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**A CRITICAL ANALYSIS OF TELECOMMUNICATIONS POLICY
AND DEVELOPMENT IN GHANA**

By

Nana Ohene-Ntow

**A thesis submitted to the
Faculty of Graduate Studies and Research
in partial fulfillment of the requirement
for the degree of
Master of Journalism**

**School of Journalism and Communication
Carleton University
Ottawa, Canada
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A CRITICAL ANALYSIS OF TELECOMMUNICATIONS POLICY
AND DEVELOPMENT IN GHANA

submitted by Nana Ohene-Ntow
in partial fulfilment of the requirements for
the degree of Master of Journalism

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Communication

Carleton University, Ottawa, Canada.

May 26, 1994.

DEDICATION

To my former teacher and mentor,
the late Professor Paul Ansah,
whose interest in politics and
public affairs had nothing to do
with personal gain.

ABSTRACT

Since the introduction of the first telegraphic systems in Ghana (then Gold Coast) in 1881, the infrastructure of telecommunications has seen only modest improvements. In the context of an emergent information society, the inadequacy of the infrastructure, both in quantitative and qualitative terms, becomes even more poignant. In the following study, I show, by the evidence available, that this situation has come about as a result of a lack of priority given to the development of telecommunications over the years, by policy-makers.

This lack of priority at the policy level is symptomatic of the general lack of appreciation of the role an efficient telecommunications system plays in national development as a whole. I provide a critical analysis of the telecommunication policy field in Ghana, against the background of a theoretical discussion of communication in development.

It is the central thesis of this study that information technopolicies ought to be designed as part of a holistic national developmental policy framework. I further propose that such telecommunications policy instruments as deregulation and privatization that are being pursued in Ghana under a World Bank/ IMF-sponsored rehabilitation and reorganization programme, ought to be implemented cautiously, bearing in mind the fact that telecommunications is as much an economic development factor as it is a social developmental tool.

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INTRODUCTION

There is little doubt that enormous technological developments are taking place in the field of information and communication. Rogers (1986) reports that the first steps toward the information technological revolution era were taken with the invention of vacuum tube technology in Palo Alto, California, in 1912. However, he indicates further that "the contemporary era of person-to-person telecommunications...made possible by computers" may be appropriately dated to 1946, when ENIAC, the first mainframe computer was invented in Philadelphia. For his part, Williams (1991), also indicates that:

As telecommunications and computing progress and coalesce, they are blending into a single system which many are now calling the "intelligent network." Just as machines were the principal technology of an industrial enterprise, the intelligent network is the chief tool of the information age.

Telecommunications, radio, television and computer-mediated communication systems have altered both the speed and direction of society's development even more radically. In an emergent information society in which the construction of "information highways" are already being contemplated¹,

¹ In Canada, the Ottawa Citizen (newspaper), Jan. 15, 1994, reports that the construction of an "information superhighway" is to be undertaken at the cost of \$6b, providing one of the biggest

economic prosperity, political legitimation and the social and cultural essence of nations and states (and the individual), have come to depend rather precariously on the quality and scope of a nation's informatics infrastructural capacity, and the ability to fully utilise this capacity.

The possibilities and opportunities opened by the new communication and information technologies are almost limitless (Sieghart: 1982). Levels of economic output which were hitherto not envisaged are easily achievable with the efficient deployment of telematic technologies (see Moss: 1981). Obviously, the benefits of these technologies would only accrue to an enterprise or nation in the event of that enterprise's or nation's possession of the requisite technology, both in infrastructural, organisational and manpower terms (Moss: 1981).

This study analyses aspects of the exponential increase in information and communication technologies since the 1970's, and their consequences for economic, and social development policy planning in Ghana. Of particular interest to the study are the policy concerns regarding the development and management of the telecommunications industry, and its role in overall national socio-economic development.

job creating opportunities for the Canadian economic. In an earlier issue of the newspaper, (Jan. 13, 1994, it was reported that in connection with the project, "massive changes in policy and legislation that will beneeded" have been recommended. Experts have advised that because of the critical importance of the project, no less a public officer other than the Prime Minister should take the leading role in the project.

In methodological terms, an ideal point of departure would have been to present both an overview and an analysis of some quantitative data on telecommunications and economic development correlates for Ghana. However, to date, no such studies have been carried out to ascertain and document the net direct relationship between telecommunications and informatics on one hand and the economy as a whole on the other, and also between telecommunications and specific sectors of society's life. So far, telecommunications policy discourse in Ghana has been guided less by the results of empirical studies of telecommunications and economic development, and more by the generally perceived usefulness of telecommunications in all societies today².

In the light of the paucity of data on Ghana, the present discussion will be limited to the available non-empirical information on the telecommunications industry in the country. My primary methodology for advancing this discussion thus will be to draw on primary and secondary data generated in different but comparatively relevant contexts. In addition, I undertake an analysis of existing administrative and official guidelines for the telecommunications sector in Ghana. Based on this analysis, I then make some suggestions which I hope are helpful in understanding and dealing with telecommunications and informatics policies in Ghana.

² It is my aim to attempt such an empirical study in the future, given the resources and the opportunity to do so.

The principal objective of this study is to contribute to the continuing telecommunications and informatics policy discourse in Ghana. In so doing, I hope to further advance the debate on the need for a well thought out, comprehensive and holistic development policy strategy that properly situates communications in general, and telecommunications in particular, in a dynamic, catalytic role.

I further highlight the need to for a harmonization of existing guidelines, laws and administrative instruments into a systemic, guiding framework for all aspects of the country's development. Secondly, it is the purpose of this work to help create an increased need for empirical correlational and other studies on telecommunications and development. Such studies, I believe, will be useful in guiding and enhancing the enactment and implementation of relevant policies, particularly regarding the adoption and use of new information and communications technologies and infrastructures.

Telecommunication and computer application, although not new in the sense of just invented technological innovation (at least in the developed countries), continue to be undeveloped in most developing countries, especially in Africa. Boafo (1991) has noted the underdevelopment of modern resources and facilities needed for communication in sub-Saharan Africa, both in quantitative and qualitative terms. Sub-Saharan Africa in particular is increasingly lagging behind other developing regions in the world in both the extent and quality

of communication facilities (UN: 1977). In this context, therefore, telecommunication and the gradual convergence of satellite, video and computer technologies are indeed 'new' technologies in sub-Saharan Africa.

While Dizard (1982), Rogers (1986), Williams (1991) and others point to a burgeoning information society and an emergent information economy, there continues to be a dire inadequacy of communicative capacities in most sub-Saharan African countries, and this situation holds really crucial consequences for the continent's development. Thus, under present circumstances, the need for African countries to adopt information and communication policies that would accelerate their development and use of informatics technologies is more urgent now than ever before (Moss: 1981; Bofo: 1991).

The emergence of what has been variously described as the 'global village', the 'electronic society', the 'post-industrial society', and the 'information society', inter alia, has created circumstances that virtually compel every national entity to make clearer and more substantive decisions, both in the short and long terms, regarding what types of technologies to acquire, how to manage and develop further these technologies, and what benefits are expected from their adoption and use. The International Commission for the Study of Communication Problems has suggested that development strategies should incorporate communication policies as an integral part in the diagnosis of needs and in

the design and implementation of selected priorities (Unesco, 1980: 258).

Haight et. al (1983) note that while technologies for communication and informational transactions grow by geometric progression, "attempts to make telecommunications policy are not very well informed about how the new technologies will actually behave. The technology and the form its adoption will take are constantly shifting." It has been more than 10 years since Haight and his colleagues made the above statement. However, as recently as 1990, the International Development Research Centre (IDRC) of Canada (IDRC: 1990) notes that efforts towards designing policy guidelines to deal with the information technologies (IT) in general, and telecommunications in particular, continue to be inadequate in most sub-Saharan African countries (including Ghana).

It is thus important that on the threshold (or in the midst) of an information society, Ghana delineates such policies to ensure that the development of telecommunications and other related technological infrastructures, do not fall out of sync with overall national development. The possibility of such a distortion in development without adequate policy consideration for the informatics sector is underscored by Ogasawara and Salvaggio (1983), who caution that a carefully designed telecommunications policy is needed "if telecommunications systems and services are not to 'run amok.'"

