often have more money for telecommunications than they are requested to spend. The issue now is that governments of developing countries lack motivation to invest in telecommunications (1984:11). This commission concludes that

> --- henceforward no development programme of any country should be regarded as balanced, properly integrated or likely to be effective unless it includes a full and appropriate role for telecommunications, and accords a corresponding priority to the improvement and expansion of telecommunications (1984:11).

Unfortunately, very few Third World nations have been impressed by these studies. The importance of telecommunications for their socio-economic development has not been fully realized. In order to further emphasize the potential benefits of telecommunications to developing countries, the ITU published another report, **Information, Telecommunications and Development**, in 1986.

This report further confirmed the conclusion of previous ITU publications about the great potential contribution of telecommunications to economic development. Based on field research conducted in two regions of the Philippines, this report indicates that

(i) Over 43 percent of agricultural establishments surveyed experienced potential benefits sufficiently large to justify dedicated telephone services; the average benefit/ cost ratio for these was 44.6.

(ii) Almost 45 percent of health care establishments surveyed could justify acquisition of extra telephone lines; benefit/ cost ratios averaged 33.4 for these subscribers.

(iii) Over 65 percent of miscellaneous business establishments surveyed would justify telephone service; an average benefit ratio of 12.1 was calculated for this sector (1986:122).

The broader economic benefits are obvious. A better telephone service would improve efficiency and competitiveness of markets. The report showed that the telephone could also be used to effect more direct contact between primary suppliers and final markets, the latter usually being located in major cities. This reduces the cost of distributing goods and services in the economy and permits the allocation of more resources to directly productive enterprise (ITU, 1986:123).

This study employed survey methodology. A sample of 250 business enterprises was selected with regard to the distribution of economic activity in two regions of the Philippines, Northern Luson and Northern Mindanao. During the research, one project to expand telecommunications facilities was in progress in the Northern Luson and another one was in the consultancy stage. Therefore, this study is based upon the assessment of benefits of planned rather than actual changes in the quality and extent of

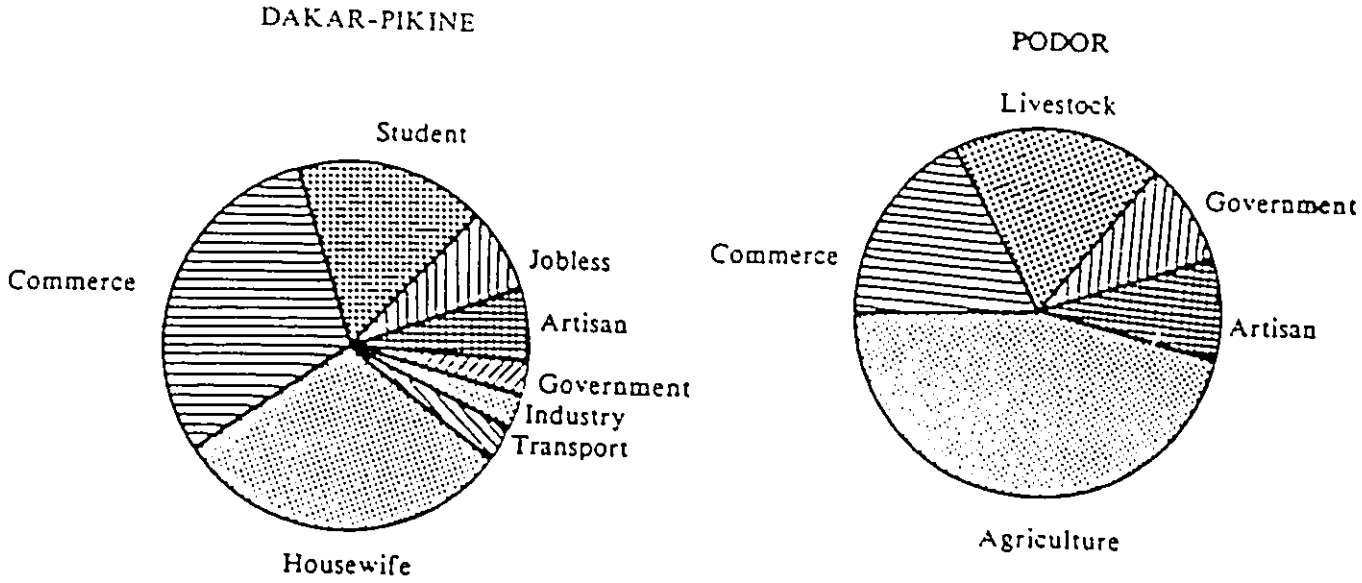
telephone services. In other words, since it was impossible to examine the actual consequences of bringing about the future improvements in telecommunication services, the respondents in the surveys were asked for their opinions on how they would react to such improvements (ITU, 1986:99).

Section V of the 1986 ITU publication is C.W. Nordlinger's "Users of Public Telecommunications Facilities and their Benefits in a Developing Country: A Case Study of Senegal". Based on interviews with approximately 700 users of public telecommunications services in all eight regions of Senegal in 1983, Nordlinger (1984) found clear evidences to support his two hypotheses:

> The beneficiaries of telecommunications in Senegal include substantial numbers of people from low-income groups as well as high-income groups.
>
> The benefits to users in remote rural areas are greater than benefits to urban users.

All the questions in Nordlinger's survey were asked of all users who would cooperate with the telecommunications agents administering the questionnaire. With the cooperation of the "Office des Postes et Telecommunications" of Senegal and its international counterpart, TeleSenegal, the questionnaire was administrated to the clients immediately after completing a telephone call. After the micro-economic data collection. Nordlinger presented the following table.

TABLE 1
GRAPHICAL REPRESENTATION OF THE TELEPHONE USER OCCUPATION IN AN URBAN AND A RURAL AREA



Source: ITU, (1986). Information, Telecommunications and Development, Geneva. p. 133.

This table shows that practically all layers of the population use public call offices. According to Nordlinger's interpretation, the usage of telephones is not limited to the elite.

> Users from commerce are somewhat more strongly represented in urban than in rural areas, but the deviation from the sample mean of 24 percent is not too

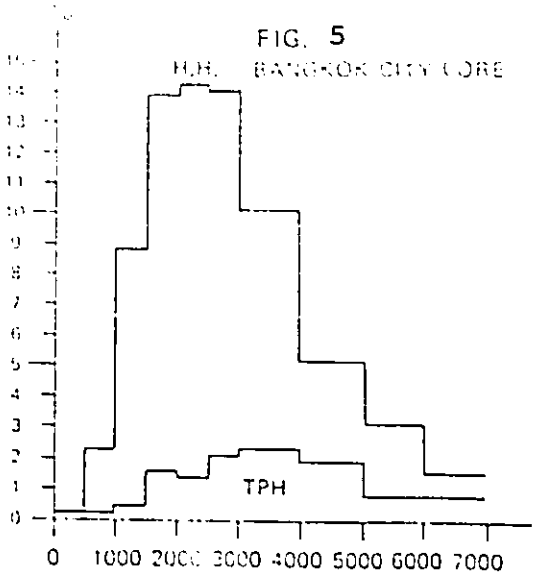
> great in either region. With 64 percent of callers living within two kilometres of the post office, it appears that rural farmers are excluded by access rather than lack of any need or willingness to pay for the service (Nordlinger, 1986:133).

Nordlinger concluded that telecommunication services are an important infrastructure for all economic groups. He also observes that telecommunication users come from all income levels and are not restricted to the large cities. He found that 40 percent of the telephone users in his sampling were from the lower income group containing farmers, herders, housewives and the unemployed (1986:143).

In Section VI of this ITU report, the same point was elaborated by a similar study on income distribution of residential users. This study, "A Social-Economic Study on Usage of Telephone Services" was undertaken in four Asian countries -- Malaysia, Singapore, Sri Lanka and Thailand. The detailed analysis of these four countries is based on their government statistical offices, banks, and telecommunication and broadcasting authorities. The analysis procedure for each country is identical (ITU, 1986). The investigation made in Thailand can be used to illustrate the income distribution of residential telephone users.

THAILAND
TELEPHONE AND HOUSEHOLD DISTRIBUTION ACCORDING TO THE EXPENDITURE LEVEL (INCOME LEVEL). 1975/76

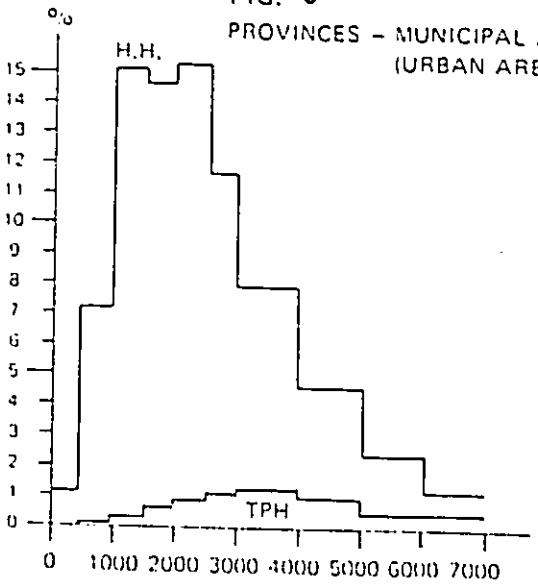
FIG. 5



MONTHLY EXPENDITURE PER. H.H. (IN BAHTS)

FIG. 6

PROVINCES – MUNICIPAL AREAS (URBAN AREAS)



MONTHLY EXPENDITURE PER. H.H. (IN BAHTS)

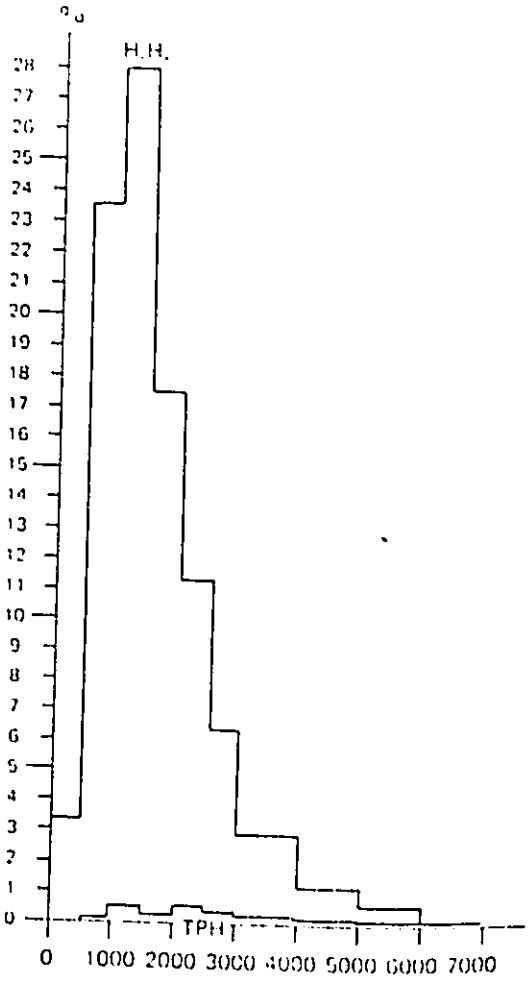
LEGEND

H.H. – HOUSE HOLD

TPH – TELEPHONE

FIG. 7

PROVINCES – SANIT. DISTR & VILLAGES (RURAL AREAS)



MONTHLY EXPENDITURE PER. H.H. (IN BAHTS)

Source: ITU, (1986). Information, Telecommunications and Development, Geneva, p. 160.

These figures are obscure to some degree because there are no clear indications on the vertical coordinate axis as far as the telephone distribution is concerned. Nevertheless, in terms of this report, it can still be interpreted that the upper line in each figure indicates which percentage of the household is within a given expenditure bracket. The lower lines indicate what proportion of these households have a telephone. For instance, it is explained that in Bangkok (Fig.5), about 14 percent of the households spend between 2,500 and 3,000 bahts per month. Approximately 16 percent of these households have a telephone. Similarly, the Figures indicate that the "poorer" half of all households in Bangkok use about one third of all residential telephones. This ratio becomes slightly less than one fifth for the provinces (Fig.7). Therefore, this study concludes:

> ... for all regions that -- above a certain minimum household income level -- all income groups have use of residential telephones, and not only the wealthier part of the population (ITU, 1986:159).