Telecommunications and information technological facilities do not necessarily provide a panacea for the seemingly endemic economic and social developmental pathologies of that part of the world described as "developing", of which Ghana is a part. However, short of technological determinism, there is general agreement that these technologies and facilities have something positive to contribute towards the development of societies, developed and developing alike, (as has been borne out by the literature and authorities referenced throughout this study).

In order for these technologies and facilities to make the required contribution to development, a whole set of political, economic and social developmental planning and action strategies are needed. In such a comprehensive, holistic paradigm, the aggregate, synthesized energies and resources of each sector of society are harnessed towards the goal of society's total development. The objective of economic and social development in Ghana, and the role telecommunications and information technologies are expected to play in that process, form the main thrust of this study.

The study is in two main sections. In order to put the study of telecommunications and information technologies in the development perspective, the first section of this study which covers Chapters 1 & 2, provides an analysis of aspects of development theory, as well as a theoretical outline of the public policy process. On development theory, modernization

and dependency are the main foci of attention.

In Chapter 1, I consider the theoretical foundations of modernization theory, a critique of the theory, and the apparent response to modernization theory, the dependency paradigm. Since modernization became fashionable with Daniel Lerner's The Passing of Traditional Society (1958), a lot has been said about the ideal of development as modernization. A great deal has also been posited to counter the claims and valorizations of modernization advocates.

What I present here is a general overview of the broad outlines of modernization theory, as well as the major criticisms brought against it as a viable blueprint for the development of so-called 'developing' societies. In discussing modernization, I also refer to the crucial importance assigned to the role of communication in the modernization process. I indicate that although I do not completely share the ideal-typical notions of modernization, particularly as far as the diffusionist model of communication goes, I recognize that modernization continues to be a plausible and influential paradigm in development thinking and practice, particularly so because the patterns of development being pursued by countries such as Ghana, continue to be significantly informed by modernization.

This situation is perhaps further reinforced by the fact that the alternative paradigm of dependency as a tool for analyzing the developmental scenario in developing countries

has offered more in theory than in practice. While dependency is a cogent analytic framework for understanding the developmental problems of so-called developing countries, the reality of transnational economic linkages (TNELs) appear to negate any real steps at developing independent, or "delinked" economies in countries such as Ghana, based on the propositions of dependency thought.

A third development theoretic paradigm, the information economy theory, which basically proceeds from the perspective of political economy, suggests that informational transactions have assumed strategic importance in contemporary development thinking. Much of my analysis of the role that telecommunications and information technologies ought to play in the development of Ghana are premised significantly on this third paradigm.

The salience of the information economy theory is reflected in the burgeoning information society, spawned by the information and communication revolution, which Rogers (1986) notes has been underway since the early 1900's, reached a virtual peak with the invention of the microprocessor in 1971. In Chapter 2, I present a closer examination of the communication revolution, the information society, and the need for communication policies that will situate national development in the context of the emerging technological and organizational changes taking place as a result of the so-called revolution.

My discussion of the necessity for communication and informatics policies required to meet the challenges of the information society, is preceded by a brief theoretical analysis of the public policy process, which has the main responsibility for designing policies that will take account of the place of telecommunications and informatics in national development. The deployment of information and communication technological facilities and infrastructures in developing countries are construed as critical public policy issues. Thus, I point to the need for public policy, more than anything else, to assume the responsibility for enacting and implementing policies aimed at the development and use of IT in developing countries.

From the broad theoretical perspectives established above, Chapters 3 & 4 take a critical look at the telecommunication policy field in Ghana. In 1983, the government launched a major Economic Recovery Programme (ERP), under a World Bank/IMF sponsored Structural Adjustment Programme (SAP). As part of that programme, telecommunications rehabilitation was identified as one of the key agenda items. Indeed by that time, telecommunications services provided in Ghana were reported to be among the most undeveloped in the world³. The emphasis placed on rehabilitation of the infrastructure, and a reorganization of the entity could thus be understood.

³ Ghana: Telecommunications Master Plan, 1989.

However, a drive towards deregulation and privatization of the telecommunications sector raises critical questions regarding the sector's role as an infrastructure for a holistic national development programme. Deregulation and privatization of the telecommunications industry in Ghana are being pursued along similar lines as in the United States, Europe, Japan, and other Western capitalist economies.

Deregulation and privatization may indeed constitute viable policy instruments for improving the economic efficiency of the sector, and its ability to manage the plethora of new technologies. However, in economies such as that of Ghana where local private capital is virtually non-existent, and where the reach of the infrastructure of telecommunications is highly limited, a deregulation and privatization programme such as is being advocated and sponsored by the World Bank/IMF, is likely to perpetuate the elitist, colonial nature of the infrastructure of telecommunications in Ghana.

Such a policy direction has every chance of falling far short of fulfilling critically important social developmental goals. My analysis thus focuses on telecommunications as not only an economic infrastructure, but more importantly as a social infrastructure which should be developed as a means of improving both the economic and social conditions of the Ghanaian population. My recommendations are based on this premise.

Having made reference to the perceived usefulness of telecommunications and IT in general to the economic, social, and other developmental processes of society, the cardinal recommendation of this study is that development policy planning in Ghana ought to adopt a holistic approach, with telecommunications serving as both a catalytic economic factor, and a social developmental function. In the paradigm being proposed here, technological, organizational and structural developments in the telecommunications and informatics sector ought to go in tandem with, and with cognizance of parallel developments in other aspects of the national entity.

The possibilities are that developing a telecommunications infrastructural and organizational set up that responds more to external demands, but is not in harmony enough with the total environment and needs of the national population, will lead to a major disarticulation and undue disruption of a cohesive, nationally relevant developmental process. Di'ard (1982) in fact suggests that if the possibility ever existed when the welfare of the entire human race could be considered, it is the possibility created by telecommunications and information technologies. These technologies thus, ought to be seen as having such a 'welfare' function, in addition to others.

Chapter One

COMMUNICATION AND DEVELOPMENT: A THEORETICAL OVERVIEW

Introduction

The link between communication and development (development being considered in both global and sector-specific terms) has long been recognised. In contemporary, market-driven societies, this linkage is increasingly being perceived as even more critical, particularly so because of the role efficient and reliable communication systems play in the competitive functioning of firms, as well as national economies (Elmandjra: 1987; Resesz: 1988). As a result, there is a continuing need for very clear, systematic and concrete communication policy objectives if any particular society has the aim of developing in economic, political, social and even in cultural terms (UNESCO: 1980).

In the face of the emerging information society, characterized by the growing influence of market factors on the social and economic fortunes of nations, the information industry has assumed an even greater importance in the development equation (Elmandjra: 1987; Riddle: 1988; Cruise

O'Brien & Helleiner: 1990). The accelerated usage of Information Technologies (IT), ranging from such basic tools as word processors and laser printing machines, to full-fledged computer systems, fibre-optic-dependent telecommunications and satellite systems, call for a critical re-evaluation of both the theoretical conceptualization of communication and development, vis-a-vis the policy directions guiding development.

The need for such a critical consideration of the phenomenon of information technologies in development is reflected in the far-reaching consequences these technologies have for economic, social, and even political and cultural processes of contemporary societies, richer and poorer societies alike. For poorer, economically less prosperous societies, this need becomes even greater, considering that the lack of access to some level of information technological infrastructures, goes to further deepen their poverty in a burgeoning information-based economy (Becker: 1987; Riddle: 1988; Cruise O'Brien & Helleiner: 1990).

The theoretical and policy concerns regarding development, and the role information technologies, particularly telecommunication, has to play in that process, form the major themes for this study. The discussion will be presented in two parts. The first part will look at some of the theoretical assumptions underlying communication and development, and part two examines aspects of the policy

considerations needed to be addressed particularly by Ghana in building communication capacities that would support and speed up development.

In this chapter, I will provide a theoretical discussion of two of the dominant theoretical perspectives on development, namely Modernization and Dependency. It is useful to provide such a theoretical framework for this discussion because most developing planning policy in both developed and developing capitalist and non-capitalist societies, are studied, analyzed, and indeed premised on these two broad theoretical perspectives (Frank: 1972; Munoz: 1981; Apter:1987).