Summary

The three studies in this chapter have very similar finding regarding the role of telecommunication in development. The World Bank's book argues that the telephone is a significant communication means for Third World development. Telecommunications infrastructure leads to productive economics and this is particularly true in the Third World. Heather Hudson

observes that rural telephone services offer a potentially high ratio of indirect benefits to costs. The ignorance of telecommunications development has resulted in an obvious disadvantage in abilities to obtain the information required for optimum decision making. One of the most interesting points in Hudson's book is "that demand for rural telecommunications increases substantially once the rural modernization has begun" (Hudson, 1984:67). That is, telecommunications are closely related to the process of development. ITU's studies strengthened the argument that the telephone is a very significant means of Third World development and pointed out that telecommunications are not elite goods but important infrastructure for all economic groups on the basis of distributional criteria and that the use of residential telephones is not limited to the wealthier part of the population.

CHAPTER 4

ADOPTING ELECTRONIC MEDIA IN THE THIRD WORLD: A RECORD OF NEGLECT OF THE TELEPHONES

We have examined the historic role of the telephone in First World development and determined that an adequate telephone service is very important to Third world development in the preceding chapters. A question remaining is why Third World nations have ignored the telephone as a tool for development? This chapter will try to examine the policies for selecting and adopting telecommunication technologies and to answer the question. In this chapter, a picture of the current Third World telecommunication structure will be also given.

China will be selected as a particular example for an analysis of telecommunication policy and structure. By examining China, we can exclude the influence of the modernization theory because socialist China was isolated from the West before the 1970s. For instance, W. Schramm and his books were not introduced to China until the middle of the 1980s. In other words, the Western modernization paradigm has no responsibility for China's media development. It is true that China is a very centralized socialist country and the media are tightly controlled by the government. However, this kind of situation is not unusual in many Third World nations as far as the electronic media are concerned (Habet, 1983).

Third World Communication Policy and the Electronic Media Development: An Overview

Little needs to be said of conditions in the Third World; poverty, illiteracy, disease, rapidly growing populations and economic despair are problems for 70 percent of the world's population. Therefore, it is reasonable to expect that the decision to introduce any electronic medium in Third World nations should be mainly based upon development. In other words, the introduction of modern communication technologies in Third World nations should be part of the development plan to overcome these problems. Unfortunately, this is often not true as far as the selection and the adoption of modern media in the Third World are concerned.

Marlene Cuthbert observes that all countries have a communication policy for electronic media (1989). This policy, however, does not necessarily relate the media to development goals. According to Boafo, communication policy in each country depends on factors such as the national social, cultural, economic and political context, the perceived or expressly defined functions of communication subsystems and the policy-making expertise available in the society (Baofo, 1988:18). Among all the factors, it seems that the ideological one has the closest relationship to communication policy. Jones points out that if the ideology is committed to genuine mobilization or any other approaches, it has

access to one of the best instruments in the communication networks and systems (Jones, 1984:13).

There are three fairly distinct ideological approaches: the free market approach, the mixed economy approach, and the state control approach, all of which have led to different emphases in the development process and consequently have determined how the media are selected and used in the process (Brown, 1984:6-8).

In a country which takes the state control approach, political considerations weigh heavily in the communication policy-making process (Brown, 1984:6-7). In other words, the character of political ideology and the character of state leadership are important factors that influence the public policy agenda, particularly in the communication system. A number of Third World nations such as Cuba, Chile (in the 1970s), Nicaragua, Tanzania, Guinea, Iraq, Syria, and the socialist nations in Asia, belongs to this category (Habet, 1983).

Because countries which take the state control approach advocate a state communication apparatus that functions principally as an instrument of national integration and economic development, they have a natural tendency to accept electronic mass media for a one-way flow of communication from government, responsible for planning and implementing national development projects, to the people.

In practice, there often exists a contrast between the officially declared intentions and the reality. Boafo observes that in Africa state control of broadcasting systems had had only minimal impact on "the achievement of the expressed objectives for broadcasting services". State control seemed to have primarily benefited the ruling elite who have social-economic and political power to use the resources and channels of radio and television broadcasting to propagate their policies, values and views (1988:4). A similar situation can be found in Asia, South America and other regions (Katz and Wedell, 1977).

The free market approach suggests that the private sector is the main force of the economy, with government providing the necessary physical and social infrastructure to service the needs of private capital.

> Demand and supply in the market place determines which goods and services are produced in the economy and, where government owns or participates in productive enterprises, divestment or deregulation of ownership becomes a strategy of development. Private foreign investment is encouraged and seductive incentives are provided to attract the foreign investor (Brown, 1984:6)

In the Third World, a free market place economy does not automatically guarantee a balanced electronic media structure. Little evidence has been found that Third World nations which take

the free market approach have enthusiasm for promoting telecommunications for development. In other world, a laissez-faire attitude may mean that commercial pressures determine communication policy (Cuthbert, 1989:1). These kinds of commercial pressures often result in the adoption of the vertical oriented electronic media due to obvious reasons.

A Third World nation which takes the free market approach may use some industrialized countries as models and mobilize the electronic media to create demand through market place incentives. This, however, does not necessarily mean that this approach will yield the same consequences. For instance, in the United States, the emergence and development of broadcasting have been closely related to advertising. The prerequisite for advertising is that a manufacturing capacity begins to exceed demand. We cannot claim that this is the fact in Third World nations which have employed the free market approach. Hence, it is no surprise to find a lot of foreign ads for products of transnational corporations on the radio and television of these nations. Hamelink comments:

> In most developing countries the general pattern has been that information technology was not primarily introduced to meet the basic needs of their populations, but as the support system for expanding transnational business (1984:34).

In short, under the current economic order, in the Third World, the free market approach plus a vertically oriented

electronic media structure often result in a one-way flow of consumer goods, values, and cultures from the First World. These have been part of the basic grounds for the dependency paradigm. Moreover, Brown observes that the free market approach has not correlated with the freedom of the press in the Third World. The state monopoly of electronic mass media in these countries for their own interests is not unusual (1984:7).

Some Third World nations have a mixed economy approach. This approach allows government to be participating in various productive sectors of the economy and competing with the private sector in some areas. Private foreign investments are encouraged under some conditions. As far as the electronic media are concerned, the approach is also mixed. On the one hand, the media are used for mobilization purposes by the government; on the other hand, the private sector employs the electronic media for market place propaganda (Brown, 1984:7). These electronic media refer to radio and television. In this approach, no evidence has been found to indicate that there is much concern with two-way or interactive telecommunications.