For purposes of a more focused discussion, Ghana will be used as a case study for the second aspect of the study (as indicated earlier). The choice of Ghana is not made against any special set of criteria, except that it happens to be a developing country in one of the world's most economically depressed regions- sub-Saharan Africa, and also because of my personal interest as a citizen of Ghana.

Modernization Theory

One of the most pervasive theoretical formulations that emerged in the field of communication and development is Modernization Theory (Lerner, D.:1958; Apter: 1987), and others. Lerner's name comes up as one of the foremost theorists in the field, especially in the application of

modernization to development in developing countries, and the role and importance of communication in the process. To Lerner: "Modernization is the process of social change in which development is the economic component."

This model presents modernization as development. In fact the two concepts are used interchangeably, and the basic framework for analysis and criteria for indexing development are economistic. The essence of modernization or development are to raise the economic output of a society's resources and energies.

The process of development in the sense of the modernization paradigm is depicted as historical, hierarchical and structural-functionalist, in which the presence or configuration of a set of discrete historical, economic, technological and human variables, (given certain purposeful, usually political direction), should yield the outcome of development or modernization of society. Development is perceived in a teleological sense, with an almost simplistic cause-effect frame of analysis, based on an ideal set of objectives which are achievable, given the application of the right amounts of scientific, technical, managerial and organizational know-how, among other inputs. In Apter's (1987) words:

Industrialization, the dynamic factor, results from a process of augmentation of manufacturing outputs. In turn, these derive from the application of (increasingly rapid) innovation (scientific and technological) to the productive infrastructure (p.16).

Linearity and evolutionarity are primeval characterizations of this paradigm of development, based on global generalizations from the Western case.

Lerner posits for example that:

The Western model of modernization exhibits certain components and sequences whose relevance is global. Everywhere, for example, increasing urbanization has tended to rising literacy; rising literacy has tended to increase media exposure; increasing media exposure has gone with wider economic participation (per capita income) and political participation (voting).

Lerner's conceptual model which emphasises the historicity and linearity of development from traditional to modern or developed society, follows closely, virtually in a paradigmatic manner, the formulations of Max Weber, Parsons and others. Within the context of an Ideal-Typical analytic framework, Weber for example, refers to the need to distinguish between Ideal-Typical constructs and the actual process of change and development towards the attainment of the ideal-typical telos.

Kunczik (1984) quotes Weber as follows:

The series of types which actually results from the selected conceptual criteria appears then as a historical sequence unrolling with the necessity of law. The logical classification of analytical concepts on the one hand and the empirical arrangements of events thus conceptualized in space, time, and causal relationships, on the other hand, appear to be so bound up together that there is an almost irresistible temptation to do violence to reality in order to prove the real validity of the construct.

This theoretical construct seeks to exemplify the universal, evolutionary nature of change, and further emphasises the presence of a utopian model, the ideal-typical,

or in Lerner's metaphor, the modern, to which 'the actual process of change', apparently from traditional to a modern state of being, should aspire to attain, and against which the outcome of this process is measured. Weber posits a historical research framework as a tool for measuring or determining "how near or how far reality is from that ideal picture" (Kunczik, 1984). The model perceives development as travelling along a linear, historical continuum.

Modernization theory conceives of the Western model as a general developmental model which is virtually an inevitable baseline for development. This conceptualization provides the theoretical basis for Lerner's traditional/modern dichotomous analysis. For Lerner, modernization is thus merely a new name for an old process: "...the process of social change whereby less developed societies acquire characteristics common to more developed societies"(1968: p.368).

As indicated previously, Parsons also provides some of the bedrock for the modernization model. In The System of Modern Societies (1971), Parsons argues that the trend toward modernization has become worldwide. In particular, the elites of most non-modern societies accept crucial aspects of the values of modernity, especially economic development, education, political independence, and some form of democracy (see also Smith & Inkeles: 1974). This thesis Lerner identifies with and reinforces, when he posits that the process of Western modernization is virtually irreversible,

and its relevance global (op. cit).

Critique of an Orthodoxy

Teheranian (1977) has noted four analytic categories embedded in modernization theory:

1. Stage theories - which hold that development is a lineal, historical process that proceeds from one inevitable stage to the next. This view presents development as a rather naturalistic, orderly phenomenon.
2. Differentiation theories - which are basically advanced by sociologists and political scientists, stressing that the process of development lies in the increasing (apparently organic) differentiation of structures and functions.
3. Index theories - which emphasis the importance of economic and material indices (for example, GNP) as constituting the major yardsticks for measuring development; and,
4. Diffusion theories - which tend to see communication, the transmission or diffusion of new and 'improved' way of doing things as the crux of the development process and effort.

It is important to note that theories of communication in development have been greatly influenced by the dominant theories of development itself. For example, Lerner's modernization theory contributed in no small measure in providing the developmental elements of Rogers' (1962) Innovations Diffusion theory of communication.

Kunczik (1984) notes that a central element of any modernization model of the development process is the diffusion of innovations. In its lineal conceptualization, development would proceed along the trajectory of time and space, and in the event of any weak links or resistances in the chain of communication from innovator (agent of development/modernization) to beneficiary, (object of development/modernization), the attempt to disseminate innovations would be rendered fruitless. At this point of the developmental process, Rogers' Two-Step Flow theory of communication (and later modifications to it), serves to provide a theoretical basis for the role of communication in the modernization process, thus establishing a crucial link between communication and development (or modernization).

It has to be noted that although these theories deal with communication and development in a general sense, their major point of departure is the role of mass communication or the mass media in economic development. Lerner and Schramm (1967) categorically equate 'development' to 'modernization', and within that theoretical perspective assign communication, particularly mass communication, the role of facilitator to the process. They indicate their concern with and interest in "the use of communication as part of the most widespread and spectacular pattern of social change...., the economic and social development that we call modernizing of society" (p.6).

At this stage of the development or modernizing process, the demands on communication are proportionately greater than at any other stage of social growth. Communication is required to help survey a new environment, raise people's aspirations, guide and control a dynamic process and socialize citizens to a new and different society that is only now emerging.

Stage theories and the linearity of development from so-called traditional to modern states are key conceptual frames, and communication is assigned an almost indispensable role in the process. It is in fact a major determinant index of the level of development achieved. Schramm's depiction of the communication factor in development is revealing:

The growth of modern communication is itself one of the phenomena of economic development. The mass media and other related organizations come into widespread use to supplement and complement the oral channels of traditional society. Their development runs parallel to the development of other institutions of modern society, such as schools and industry, and is closely related to some of the indices of general social and economic growth, such as literacy, per capita income, and urbanization (p.7).

It needs to be stated parenthetically that the set of indices of modernizing growth formulated by Lerner have undergone major criticism, reconsideration and modification. Schramm and Ruggels note, for example, that urbanization seems no longer to be basic to the growth of literacy and the mass media as Lerner had found it to be in the 1950's (p.8). Indeed, since the mid-1970's, Rogers, Schramm and Lerner himself have made significant modifications to their earlier

configuration and modelling of the development/modernization construct.

Despite these revisions however, the basic kernel of modernization as a hierarchical, historical process continues to enjoy enormous theoretical and practical application in development thought and practice. In fact, much of what most developing societies are pursuing as development, and what is handed down or suggested to these societies by international donors and development experts, differs little from the orthodox conceptualization of modernization. The centrality and dominance of modernization theory on contemporary development thinking and practice continues to be strong.

Communication may not only be considered in terms of its usefulness as a support for economic and material development. In the sense of cultural continuity and national cohesiveness, it has been assigned immense importance. Innis (1950) notes that maintaining political control over any geographic area requires a communication infrastructure permitting messages to be easily transmitted over the entire area. Innis emphasises the importance of two elements: time and space; that with particular regard to technology, communication should be both durable in the extent to which it can be preserved over time, and also have the capability to link together members of a society in a national entity.

Dependency Theory and Communication

Much of the incentive that energized modernization theorists to modify their earlier formulations could be attributed to the challenge of the modernization paradigm posed by dependency theorists who perceived modernization as perpetuating the dependent situation of developing societies on the developed West. Caporaso (1981), underscores this challenge: "Dependency theory has become one of the foremost interpretations of development as well as a critical challenge to conventional development theory."