The differing ideological approaches in the Third World did not create differing approaches to the implementation of the electronic media. Again, there is the preference for and promotion of radio and television. In terms of the data gathered by Eugen Sathere, between 1963 and 1973 the number of radio receivers

increased by 200 percent in Africa, by 350 percent in Asia and 120 percent in Latin America (1976:12). According to BBC estimates

> the total number of radio receivers in the Third World increased from 100 million in 1970 to 227 million in 1980. The Third World's share of all radios increased from 15 to 19 percent. For television, the growth was spectacular, 22 million television sets in 1970 to 69 million, an increase in the Third World's share of all sets from 8 to 13 percent (Stevenson, 1988:102).

In contrast with the broadcasting boom in the Third World, ignoring the telephone has been a common phenomenon. In 1981 developing countries totalled 70 percent of the world's population, 17 percent of its income and 7 percent of its telephones., The ratios range from one telephone per 100 people in Costa Rica to 0.1 of a telephone per hundred persons in Bangladesh, Burundi, Nepal, Burma and other countries (Rudder, 1985).

The policy of promoting electronic mass media and ignoring the telephone in the Third World has not positively correlated to national development. Nevrille D. Jayaweera observes that

> if we take two key indicators of economic growth, namely increases in per capita food production and increases in the share of world trade over the same period, it will be found that the developing countries recorded negative or negligible growth rates and that communication correlated to development in a inverse ratio (1983:12).

As mentioned, it is doubtful that Third World governments promote the electronic media mainly for the purpose of national

development and likely that other factors may also have had a strong influence on communications planners in developing countries. Therefore, even though it has been impossible to demonstrate that an investment of X-dollars in a broadcasting system led to a reduction of Y-percent in illiteracy or an increase of Z-units in GNP, the Third World has not stopped making large investments in mass media infrastructure. The following case illustrates what have been the main factors which determine the electronic communication policy in a country which takes the state control approach.

Electronic Media and the People's Republic of China: 1949-1979

The founding of the People's Republic of China in 1949 marked the shift of power from the government of the bureaucrat-comprador bourgeoisie and the bureaucrat-capitalist class over to the Chinese Communist Party. The new state was "a people's democratic dictatorship led by the working class and based on the work-peasant alliance" (Mao, 1967:37-38). Several years later, the dictatorship was changed to a proletarian dictatorship. Whether democratic dictatorship or proletarian dictatorship, they are dictatorships and have little in common with the Western sense of freedom. That is, the dictatorships indicated that China's communication system would, under no condition, serve anything but the central government.

In socialist China, every industry is owned and operated by the government. As is well known, China adopted the centralized physical planning model developed by the U.S.S.R.. In theory, all policies on economic affairs are to be formulated in accordance with Marxist-Leninist doctrine. In practice, Mao Zedong's thought dominated policy-making until the late 1970s (Cheng, 1982:29).

One of the major points of Mao's economic thought is that political concerns override economic concerns. Of all the factors affecting the Chinese economy, the primacy of ideology probably has had the most profound impact. Mao viewed ideological indoctrination, mass mobilization, and organization as effective substitutes for expertise, professionalism, and the availability of capital equipment.

In terms of Maoist theory, the Chinese government saw mass movements as an instrument of development policy. Deng Xiaoping, the former Secretary-General of the Chinese Communist Party (CCP), put it this way:

> In our country, the mass movements play their role in all phases of the socialist revolution construction. The broad mass movement guarantees that the socialist revolution can be carried out thoroughly and speedily. It also ensures that greater, faster, better, and more economic results can be achieved in carrying out the socialist construction (1960:92).

One of the basic characteristics of mass movements in China is large-scale campaigns or drives by different sections of the population. The large-scale campaign involves the use of propaganda and agitation. In short, mass movements need mass media. As far as the electronic media are concerned, the Chinese government chose radio as the most appropriate for the job of propaganda and agitation.

Radio broadcasting was supervised by the China Central Broadcasting Administrative Bureau. The bureau was a regulatory authority over all broadcasting policies and activities. It reported directly to the Propaganda Committee of the CCP Central Committee, which had to ratify all its major policies.[7] The Central Broadcasting Administrative Bureau mainly supervised China Central Television (CCTV), the national television service; the Central People's Broadcasting Station (CPBS), which provides the national radio service; and radio international, the overseas service; and the China Record Company, the Central Radio and TV Art Troupe, the Central Broadcasting Orchestra, the Broadcasting Institute, and the Broadcasting Research Institute (broadcasting engineering research institute).

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[7] Since 1982, the Central Broadcasting Administrative Bureau has changed its name to the Ministry of Radio-TV-Film. The Ministry began to report to the Chinese State Council instead of to the Propaganda Committee of the CCP in 1982. However, the mandate for the Ministry has remained the same.

To meet the requirements of the mass movement, the Chinese government began to build its radio network in 1950. Because of the low economic level of China, radio sets were too expensive to purchase for most Chinese families in the 1950s, the Chinese government stressed production of loudspeakers which were much cheaper than radio sets. By the end of 1958, wired stations were in operation in some 1,800 counties and cities, and in 5,800 people's communes. A national wired-speaker system was gradually established. At the beginning of 1980, the number reached about 88 million radio sets, along with 120 million loudspeakers in the wired network (Wang, 1988:7). In 1980, the population of the People's Republic of China was just under one billion. This means that almost every Chinese family had either a radio or a loudspeaker at that time.

It is difficult to measure how successful the government's policy regarding the radio was during the three decades, 1949-1979. It is difficult to determine exactly how well the government carried out its political and economic policies by means of radio alone, since there is a lack of detailed research available. However, we can get some idea how popular the radio was in China through the observation of Ling Yang, a correspondent for **Beijing Review** in the early 1980s:

> It is no exaggeration to say that, among all mass media, the "News and Highlights of Newspapers" programme broadcast by the central broadcasting station has the largest audience

> ... Indeed, it has become part and parcel of the lives of people across the land. ... Whether in Beijing and Shanghai or in small villages in remote areas, it is not uncommon to see people doing morning exercises while listening to the programme on a transistor radio hanging from a tree or bicycling to work with radios attached to their pockets. Villagers also listen to it on loudspeakers wired into their homes through a country-run public address system (1982:24).

With hundreds of millions of listeners, the radio broadcasting has been a powerful tool for the government to propagate its political ideologies and economic policies. The government's investment in radio has been paying off.

Based on this examination of China's policy for national development, it is not difficult to predict the fate of the telephone during the three decades discussed. In contrast to the radio boom, there were less than 0.4 telephones per hundred people in China, in 1979. "The worst shortage is in the countryside, where 80 percent of the population have only 50 percent of the telephones" (Howkins, 1982:96-97). The telephone simply could not compete with radio to help the government carry out its mass movements. Its decentralizing nature indicated its limited function for propaganda and agitation.