The major criticisms of dependency scholars of the modernization paradigm was that, through a transplant of the Western model, the process of so-called development that was to occur in developing societies only ends up as an extension of Western hegemonic values, and not the actual development of peoples in these 'undeveloped' societies. Perhaps the most important element of dependency is its identification of external factors as the major causes of underdevelopment, and the inability of the dependent economy to develop without undue dependence on external, world systemic forces

(Frank: 1968; Cardoso: 1973; Amin: 1976; Cardoso: 1978; Caporaso: 1978; Evans: 1979).

Cardoso (1973) states that:

Capitalist accumulation in dependent economies does not complete its cycle. Lacking autonomous technology, as vulgar parlance has it, and compelled therefore to utilize imported technology, dependent capitalism is crippled....It is crippled because it lacks a fully developed capital goods sector. The accumulation, expansion, and self-realization of local capital

requires and depends on a dynamic complement outside itself. It must insert itself into the circuit of international capitalism (p.163).

From the dependency perspective, development was viewed not only as a processual, lineal occurrence of change, with an overriding emphasis on economic outcomes and indices. Rather, it was to be considered within the holistic context of a set of economic, cultural, and spiritual needs of people.

As is evident from the definitions provided in the literature, the ability of developing societies to develop largely as a result of their dependence on internal forces, and their utilization of internal resources, is of particular importance to dependency theorists. Self-reliance is considered to be a key index of and factor in development.

Among other objectives of development, Hedebrö (1982) emphasises self-reliance, and goes further to propose communication strategies that would help realize the objectives of self-reliant development. He bases his analysis on a definition of development posited by Goulet which sees development as:

Freeing men from nature's servitudes, from economic backwardness and oppressive technological institutions, from unjust class structures and political exploiters, from cultural and psychic alienation...in short, from all of life's inhuman agencies (1971: p.xx).

This approach to the development problematic attempts to subsume within it economic and non-economic indices, and also tends to analyze the underdevelopment of developing societies from a dependency theory perspective. Hedebrö explains that

development in this perspective implies a process whereby the overall personalities of the peoples of developing societies are rehabilitated and strengthened after years of dehumanization (p.103). Development, then, is as much the development of humankind as it is a development of material living conditions.

The dependency theory undertones of Hedebero's analysis emerge more strongly when he points to the effects of colonialism, (i.e. external/historic factors), and post-colonial economic structures and world systemic linkages on the developmental chances of developing societies (p. 104). He identifies in developing countries, an inherited economic structure designed to function in an era of colonial rule and thus ill-suited to the needs of the majority of the population.

The dependency theory perspective is quite adequately captured by the following quote from Hedebero:

In most countries the heritage after independence was an economic organization ill suited to the needs of the majority of the population. But it was also something much more. Colonial rule damaged and destroyed the values, practices and organizations that had been developed over hundreds of years in harmony with the surrounding environment. The new social and economic relations imposed from outside resulted in an alienation of people from their original and natural potentials (p. 104).

A definition of development by Inayatullah (1967) accords quite closely with Hedebero's. In his view, development is "a process through which a society achieves increased control over the environment, increased control over its own political

destiny, and enables its component individuals to gain increased control over themselves". This definition contrasts significantly with the modernization perspective enunciated by Rogers and Shoemaker (1971: p.11).

Development is a type of social change in which new ideas are introduced into a social system in order to produce higher per capita incomes and levels of living through more modern production methods and improved social organization. Development is modernization at the social level.

From the perspective of theorists like Inayatullah, Hedebrö and others, one of the most urgent goals of development is thus the "dealienation" of people, and the related key concepts of:

i. Self-reliance; ii. Participation and liberating education; iii. Equity in distribution; and iv. Rural development and leadership.

With these basic concepts established as the key underpinnings of the development effort, communication is to be developed, structured and implemented towards the realization of these broad objectives. Within this context, communication is to be designed as a dialogue (for example, interactive broadcasting and telecommunications facilities), an exchange of information between leaders and the rest of the population. The essential element of participation in development is expected to be realized when people are more involved in the communicative process, in both the extent to which they can influence the content of communication, and their level of direct participation in manipulating the

channels of communication.

The lack of participation in social communication and of development itself is attributed in part to knowledge gaps that exist, first between developed and developing countries (at the international level), and secondly between groups within the developing countries themselves.⁴ Equity in the distribution of the benefits of development in general is seen as greatly hampered if the majority of the population do not possess the knowledge required for their active and intelligent participation in social, economic and political processes of the society, and the facilities for doing so.

Equity in the distribution of the benefits of development is thus seen as being contingent on equity in participation. This in turn is perceived to be largely dependent on the extent to which equity exists in communication and knowledge distribution. From this perspective, the major pillars of dependency theory emerge. First is a categorical rejection of stages theory which presents a dichotomous analysis of development and underdevelopment in the theoretical framework of traditional versus modern societies - traditional being undeveloped and backward, and modern being developed, basically along Western industrialized lines.

⁴. Within the developing countries, this gap tends to manifest itself in an urban/rural dichotomous relationship.

The second feature is a reification of the external (historic and current) factors that are perceived to be responsible for the underdevelopment of developing societies (Frank, G.A. The Development of Underdevelopment). In what is considered by some as a controversial assertion, Frank maintains that Latin America's underdevelopment, for example, could not be attributed to an internal historical factor (such as feudalism) but rather to the external historical factor of colonialism, and world capitalist exploitation.

From its historic colonial structure, the economies of Latin American countries, like most other now undeveloped regions of the world, have been drawn into an orchestrated world system of capitalism which perpetuates their underdevelopment while feeding the capitalist development machine in the core regions of the world system.

Stemming from basically dependency perspectives, calls for a New World Economic Order emerged in the early 1970's, and with this came calls for a New World Information and Communication Order (Hanson & Narula: 1990, 38; de Melo: 1991, 203-207). Just as calls for a new world economic order have not managed in any significant way to change the fortunes of poor countries, nor address any perceived inequities in the so-called world system, calls for a new world information and communication order have not really changed existing imbalances in international communication (Kivikuru & Varis: 1986).

It is significant to note that dependency theory, while attacking the existing world structure, has not provided any particularly different alternative especially in the field of communication and development. The concept of Development Communication, which some prefer to call Development-Support Communication (Parker and Mohammadi: 1977), appears to be the communication theory corollary of dependency theory.

A closer examination of the basic outlines of development communication however presents probably mere modifications of Diffusion theories which essentially belong to the modernization school. This is more clearly seen in the definitions and role of communication in development provided by the Unesco, and which have tended to provide the main frame for development and communication policy strategies followed by most developing countries. The theory of development communication, thus, could be seen as either a mere modification of diffusion theories, or in fact nothing new but diffusion theory itself.

Communication In Development

As indicated earlier, there have been some modifications of modernization and diffusion theories to reflect the development concerns of developing countries. However, the dominant theoretical framework that guides and influences communication and development in most developing countries continues to be the modernization paradigm. And for most

developing countries, Unesco (1980) has provided one of the most comprehensive proposals for change, stressing particularly the role of communication and information in the process.

The proposals of Unesco, while paying attention to the peculiar needs and circumstances of developing countries, are generally cast in modernization rhetoric. For example, the diffusionist elements of modernization theory are generally re-echoed by the Unesco (1980) when the organization proposes that:

...The growing awareness on the part of populations of the need for...changes is extremely important. This awareness is indeed a powerful factor, enabling them to organize and prepare for change. To this end, communication cannot be the monopoly of the media, but must also occur through the intermediary of teachers, extension workers in health care, agriculture, etc., who have a vital role to play in progressively generating a climate of awareness and thereby eliminating the fears which the process of change sometimes arouses in people's minds.

Unesco's perspective of development attempts to embody both economic and non-economic goals, and provides in general terms a broad analytic framework for the subject of development. Apart from higher productivity, improved health and housing, and appropriate marketing conditions (which are examples of the economic objectives of development), Unesco, like most other advocates of "another development" (e.g. Nerfin :1977, Hedebo; Inayatullah, etc.), also point to the salience of such valued qualities as self-reliance, cultural identity, freedom, independence, respect for human dignity, mutual aid and participation in the determination of a

people's destiny. Emphasis is placed on what is now described as the Quality of Life Index (QLI). In consonance with these new imperatives of development, communication is to be structured, developed and carried out accordingly.

The Unesco Commission on communication problems (1980) posits that:

Today's thinking is centred less on the media, the modernization of technologies and the expansion of infrastructures and more on social, political and cultural environment as well as on the message itself - its nature, role and content...(p.16).

This 'new' emphasis does not, however, negate the modernization undertones of the role Unesco assigns communication in the development process. There is both a link between communication and development, and a catalytic role assigned communication, both considerations tending to show evidence of their modernization theoretic content. The commission expresses its view of the interlink between communication and development thus:

Communication and information have always been linked, at least implicitly, to work and production, but now it has become easier to see the connection....There is no longer any room for uncertainty either about the role that communication should play in economic planning, nor about its place in development strategy, nor about the need for resources that should be devoted to it by every nation and by the international community (pp. 24-25).

A significant amount of emphasis is here placed on interconnectivity of development and communication, and secondly, the specific functions communication is expected to perform in bringing about development. At one level, communication is seen as an integral element of the overall

development plan. At another level, it is perceived as a major sector in its own right, and as a catalytic element that helps to propel and harmonize the intersectoral developmental process.

The basic concern here is linking communication facilities and activities to other national objectives, and integrating communication development into overall development plans and activities. Communication is thus not an autonomous, separate sector. Although a sector in itself in terms of economic activity, interdependence and the need for an intersectoral approach to development make it essential to develop communication policies and strategies which are not limited to information and mass media, but encompass the totality of the development needs and aspirations of the society at large.

This point is emphasised by Unesco:

We must not lose sight of the fact that communication policies which go hand in hand with those formulated in other fields, i.e. education, culture and science, should be designed to supplement them. Communication should interrelate with these other sectors, so as to promote social, educational, scientific and other services (1980: p.204).

Hyden's (1986) thesis on the drawbacks of sector-specific approaches to development practised in most developing countries as against inter-sectoral approaches, provides further support for the Unesco's inter-sectoral proposals. Hyden notes that:

Sector-specific outlooks that have been so characteristic of the development debate in Africa have made the pendulum

swing too far in either direction, overlooking the inevitable links between urban and rural development and agriculture and industry, for example.

Modernization Revisited

As indicated earlier, most of the current literature on development in developing countries, and the role of communication in that process either frontally attack modernization theory or seek to make some modifications to it. The most critical perspectives on modernization have been advanced by dependency scholars, while modernization theorists themselves have made efforts to modify some of their earlier paradigmatic notions.

On the whole, new dimensions have been introduced to the whole discourse on what constitutes development. Valued qualities like human dignity, self-reliance, freedom, and participation in the social and political process among others, have been added to economic and material goals of development. In this redefinition of development, the role of communication is ostensibly to assume a significantly new nature and approach, compared to the old diffusionist model.

A closer examination of the functions assigned to communication in development, even in the so-called new paradigm (which puts more emphasis on other immaterial and non-economic but equally important indices of development), presents in basic theoretical framework and methodological terms, no significant departure from the

modernist/diffusionist perceptions of communication in development. The Unesco which has spearheaded some of the most provocative debates on the 'new' paradigm of development has, for example, identified socialization, motivation, and integration as some of the critical roles to be performed by communication in this new paradigm (Unesco:1980, p.14), elements which are essentially diffusionist in content and theoretical character.

The Commission maintains that while communication by itself cannot bring about development, it is true that inadequate communication renders development slower and more difficult. In advancing this thesis, the usefulness of communication in creating "awareness on the part of populations of the need for...changes" is seen as "extremely important", a position not radically different from the old diffusionist paradigm.

It is, however, interesting to note that the new dimensions of the definition of development require that the national distribution of communication infrastructures, and the content of communication have assumed more critical dimensions as well. The policy concerns regarding the development of communication infrastructure, and the creation of relevant social, political, cultural and economic environments conducive to development will be discussed in the second part of this study.

Information Economy

According to O'Brien and Helleiner (1980), the central focus of economic activity in post-industrial societies is shifting from the manufacturing of objects to the handling of information and knowledge. As they put it:

Information is both a key intermediate input (which can be acquired at a cost) and an important factor of power in international bargaining....Access to information can therefore be a major element in the determination of the distribution of the world's income (p.447).

In the context of an emergent and increasingly pervasive information society, information and communication have assumed more strategic importance in what has been described as the information economy or the 'new' economy (Riddle: 1988). More and more, the focus of economic activity in post-industrial society is shifting from the manufacturing of objects to the handling of information and knowledge (O'Brien & Helleiner: 1980).

Among other factors, heightened competition in the increasingly market-oriented world economy, and the sheer crises that most national economies (including industrialized ones) are faced with have made specialized knowledge, information in general and new technological capacities for communication acquire more strategic status in development. However, continuing poverty, economic regression, and a lack of an industrial and technological base needed to sustain an information economy have conspired to make the prospect for economic development in most developing countries even more

remote.

Developing countries pursuing economic policies based on primarily internal needs rather than the overarching demands of a world market system say, have new requirements, which demand information and expertise from new sources, new information and communication systems and a means for information processing, storage, retrieval and use. This is a crucial requirement if these countries are to achieve a truly self-reliant scale of development, a goal much vaunted in current thinking on the development of underdeveloped societies⁵. In my opinion, the achievement of self-reliance in development seems to have a better chance with an improved internal capacity for communication and information, as the example of Japan (discussed in Chapter 4) appears to indicate.

The information economy thesis by extension draws attention to the increasing globalization of world interactions, particularly economic. The less developed countries are inextricably part of this growing web of global interactions. On account of such a situation, developing countries have little choice but to address the issue of their capacity for international information and communication exchanges. This is especially so considering that much of

⁵In the mid-1970's, Ghana for example, embarked on a major food sufficiency, agricultural programme dubbed: "Operation Feed Yourself". The evidence available now does not indicate that the programme achieved all its aims, but details of why the programme was not so successful, forms the thrust of another debate which cannot be dealt with in the present context.

what most developing countries hope to achieve by way of accumulation are generated from their interactions through international trade and foreign investment.

Conclusion

Communication obviously occupies an important place in the development of societies at virtually every level, (economic, political, social and cultural). But it is also quite evident that one of the basic problems associated with defining what role communication ought to play in development depends almost entirely on a society's definition of what constitutes development.

Modernization theories which perceived development in primarily per capita terms, would expect communication to perform an essentially diffusionist function, principally purveying information on new ways of life to members of an undeveloped society. Even after modernization theory had been criticized and apparently modified, the predominantly diffusionist elements of communication in development have continued to characterize communication models proposed in support of development.

From the various proposals made by modernization theorists, dependency scholars, the Unesco and information economy analysts, the salience of information and communication in development is not denied, but rather reinforced. A difference in the proposals made by the various

proponents can be seen probably only in the specific elements of communication in development that each appears to emphasise. For example, while modernization theorists may emphasise the importance of economic development in the developmental communication targeted at the larger population, dependency advocates on the other hand, may want to see greater stress put on other non-economic aspects of development such as cultural autonomy and self-reliance.

That being the case, I propose to take a closer look at the developmental problems of developing countries particularly in sub-Saharan Africa, and the communications and information policy options that would appear to provide the required support for the kind of development that these societies aspire to.

Chapter 2

COMMUNICATION REVOLUTION AND THE INFORMATION SOCIETY

Introduction

As previously indicated, the primary focus of this study is the telecommunications industry in Ghana, and the policy framework for managing it. However, the fast pace at which basic telecommunications technology are converging with other information and communication technologies such as computer and satellite systems, radio and television broadcasting, and data transmission, make it desirable to discuss telecommunications in tandem with these related technologies. Convergence, which Oettinger (1975) calls "compunications", has in fact blurred the boundaries between the once distinct telecommunications and computer industries, thus making it desirable that an analysis of telecommunications policies provides a total perspective that also takes account of other related technologies.

Defining the Communication Revolution

In 1971, Canadian academic Marshall McLuhan spoke about a "global village" in which the electronic media would homogenize the various societies of the world into a common social network. The "electronic age", he explained, is similar to the human central nervous system which is not merely a network of electric signals, but, more importantly, constitutes a single unified field of experience. McLuhan's conceptualization of the coming information society gave one of the clearest signals of an emerging phenomenon whose impact and reach was going to be indeed global, a phenomenon which held consequences for societies at every level of development, (using whatever indicators).