H. S. Dordick observes that

> The telephone is a very egalitarian technology. It is the medium through which horizontal linkages are developed, and many people of similar status can have the opportunity to talk to one another. The telephone is also private; there is

> usually no record of a conversation and consequently less scrutiny from higher-ups in the corporate structure (1983:12).

The CCP has been aware of the importance of interpersonal communication to organize and mobilize millions of people to work actively toward its goals of social change and economic development. Nevertheless, egalitarian and private natures have very little in common with the CCP's model of interpersonal communications. In order to obtain the necessary feedback about how well the government's messages reached the population, the CCP created a tightly organized network of interpersonal channels built around small groups.

The small groups were formed on the foundation of existing organizational boundaries-classrooms and rows, platoons and squads. The small group was a vital part of the system of downward communication and played an important role in communication involving public commitment and persuasion. Individuals were expected not only to become aware of and understand the government's goals, but also to commit themselves publicly to carrying them out, and to accept these goals as both right and proper (Whyte, 1979:113-115).

The key point here is that the organized network of interpersonal channels (small group network) worked effectively and efficiently without telephone. Telephone was not compatible

with the CCP's interpersonal communication system.

China's Economic Reform and the Communication Policy for a New Electronic Media Structure Since 1980

The death of Mao and the purge of the radical group ended the era of the primacy of ideology. The new leadership in China, under the strong leadership of Deng Xiaoping, swiftly shifted gears toward a relatively pragmatic, non-ideological approach to economic development. This was true at least from 1979 to 1989.

After a great number of the theoretical and practical debates about the socialist development, Deng's policies had clearly emerged by 1979. The essential parts of the policies are:

> ... over the nature of the basic dynamics of socialist development; the shift from a centralised Stalinist model of administrative allocation to a more responsive, flexible and decentralised economic system; the gradual move from an accumulation-oriented to a consumption-oriented economy; the relative importance of different forms of ownership (state, collective and private); the balance between the major economic sectors (heavy industry, light industry and agriculture); the role of market mechanisms in economics, and liberal reforms in politics, and the connection between these two spheres; and the developmental consequences of greater ties with the international economy (White, 1982:12-13).

In terms of Deng's policies, since 1980, the CCP's central concern has been economic reform and development, based on two basic points: adherence to the four cardinal principles and

implementation of reform and the open policy.[8] Chinese economic reform has been guided by the policy of a socialist planned commodity economy system that integrates planning with the market (Zhao, 1987:xi).

To correspond with the Party's central concern, the leadership of both the CCP and the Chinese government is being transformed from mobilizers to managers. Cheng and White observe:

> Turning away from the emphasis on revolutionary campaigns, class conflict, and ideological indoctrination that characterized the previous decades and especially the Cultural Revolution, post-Mao leaders in the People's Republic of China (PRC) under the new watchword of 'reform' have stressed political institutionalization, economic development, and social stability. The ultimate outcome of this development, which the new Chinese leaders advocate, will be the transformation of the party and the PRC government from a 'mobilizing part' and a 'tool of proletarian dictatorship' into organizations concerned primarily with executive and administrative functions in society (1988:371-372).

The economic reform recognizes that the socialist commodity economy cannot develop without the growth and improvement of markets. Planning should be done according to the principle of commodity exchange and value (Zhao, 1987:xi). The problem is that China's information system which is the vital part of a commodity economy, is basically vertical.

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[8] The four cardinal principles are: keeping to the socialist road; upholding the people's democratic dictatorship; leadership by the CCP; and Marxism-Leninism and Mao Zedong Thought.

According to Jan. S. Prybyla, an economic system consists of four interacting institutions (agreed-on ways of doing things). They are information, coordination, motivation, and property. Information is the generation, transmittal, and processing of intelligence about resources and goals, supply and demand (costs and utilities) in the economy on a continuous basis (1985:554-555).

The information in a planned economic system is basically vertical, since

> Information on key dimensions (including financial ones) of output and inputs (including factor inputs) is determined at high levels of the planning hierarchy on the basis of statistical data received from lower levels, preceded by some 'democratic centralist' bargaining at the stage of plan formulation. This information reflects the ranked preferences of the leadership. The information is mandatory on producers and quasi-mandatory on consumers and workers. Horizontal exchanges of information at all planning levels are minimized, especially at the level of the socialist firm where they are, in principle, forbidden (Prybyla, 1985:558).

That is, economic reform implies that the information system has to be transformed from the vertical into the horizontal, and emerge from the maximizing decisions voluntarily arrived at through direct lateral contracts by competing buying and selling units (marketization of information) to some extent (Prybyla, 1985:562).

The CCP's new approach to economic development, the transformation of the Party and the government from a "mobilizing

party" and "tool of proletarian dictatorship" into "organizations concerned primarily with executive and administrative functions in society", and the need for "horizontal information", suggests that there should be a change in China's electronic media structure. The structure should include more horizontally oriented media, instead of being dominated by radio.

The structure of electronic media in China has been dramatically changed indeed since 1980. However, the change is toward the enhancement of the vertical communication system. What the Chinese government has done so far is to invest huge amounts of money into television. The government has been reluctant to promote one of the major parts of a horizontal communication system, the telephone.

At the beginning of 1988, a large scale national survey revealed that the number of television sets in China reached 120 million and the household penetration reached 47.8 percent, compared to a mere 2 percent in 1978. The survey also indicated that the regular television audience reached 600 million, and the major function of the television was entertaining and providing official information for the audience.[9]

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[9] See People's Daily, Jan. 27, 1988. p.4

Almost all of the technology for colour television set production, as well as the major parts of the television set, are imported from either Japan or West Germany, which contributed substantially to China's $25 billion foreign debt.[10] The Chinese government has invested huge amounts of money since 1980 on large scale television set production with the support of foreign banks and corporations. According to the Statistic Bureau of China, 24.85 million television sets were produced in 1988, 10.46 million of those were colour sets.[11] However, even such large scale production did not meet the domestic market demand.

One can argue that television ownership by Third World populations indicates the improvement of their living standard. The fact is that an 18 inch colour television set will cost as much money as an associate professor in China earns in an entire year.[12] Ironically, with an average income in 1988 of only $246 per year in the cities, and $125 in the countryside,[13] the old slogan that every Chinese aspired to own a bicycle, a watch, a sewing machine, and a radio has been changed to "own a colour television set, a video tape recorder, a refrigerator, and a washing machine."