Towards the end of the 1970's, (viz, 1978), Simon Nora and Alain Minc (1980), identified in a report to the French President, a phenomenon in information and communication technological developments they called "telematique". Oettinger subsequently created a hybrid nomenclature for the phenomenon, describing it as "communications". Generic terminologies such as 'information society' (Dizard: 1985), 'post-industrial society' (Bell: 1973), et al, are all used to describe a phenomenon that has been spawned by a 'communication revolution'. Exactly what do we mean by a communication revolution that is creating, or perhaps has already created an information or electronic society?

Bell (1973) points to the merging of telephone, computers and television as the single most important driving force of the current communication revolution that has been underway since the mid-1970's. In the ensuing scenario, telephone, computers, and television merge into a single, yet differentiated system that allows the transmission of data, and interaction between persons or between computers through cables, microwave relays or satellite. This 'new' system makes communication much faster, and it is also organized in more sophisticated ways, thus providing the basic infrastructure for an electronically wired society, the information society. Collectively, technologies that combine computers and information processing equipment with telecommunications have become known as Information Technology or IT (see Goe and Kenney: 1990).⁶

Some salient features of this infrastructural system include wired and unwired telephone networks, data processing networks, data banks, teletext/videotext systems, facsimile systems and interactive on-line computer networks. Bell (1983) provides a concise description of the basic characteristics of each of these services:

⁶. Information is defined as the sum total of all the facts and ideas that are available to be known by a person at any time. Knowledge, on the other hand, involves refining the mass of facts and selecting and organizing what is useful (see Cleveland, 1982). Technology is defined as an organized body of knowledge which allows practical human purposes to be achieved in a reproduceable manner (see Mesthene, 1970, p.25; Brooks 1982).

Wired and unwired telephone systems: These comprise the basic telephone networks using analog or digital switching equipment, linked from point to point by means of copper cable or fibre optics (in the case of wired networks), and microwave and satellite signals (in the case of unwired networks).

Data processing networks: These would register financial and other transactions through computer terminals. Purchases made in stores and orders for supplies for example, would be sent through computer networks and transformed into programming and scheduling series. In a sense a great deal of the work done on paper would now be performed electronically.

Data/information banks (and retrieval systems): Electronic depositories of information and data that also allows for retrieval and printing of such data and information as census data, research data, abstracts and full texts of all sorts, and many others through the use of computer systems.

Teletext/videotext systems: On these systems, news, weather and financial reports, classified advertisements, and catalog displays representing a combination of the yellow pages of telephone books and the classified advertisements of newspapers for example, are provided and displayed on home television monitors.⁷

⁷. Teletext and videotext differ only to the extent that teletext is much slower in speed in its delivery of the frames of information required, and also that videotext is more highly interactive. Rogers (1986) reports that the first videotext system, Prestel, was launched in England by the British Postal Authority, a branch of the British Postal Service. Subsequently, France launched its Antiope and Tictac systems, and Canada the

Facsimile systems: The electronic transmission of documents. Documents such as invoices, orders, mail et al that would otherwise be sent by post are transmitted electronically from point to point using facsimile modes.

Interactive on-line computer networks: Interactive communication between persons or groups of persons in different locations using computer systems. Here, researchers, office managers, government departments, or university faculties for example, are able to maintain communication, using in effect, an electronic mail system that relies on networked computer and telecommunications systems. These and a myriad other technological applications constitute the basic infrastructural features of the communication revolution.

The exponential increase in the number of new technologies and applications, the critical mass dimension of adoption and use of these technologies, and the fast pace of technological re-invention, modification and improvement, all indicate something of the 'revolutionary' nature of the change happening in the area of information technologies. Once the first mainframe computer was created in 1946, it took less than a quarter century for the first manned space satellite (1957:- Russia) and the first manned space flight (NASA:- 1969) project to be undertaken. Both projects depended heavily on computer and telecommunications

Telidon, with the U.S. joining in 1983 with its own system.

technologies. The invention of the microprocessor (in 1971) which has become the heartbeat of the communication revolution, more or less ushered in the information society era.

INFORMATION SOCIETY

In his characterization of the information society, Melody (1991) states that::

Rapid advances in computer and telecommunication technologies are making it possible to generate information that was heretofore unattainable, to transmit instantaneously around the globe, and - in a rapidly growing number of instances - to sell it in information markets.

Machlup (1980-1984) and Porat (1978), among other authors, have indicated that several developed countries already devote the majority of their economic resources to information-related activities.

Salvaggio (1983: p.2) quotes Yoneji Masuda as describing the information society as one in which "anyone, anywhere, at any time will be able easily, quickly and inexpensively to get any information one wants to get". However, this situation may not be fully achieved yet even in societies that are increasingly being described as information societies, although there is some evidence that a so-called information society, is not too distant in the future (Bell: 1973).

The utility of information becomes a critical factor, if not in fact the prime mover in information societies (O'Brien & Helleiner: 1980; Melody: 1990). Telecommunications and

computer-mediated-communication are the nervous system of the emerging society. Members of this society are "tied into a vast electronic telecommunications network" (Salvaggio: 1983, p.3), and telecommunications, with its systemic electronic terminals, are seen to shape virtually every aspect of society's life. In this view, societal activity is thus mediated electronically in a most profound way (Mosco: 1989; Wasko & Mosco: 1992).

There is no precise and globally accepted definition of an information society. What is usually provided as definitions are broad characterizations of the nature and features of that society. Bell (1973) however provides an outline that captures most of the features perceived to be attributes of the information society. He defines it as: "A society that trades information as a commodity, by changing the economic sector from producing goods to producing information and services."

In Bell's conceptualization of the information society, occupational distribution would be dominated by a professional and technical class. A central principle - the centrality of theoretical knowledge - would be the source of information and policy making (Hanson & Narula: 1990, p.19). Thus, well over 50% of all economic activity is information-related. Some observers indicate that over 65% of the working population will be employed in information-related jobs involving among other things, information gathering, storage,

processing, retrieval and sale in the process of solving economic, social and political problems (Nwosu, 1987; O'Brien & Helleiner, 1980).

More and more, the focus of economic activity in post-industrial societies, as O'Brien and Helleiner (1980) note, is shifting from the manufacturing of objects to the handling of information and knowledge. The power and survival of major transnational firms, and by extension whole geo-political national entities is increasingly becoming dependent, to a very significant extent, upon their capacities to marshal information and knowledge as upon their material, physical, economic and other such resources.

Information As Commodity

The information society has presented renewed opportunities of heightened competition. Coupled with unrelenting world economic and political crises, specialized knowledge, information in general and new technological capacities for communication, information storage and processing, have collectively become probably the single most strategic factor in economic and other development (O'Brien & Helleiner: 1980; Melody: 1990).

Remote-sensing satellites can now make a field-by-field analyses of croplands, blight, mineral and oil deposits, et cetera. Data from such deep earth, space and oceanic investigation can easily be obtained and quickly processed and

used by individuals, corporate bodies and countries which have the financial, technological and infrastructural, manpower and economic resources to do so.

In 1972, for example, the United States, under the auspices of NASA, launched Landsat as part of a broader resource monitoring and assessment system. Raw data on all countries generated by this series in the Earth Resources Satellite Program is disseminated to governments, firms or individuals. But, according to O'Brien and Helleiner (1980), data which have been processed and analyzed are made available at a much higher cost, not to speak of the possible compromise of the economic security of countries who may not have the capacity to conduct such ambitious informatics projects, but data on whose national territorial resources are collected and stored by other more technologically advanced countries such as the United States.

In the context of an emergent and increasingly pervasive information society, information per se continues to acquire even more strategic importance in contemporary social, political and economic policy planning and action. Murdock (1982) notes that:

The communications industries produce peculiar commodities. At one level they are goods and services like any others: cans of fruit, automobiles or insurance. But they are also something more. By providing accounts of the contemporary world..., they play a pivotal role in shaping social consciousness....

What this means is that apart from being a 'commodity' in itself, the sale of such informational goods such as broadcast

material, data, facsimile and voice message telecommunications services, are crucial to the successful operation of other, more tangible activities such as manufacturing, trading, and even government policy formulation and politics in general.