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[10] The debt figure is from Third World Affairs 1988, Third World Foundation for Social and Economic Studies, p.292

[11] The figures are from People's Daily, April 15, 1988

[12] The information is based on an interview with a University lecturer from Tianjing, China.

[13] The figures are from People's Daily, April 15, 1988

It is clear that we have to ask what has made the Chinese government and the public invest billions of dollars in television. Some students and scholars in Chinese communication studies simply state that "there is an overwhelming consensus that television will play an important role in China's modernization drive" (Sun, 1988:211) or television is making the Chinese audience "more open-minded, more active in thinking, and more creative" (Wang, 1988:9). Unfortunately, no serious research has been done so far to test these optimistic statements.

The rapid strides in the Chinese television industry make us recall Lerner and Shramm's modernization model. However, we have to look closely before accepting that the policy to promote television in China is for national development. It is true that the Chinese government has done very well by means of the TV University of the Air in offering examinations and degrees to hundreds of thousands of students nation wide, but this does not explain why the government decided to borrow money from the First World and produce colour television sets on such a large scale. There is no solid reason why black-and-white television cannot do an adequate job for the TV University.

One may argue that the development of the television industry in China occurred mainly to help the CCP deliver its political propaganda. This argument will not hold either, because it is

difficult to prove that there is a significant difference between colour television and black-and-white television, as far as promoting political propaganda is concerned.

Like the experiences of many other countries, the development of a television industry in China does help sell goods. According to a **Beijing Review** article, ads on television are "helpful in cementing ties between production and marketing and in activating the market," and "play a useful role in disseminating knowledge about various commodities and arousing the interest of potential consumers" (Yang, 1981:24). However, because the current economic system in China is a socialist planned commodity economy based on public ownership, the role of advertising in the society is still limited. Thus, it is inaccurate to conclude that advertising on television is one of the major reasons for the Chinese government to promote the medium in China.

In the aftermath of the ten year cultural revolution (1966-76), the Chinese government has been carrying the huge burden of modernizing the country and improving the people's living standard. That is, the government needs not only to commit the nation to the achievement of modernization by the end of the present century, but also to answer the public's demand for immediate evidence of an improvement in living standards. The Chinese government's answer was television. The number of television sets acquired became an indicator of the great strides the government had taken and served

as a visual symbol of its achievements in improving the living standards of the people.

It seems that the use television as an indicator of the improvement in living standards rather than as a tool for national development, has pleased both the public and the government in China. There are always more people who are ready to pay for a colour television set with their whole year's income, than the number of colour television sets that the government can supply. As far as the government is concerned, the large scale production of television sets embodies Deng Xiaoping's policy of the gradual move from an accumulation-oriented to a consumption-oriented economy. Moreover, a centralized government is always comfortable with a vertical communication-oriented medium. The economic reform did not correlate with any significant change in China's vertical communication-oriented electronic media structure. Rather, it has been enhanced.

It is clear that the fast television development in China is not for the purpose of development. In fact, China is not alone in this regard. In the majority of Third World nations, television was introduced for reasons extraneous to development. Katz and Wedell observe:

> The decision to introduce television in many countries more or less coincided with the beginnings of national socio-economic planning. One might have expected a more development-oriented

> television broadcasting policy to have emerged from the conjunction of this events, but it did not (1977:9)

In contrast to the television boom in China, the telephone has remained in a "rather backward" situation or "a strained situation" (Wen, 1983). In China, the central regulatory agency for the public switched network is the Ministry of Posts and Telecommunications. This telecommunication sector is separated from all other aspects of communication. The Ministry has frequently warned that China cannot achieve its goal of modernization without an adequate telecommunication service. However, it has never successfully competed with other communication ministries or agencies, like the Ministry of Radio-TV-Film, to promote effectively the telephone as a high priority service, and to increase allocations for it. So far, the investment in telephone service from the government is limited.

The specialists from the Chinese Ministry of Post and Telecommunication have pointed out that China must not carry on the policy of "industrialization first, and then a developing telecommunication system".[14] The wide economic reforms that have taken place since the adoption of the "open policy" in the late 1970s, have resulted in the creation of new business enterprises for which rapid, convenient communication is necessary.

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[14] See People's Daily, Feb. 10, 1989. p.1

Chapter 3 discussed the relationship between telecommunications and transport and energy consumption. One of the major problems for China's economic development has been the lack of energy and transportation resources. The economic reform has made the problem much more serious. Much research has suggested that China's consumption of raw materials and total primary energy per unit of GNP is much higher than the consumption in developed countries, but the consumption of the information flow is less than 10 percent of the world average. It has been said that if China can improve information flow, mainly through post and telecommunication, it will save from 30 to 40 percent of passenger transport costs, raise the efficiency of highway transportation from 20 to 30 percent, and save $1.6 billion in construction duplication.[15]

The direct damage on the economic development in China is even bigger. Market activity among the provinces and business with foreign countries has been negatively influenced because of the backward telephone system. The telephone is rarely seen in the countryside and more than 50 percent of the telephone calls made between provinces do not get connected.[16]

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[15] Ibid

[16] See People's Daily, Oct. 8, 1988. p.3

An inadequate telephone system is not only a hindrance to Chinese economic development, but also causes other problems. For example, Chinese news reporters experience difficulties. A simple call to check a name or figure in a nearby organization often does not take five minutes, nor even 30 minutes, but a whole hour or longer. Sometimes reporters give up and go to check the name in person. The same problems hold true for long-distance calls. A call from Beijing to Guangzhou often takes two hours to complete.[17] In Beijing, many of the phones have been in use since the telephone bureau was set up in the 1950s, which clearly indicates where the problem originates.

It has been stated that China has an ambitious plan to develop its telecommunications since both "Post and telecommunication are foundations for a society". The "ambitious plan" is to bring the total number of telephones to 33.6 million by the end of the century, or 2.8 telephones per hundred people. The question here concerns the grounds on which the Chinese government has decided to provide 2.8 telephones per hundred people by the year 2000. Wang indicates that "In countries where average per capita annual income reaches US$800, the rate of telephone penetration is around 10 percent" (Wang, 1988). As the Chinese government has announced, its economic goal is to reach an average per capita annual income of US$1000 by the end of the present century. So far, no precedent

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[17] See Beijing Review, Nov. 19, 1984. pp.7-8.

has been found to indicate that a country with only 2.8 telephone per hundred people can achieve an average per capita annual income of US$ 1,000 (2.8 vs. US$1,000). It is doubtful that the Chinese government can reach its goal without first improving its horizontal communication system.

The Chinese government's reluctance to develop its telephone service is unfortunate, since it would have obvious social and economic values. It is true that the number of telephones has increased from 0.38 to 0.9 per hundred people since 1980.[18] It is still far less than adequate in terms of the requirements for meaningful economic development. China's communication policy regarding telephone reveals just how far the government wants to go with the market economy approach. It is true that since 1980, the Chinese government has begun the process of decentralization, at least to some degree. So far, the government's most radical economic policy toward the market approach is "a planned commodity economy based on public ownership" (Zhao, 1987).

Put simply, the relationship between the market (commodity) and the plan in China is like the bird in the cage. This implies the dominance of the vertical information flow. Any horizontal information or communication development will not be allowed to break the limitation of the cage. Thus, we understand why it is

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[18] See People's Daily, Feb. 25, 1988. p.3

so difficult to promote the telephone in China.

It is true that, as mentioned earlier, the market economic approach does not necessarily guarantee a meaningful promotion of the telephone in the Third World. A developing country which takes the market approach may be attracted by vertical oriented electronic media under the commercial pressure and the current economic order. Nevertheless, the fact is that there is no precedent that a country can be developed at least economically without adequate telephone services. A meaningful economic development seems always associated with the growth of telecommunications.

> In Brazil, for example, the decade of the 1960's and early 1970's saw an annual growth in excess of 10 percent in both the economy and telecommunication systems. In 15 years, the number of telephones in the Brazilian system went from 20 to over 60 per thousand population, a figure that compares with several industrialized Western nations (Stevenson, 1988:64).

Summary

In the Third World nations, the reality of low energy and fuel consumption, poor conditions of life, inadequate diet and medical care has not become the major consideration of their electronic communication policy-makers. Although developing countries do not all have the same political philosophy, most of them share a similar electronic media approach. Their electronic

communication policies are to promote broadcasting and to ignore telephone services. In the majority of Third World nations, broadcasting media are selected and adopted for reasons extraneous to development.

The case of China indicates that the Chinese government is clearly aware of the nature or characteristics of every electronic medium. It has consciously promoted the vertical oriented electronic media system for its own political interests.

From 1949 to 1979, the Chinese government chose radio to help carry out its mass movements policy for national development and to help consolidate and strengthen the dictatorship of the proletariat. Obviously, the government ignored the telephone because it was inadequate for the task of disseminating the political propaganda and agitation.

The economic reform in China since 1980 indicates that the CCP's central concern has been changed to economic development. However, it appears that the Chinese government and the CCP have never been interested in the fact that the telephone can make a valuable contribution to economic development. The Chinese government and the public have invested large amounts of money in the television industry since 1980. The nature of the structure of vertical communication-oriented electronic media has been enhanced since then.

The economic reform did not change the CCP and the government's preference for vertical communication-oriented medium. The Chinese government has been happy to choose television and use television set ownership as an indicator to show its achievement in improving the people's living standard. The Chinese people have been long accustomed to vertical communication and have been greatly pleased by the new electronic medium. It is clear that neither the government nor the public promotes television based on consideration of national development.

The case of China in regard to electronic communication policy may not apply to all other Third World nations. However, it seems that no developing country should ignore the telephone as long as it is serious about its national economic development. In short, in spite of evidence of a fast and generous return on investment, many Third World governments have hesitated to put the kind of money into telephones that they invested in broadcasting or news agencies. This has been very unfortunate (Stevenson, 1988).

CONCLUSION

The major purpose of this thesis has been to assess the importance of the telephone in national development in the Third World. We have discussed the historical role of the telephone in First World development and examined the communications systems that each communication paradigm recommends. In addition, we explored the role of the telephone in Third World development and analyzed the policy for selecting and adopting electronic media in developing countries. The conclusion is that there is no reason for Third World nations to ignore the telephone as a two-way communication means for development as long as they are serious about their national development.

Electronic media were invented and developed in the West. The development of two-way and one-way oriented electronic media are related to the needs of different stages of social and economic development. In other words, there is a significant order in which these media emerged. According to Rostow, there are five stages of economic growth, namely, the traditional society, the preconditions for take-off, the take-off, the drive to maturity, and the age of high mass-consumption (1960).

The stage of the take-off in the United States laid the technical groundwork for the telephone system. It emerged and developed in the stage of the drive to maturity for the purpose of

the production and accumulation of commodities. The telephone is indirectly a medium of decentralization. It is also related to a more egalitarian society.

Radio and television were born in the stage of high mass-consumption. The public's needs for entertainment and the business world's demand for advertising were the main driving forces for the emergence of radio and television in the United States. At the time that the telephone was born in 1876, there was little need for advertising because in an economy of scarcity American manufacturers could sell almost all they produced. In addition, there was no market for the broadcasting media when people were not supposed to have fun in an inner-direction oriented society or in the stages of take-off and in the drive to maturity (Riesman, 1956 and Rostow, 1960).

In short, the media structure is part of the evolution of the society. The communication system has to keep abreast of the time. That is, different stages of social and economic development need different media.

This is, however, not the situation in the Third World. The history and the experience of First World media development have been ignored by both communication-scholars-for-development and Third World governments. They are acting as though they believe that Third World nations should develop one-way oriented

broadcasting media first. Nevertheless there is no justification for the Third World to promote broadcasting media for the purpose of advertising because many developing countries still cannot meet their people's basic needs such as clear water and food.

The modernization theorists assume that Third World governments would treat economic development as a matter of paramount importance and advise them to employ broadcasting to educate their people and to change their attitudes, values, or social customs. These theorists believe that this is the only way if Third World nations wish to become industrialized in years rather than centuries.

The dependency paradigm indicates that the market approach plus a vertical oriented media structure in a Third World nation often results in one-way flow of consumer goods, values, and culture from the First World under the current world communication and economic orders. This paradigm suggests two-way communications at the international level, but says nothing about the vertical communication structure at the national level which exists in many Third World nations.

The grass-roots paradigm is a model of two-way communication and the essential feature of this model is participation. Theoretically, this is the major difference between the grass-roots paradigm and the other two models. In practice, there is really

no fundamental difference among the three paradigms as far as the selection and adoption of electronic media are concerned.