Public Interest Concerns In An Information Age: A Developing Country Perspective

Apart from these rather congratulatory and optimistic assessments of the information society however, Salvaggio (1980) points to the need to reassess the generally implicit assumption that things will invariably turn out well. He cautions that: "A communication revolution, such as is taking place at the present time, will have a tremendous impact on our society and will create certain social and ethical problems".

For developing countries particularly, the problems associated with the emergence of the information society may be as enormous as the opportunities it presents. With the quantum leap in information and communication technology and the proliferate introduction of electronic means of information generation, processing, storage, retrieval and dissemination on a mass scale, and instantaneous, live global broadcasting, the most obvious expectations would have been at least a proximate development in the extent to which these facilities enhance the well-being of society.

But as William Melody puts it:" enormous improvements in communication have made understanding more difficult". This situation clearly presents a paradox, but the reality is that the incongruous development of information and communication technology vis-a-vis their role in enhancing democratic practices, and the equitable allocation of wealth in society, has been created by a number of factors, chiefly among them being,

1. the globalization of information and communication industries and
2. the commodification or commoditization of information.

Anthony Smith notes that : "by globalization of mass media firms we mean the concentration into large international companies of previously more locally owned information and entertainment businesses". The phenomenon presents a scenario in which in many countries all over the world, (perhaps excluding the United States which commands the greatest control in the global communication and information marketplace), information media crucial to political life are passing or have already passed into the influence and/or control of people who are predominantly not resident in those societies⁸.

⁸As I indicate in Chapter 4, there have been calls for a reduction in the extent to which government and the state get involved in the communications industrial sector. More and more, the advocacy is for privatization and private sector control (see IEEE Communications Magazine, Dec. 1993, Vol.31, No.12). The major arguments advanced to support this advocacy is that privatization increases the efficiency of the communications

As a result although the communication and information media are gradually passing from the hands of governments to the control of non-governmental and private companies, corporations and agencies, the content of the media is tending more towards commercial ends, and less and less from performing public service functions generally considered highly desirable for the well-being of society, the very objectives that are cited as reasons for the limitation of state involvement in the communications industry.

Because information products and services are becoming more and more commoditized, telecommunications, broadcasting, advertising and other communications firms tend to be more concerned about selling their wares rather than meeting some altruistic public service objectives. This commodification and sale of information products and services have been accelerated significantly by new technologies which render these products and services more easily packageable and saleable now than before.

The very globalized nature of the information and communication technology and industries make investment in them rather expensive. Melody (1989) notes that with the upgrading of telephone systems to the technical standards of ISDN that is more efficient for the plethora of new

industry in its delivery and pricing of services. Government involvement is also seen as inhibiting such liberal democratic tenets as greater levels of democratic participation in the political and social life of society.

information services required by sophisticated high-volume users, it may be significantly more costly for small-volume users and users with only local telephone service requirements.

Globalization and commoditization are thus coming together, facilitated by new and versatile technologies, to remove objectives of the industry further and further away from public service concerns to market-oriented objectives. This could make it more difficult to achieve, and for some countries maintain even universal basic telephone service (see details in chp. 4). The very high-tech nature of the emerging technologies of informatics are likely to create processual gaps in the development of developing societies. Such gaps are likely to be created due to the rate at which new technologies are introduced without adequate recognition of the local technological, social and economic environment ,among others.

IT In Developing Countries

The dilemmas which the information revolution raises for a developing country such as Ghana are daunting indeed. On one hand, contemporary development processes have come to rely so heavily on information and communication technologies. On the other hand these technologies and the information which they carry are highly value-loaded. They have dictated development patterns and seriously affected the socio-cultural environment

of the industrialized as well as the developing countries (Salvaggio: 1983).

The concern which developing countries may have in whether or not to adopt new communication and information technologies made available by the information revolution is understood against the background of a number of problematic factors associated with the use of such technologies. First, the integration of satellite, computing and telecommunication technologies for example has the capacity to create what Hanson and Narula (1990) call "communication abundance". What they mean is that there is an exponential rise in both the technical capacity for communication and the volume of information that could be transmitted. But as has been pointed out by Melody previously, such communication abundance has rather "made understanding difficult".

Also, new technologies may serve to strengthen existing technologies, thereby reinforcing the neo-colonialist patterns of the dependent relationship between developing and developed countries⁹. The transfer of technology from the industrialised to developing countries may assist the developmental activities in the developing countries. However, such transfers also have the tendency to reinforce and consolidate the economic power and dominance of developed over developing countries (Cruise O'Brien & Helleiner: 1980).

⁹See Chapter 3: "Telecommunications In Ghana: A Background."

In the whole process of technology transfer, developed countries have been found to transfer often second and even third level and obsolete technology to developing countries, not quite the state-of-the-art technology (Hamelink: 1986). Obviously this situation holds the consequence of creating even more of a disadvantage for development, and deepening cultural domination and economic exploitation of developing countries (see Herbert Schiller: 1983, "Information For What Kind of Society?", in Salvaggio: 1983).

Developing countries are squarely faced with the compelling attraction and imperatives for the use of high-tech communication infrastructure, especially within the context of an increasingly globalized world economic environment in which a country's stakes are tied rather closely to the command it holds on knowledge and information resources (O'Brien & Helleiner: 1980; Riddle: 1988). The less developed regions of the world including Ghana, are inextricably part of a growing web of global interactions (Gereffi: 1989). This requires that countries in these regions take adequate part in these global interactions. Taking part in these interactions is not a matter of choice but an issue of sheer survival in the face of the ever-deepening world economic and social difficulties, and the increasing momentum of globalization. The two world partners in these interactions however differ so significantly in terms of their socio-economic cultural and often political/ideological essence. In such a situation deciding

to join the current information and communication revolution may not be an easy task for both parties, but even more so for developing countries¹⁰. There is the need to look at the level of technical knowledge and skills available in the developing countries, their potential to build local technical capacities for endogenous development of a technological base, and their peculiar cultural environment.

The dilemma facing developing countries in these particular areas is quite debilitating in that the need for some high-level communication technologies may be necessary for certain aspects of economic and other development. There is quite a conundrum here in making the decision and choice for such necessary high-tech communication and information facilities. In the first place all the technical, socio-economic, ideological and political factors discussed above need to be addressed somewhat in order to provide a sounder policy basis upon which to premise and build the new communications technological infrastructure.

Secondly, even after these difficulties have been addressed, the availability of technology and developing country access to it may be minimal. Whereas the economies of most developing countries have virtually stagnated (if not actually experiencing negative growth) over the last two to three

¹⁰The NWICO debates that erupted at UNESCO in the late 1970's and early '80's attest to the strenuous nature of the ideological underpinnings of the information and communication sector.

decades, technological growth and advancement in the developed countries over the same period have witnessed phenomenal leaps. The capacity of developing countries to acquire high technology in general, and communication technologies in particular, is thus circumscribed by the inadequacy of their economic strength as well as the rather phenomenal pace of technology change.

In adopting new technologies which would enable developing countries to join the current communication revolution, cultural choice and sovereignty has continued to remain a ponderous problematic. Hamelink (1986) notes that as a result of the increasing globalization of the world market, mainly through the instrumentality of new communication technologies, a phenomenon of "cultural synchronization" is developing.

The dynamism and durability of culture is often strengthened through its interaction with other cultures. However, in Hamelink's words: 1. "cultural choices should be made in an autonomous way, that is, without undue external interference and pressure"; and 2. that "cultural choices should be made in an open way". What this means is that once a cultural choice is made, the people so making the choice should also be in a position to influence the cultures from which they are borrowing, and also to reject or modify the choice if it proves to be unsuitable or inadequate.

The power and speed of the new technologies, and their ability to affect the cultures of technologically and economically weaker societies, does not however seem to allow these weaker societies to make the necessary cultural adjustments at their own pace. Details of this problematic forms the basis of a separate and full-fledged debate.

Under the present circumstances, no country, developed or developing, can afford not to join the information revolution, nor can any country successfully resist its all-pervasive impact. The critical question which remains to be addressed is whether to opt for a passive attitude and accept the invasion of these technologies and their products, or to opt for a pro-active position.

The latter position, in my view, offers a more realistic way out. This then raises the other question of the crucial need for strategies and policies that take into account the models of development desired, and to ensure the social relevance of these information technologies to the development of particular societies.