The media approach of grass-root theorists is that how the forms are employed is more important than what they are employed for. This may be one of the major reasons why the grass-roots theorists have not suggested any meaningful change regarding the vertically oriented electronic media structure which is typical of many developing countries. Ironically, it seems that every medium which can be employed for the purpose of two-way communication has been recommended under the grass-roots paradigm, except for the telephone.

In the absence of much serious research about the effects of the electronic media, all three communication paradigms ignore the fact that the most successful appplications of radio and television are either for political propaganda or economic propaganda or both. The modernisation and dependency paradigms suggest, one way or another, that there is a strong relationship between vertically oriented electronic media and national development based upon unsupported assumptions.

Research has revealed that the telephone is a significant communication means for Third World development. Telecommunications infrastructure is an input to a productive process and this is particularly true in the Third World. Hudson determines that the

modernization demand for rural telecommunications and rural telephone services offers a potentially high ratio of indirect benefits to costs (1984). As far as the usage of telephone service is concerned, research findings suggest that telecommunications are not elite goods but an important part of the infrastructure for all economic groups and that the uses of residential telephones are not limited to the wealthier part of the population.

The telephone has been an indispensable tool for First World development and strong evidence also shows its important role in Third World development. The fact is that very few developing countries seem to be serious about applying these findings or have enthusiasm for promoting telecommunications. One may argue that the communication paradigms for development may have some responsibility for the situation. However, no research has indicated how much the communication policy-makers in Third World nations have been influenced by these paradigms.

An interesting phenomenon is that almost all developing countries are attracted by broadcasting media despite their different political philosophies. Their promoting of radio or television is not always related to national development. In other words, national development is not necessarily the factor, at least not the only factor, which has the most important impact on their communication policies.

The Chinese example clearly indicates that neither the government nor the public promotes television based on the consideration of national development. The Chinese government, fully aware of every medium's nature, has consciously chosen the most suitable one for the purpose of propaganda.

It seems that the telephone's political characteristics (such as decentralization) have prevented its promotion in the Third World. However, as indicated above, the strong positive relationships between telecommunication and national development have been found both in the First World and the Third World. So far, no research has reported exceptions such as high GNP with a very low telephone density or vice versa in any country of the world. Hence, we conclude that the telephone is indispensable to the development of a Third World nation even though it does not necessarily work in the interests of those in power.

Appendix 1: The World's Telephones 1982

Country	Total number of telephones	Number per 100 population
Algeria	484,973	2.5
Andorra	15,785	43.5
Argentina	2,880,754	10.3
Australia	7,684,336	52.6
Austria	3,010,110	39.8
Bahamas	71,883	34.4
Bahrain	72,564	21.0
Barbados	66,679	26.6
Belgium	3,636,074	46.8
Belize	6,250	4.3
Bolivia	135,100	2.6
Botswana	10,833	1.3
Brazil	7,496,000	6.3
Bulgaria	1,255,792	14.1
Canada	16,178,158	67.1
Cape Verde	1,739	0.6
Chile	569,969	5.0
China	4,000,000	0.4
Colombia	1,623,105	6.0
Costa Rica	236,132	10.4
Cuba	275,000	2.7
Cyprus	113,437	17.9
Czechoslovakia	3,150,477	20.6
Denmark	3,316,709	63.6
Dominican Republic	165,253	2.9
Ecuador	259,000	3.1
Egypt	534,021	1.2
El Salvador	75,920	1.6
Ethiopia	87,846	0.3
Fiji	45,323	7.3
Finland	2,374,461	49.6
France	24,686,319	45.9
Gabon	11,600	1.2
Gambia	3,744	0.6
Germany, DR	3,156,661	18.9
Germany, FR	28,553,622	46.3
Greece	1,796,435	28.9
Grenada	5,648	5.4
Guatemala	81,622	1.6
Hong Kong	1,676,298	32.7
Hungary	1,261,295	11.8
Iceland	106,767	47.5
India	2,785,096	0.4
Indonesia	450,000	0.2
Iran	1,227,293	3.2
Ireland	650,017	18.7
Israel	1,230,000	31.3
Italy	19,269,310	33.7
Jamaica	119,402	6.0
Japan	58,807,409	49.4
Kenya	198,294	1.2
Korea, Republic of	3,386,800	9.0
Kuwait	214,763	15.3
Lesotho	8,800	0.08
Liechtenstein	20,017	77.0
Luxembourg	253,000	70.2
Malawi	17,130	0.3
Malaysia	596,972	4.4
Maldives	1,061	0.7
Malta	82,735	26.2
Mauritius	37,812	4.0
Mexico	5,082,718	7.5
Namibia (South West Africa)	54,281	5.7
Netherlands	7,230,000	50.9
New Zealand	1,795,802	56.8
Nicaragua	56,000	2.07
Nigeria	173,000	0.2
Norway	1,851,683	45.3
Pakistan	367,080	0.4
Panama	191,913	9.9
Papua New Guinea	49,330	1.6
Paraguay	58,713	1.8
Peru	487,123	2.8
Philippines	537,795	1.1
Poland	3,387,396	9.5
Portugal	1,371,731	13.8
Qatar	53,324	26.1
San Marino	7,685	25.7
Saudi Arabia	442,514	5.3
Seychelles	7,105	11.1
Sierra Leone	12,500	0.3
Singapore	702,219	29.1
South Africa	2,932,963	12.1
Spain	11,844,623	31.0
Sri Lanka	83,500	0.6
Sudan	65,038	0.3
Surname	25,000	6.4
Swaziland	12,028	2.2
Sweden	6,621,000	79.6
Switzerland	4,612,382	72.5
Syria	286,000	3.1
Taiwan	3,166,169	17.7
Tanzania	93,238	0.6
Thailand	496,558	1.1
Togo	7,870	0.3
Tonga	2,196	2.3
Trinidad & Tobago	83,000	7.2
Tunisia	188,476	3.0
Turkey	1,902,081	4.2
Uganda	45,857	0.3
United Arab Emirates	208,896	20.0
United Kingdom	28,454,000	51.7
United States	191,595,000	83.7
Uruguay	287,140	9.9
USSR	23,707,000	8.9
Vanuatu (New Hebrides)	3,000	2.5
Venezuela	929,000	6.6
Yugoslavia	2,133,225	9.6
Zimbabwe	224,352	3.0

Source: Dordick, H. (1983). "Social Use for the telephone," Intermedia, 11 (3). p. 35

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