Policy Necessity and the Policy Process

The mere fact that a country has a policy on any given subject matter which is of consequence to its development does not necessarily guarantee development. However, the usefulness of policy to coherent, systematic and focused sectoral, as well as overall development is too critical to be

understressed. The IDRC (1990) notes for example, that development policies are necessary instruments by which governments define national problems and set goals and direction for the development of national economies (p.3).

Given the velocity and pervasiveness of the emerging information society, it is almost self-evident to suggest that no particular society, developed or developing, would remain unaffected by the impact of developments in telecommunications and informatics technologies. As indicated earlier in this chapter, such impact is in fact going to be more than just significant on the economies, cultures, and political life of virtually all societies.

There is, therefore, an urgent need for developing countries especially, to evaluate the consequences of the emerging phenomenon, and delineate what each country considers as an appropriate policy framework to guide the development and management of their telecommunications and informatics sectors in ways that best support and contribute to their overall developmental goals. In such an endeavour, two critical questions need to be addressed: i. what level of technology should be adopted?; and ii. what kind(s) of organizational, management and operational models should be followed in the telecommunications and informatics sector?

In a sector as fast-changing and strategically crucial as telecommunications and informatics, the policy options available to developing countries in general, and Ghana for

that matter, are no easy ones. This is because these countries are technologically weak, and without adequate manpower and economic resources to meet the challenges of an information society.

However, it is evident that a non-decision or a diffused and unclear approach to policy in this area could be a worse choice. But before proceeding to discuss telecommunications and informatics policies in Ghana, it is useful to examine some of the general outlines of the theory of policy. This will be helpful for the present study in that the process of policy-making itself presents a number of technical difficulties not peculiar to the information and communication sector.

As Heclo notes (in Ham and Hill: 1984), a policy may usefully be considered as a course of action or inaction rather than specific decisions or actions. Contributions by Pal (1992) and others, all point to the notion that policy will usually evolve within what is conventionally described in policy analysis as the implementation phase rather than the policy-making phase. The key concept here is *process*.¹¹

It is important to note that the process of formulating and implementing communication and information policies even in the developed countries is still an on-going thing, with

¹¹ In conventional policy analysis, the policy-making phase of the policy process is considered to refer to the decision-taking stage, while the implementation phase refers to the actual implementation of the decisions taken.

only a few countries such as the United States, Germany, and notably Japan having considerably comprehensive policy guidelines on informatics use and development.

Contrary to Lasswell's and Dror's notion that policy analysis should be concerned with the 'presentation of utopian scenarios', Aaron Wildavsky's suggestion that analysis 'must remain anchored in the current pattern of social relationships' provides a useful point of reference for our present attempt at proposing policy options for the information and communication sector in developing countries.

Wildavsky's model may be somewhat conservative in that it pays more attention to those issues that are already identifiable issues as far as public awareness is concerned, and does not adequately emphasise other issues that may be equally important to 'public interest' concerns, but have not yet assumed salience on the public discussion agenda. The model thus tends to locate policy analysis within the framework of the existing structure of social relationships. The scope of analysis is limited to problems already on the agenda for discussion.

The important point to note here is that an issue that may be potentially important, and of significant concern to the public, may not assume an equal amount of importance on the agenda of policy-makers for the simple reason that the issue concerned has not as yet become topical for public debate. For example, from hindsight, the environment has

always been a major public policy issue. However, it did not become such an important agenda item for policy-makers until sometime in the early 1980's.

In spite of the apparent weakness of this model, however, I find it quite useful for the analysis of the informatics policy concerns of Ghana and other developing countries, probably with some modification to take account of those issues on the 'hidden agenda'. In the first place, the whole field of policy-making and implementation is processual, and does not terminate at any particular point where a satisfactory state of affairs may have been achieved.

Secondly, the problems of economic development faced by developing countries are so varied and so complex that a more feasible approach towards policy formulation and implementation would be for the policy process to deal with observable, clearly defined problems. As the process evolves, the more latent problems of the society could be dealt with as they are unearthed and clarified in terms of definable problems. This, however, does not in any way reduce the importance of long-term policy planning, nor that the concerns and needs of particular groups, (for example minority groups), are not to be adequately subsumed in the broader public policy analytic framework.

In many instances, public policy even on some specific and critically important issues such as education or energy may not be absolutely categorical and sharply defined.

However, it is obvious that governments deal with issues relating to education and energy for example, based on a number of political, economic and financial criteria and objectives.

There are situations which governments in most sub-Saharan African countries have had to deal with not based on clearly defined set of objectives or principles, but rather on the exigencies of the moment and purely circumstantial factors. An example is refugee management in Ghana.¹² This is however not to discount the fact that concrete and comprehensive policies on a number of important national and international issues exist in Ghana.¹³

Governments may end up doing many things or, conversely, not doing many things. What governments end up doing or not doing reflect a spectrum of significant tendencies in the policy field. An analysis of these actions and inactions, however, reveal that not all of such actions or inactions constitute policy. Pal (1992) draws attention to the need to distinguish between mere decisions and circumstantial actions of governments (which may occur on a day-to-day basis), and policies which tend to be carefully crafted instruments for

¹². In 1990, as a result of the outbreak of civil war in Liberia, Ghana and other West African countries were confronted and had to deal with a refugee problem. Ghana for example, does not have any national policy on refugee management.

¹³. Ghana is known to have one of the most comprehensive population policies in the developing world (see Report of the National Conference on Population and Reconstruction, Vol.1, April, 1986, Accra).

managing identified or anticipated individual and systemic problems.

From this analytic perspective, policy, then, could actually evolve both out of incremental and normative functions of governments, as well as their predictive or prognostic analysis of national situations and objectives. In the normative and incremental scenario, actions and inactions in particular directions and on particular issues end up coalescing into what the government may only belatedly realize and acknowledge as its policy or policies on those issues and directions. It is important to note however the distinction made by Pal between "mere decisions" and "policies". He refers here to the many decisions made by governments every day; some informed by policy, others simply reacting to circumstances as they unfold (p.2). At the level of predictive and prognostic policy analysis, a policy framework for dealing with future situations may be based on current trends and reasonable prognosis for the future.¹⁴

The element of conscious choice as a factor in policy analysis is emphasized by Dye (1978), who sees policy as "whatever governments choose to do or not do" (p.3). In this

¹⁴ The predictive and prognostic policy analytic methodology, approaches policy analysis from the perspective of forecasts of future directions and actions, based on trend studies. Projections of what form and direction policy should take then becomes predicated on evidence and patterns gathered from an analysis of the trends. Reasonable predictions are then made regarding the form future developments might take, and a prognostic (not prescriptive) policy framework for dealing with such a potential development is outlined.

perspective, the spending of money on some specific project, the passage of a particular legislation to deal with some concrete problem or situation, and other such actions, as well as the lack of financial allocations for other projects, and the lack of legislation to deal with other kinds of situations, all count as policy. Dye indicates that inaction may reasonably be construed as policy, depending on whether such inaction takes place in the midst of political controversy, say.

From this perspective of analysis, it is thus important that governments, especially in developing countries, and Ghana for that matter, take conscious decisions to pursue the development of particular sectors of the national economy.

Conscious choice also presupposes that there is a great likelihood of certain projects not being undertaken simply because a government has not made any clear decision regarding the particular project. Beyond observable action and inaction, there are obviously more sophisticated methods of analyzing policy, but such a detailed analysis cannot be adequately dealt with within the limited scope of this present discussion.

Still on conscious choice, Brooks (1993) presents a view that accords quite closely with Dye's, although Brooks emphasises that: "It makes no sense to speak of policy where an issue has not yet been formulated in problematic terms. Once it has, however, inaction by policy-makers becomes a

deliberate policy choice". But he also points out that in determining what government policy is, attention should be directed at both official government pronouncements, as well as the actual record of what has, and what has not been achieved (p.13).

On information and communication policies in particular, Dutton and Guthrie (1991) posit that the development of public information utilities depends more than ever before on political choice rather than technological constraint. They state that:

The adoption and design of public information utility can be viewed as a policy process that is comparable to legislating public policy on citizen participation (p.280).

The view here is that the construction of public information infrastructures such as telecommunications and computer networking systems, depend largely on the sort of policies adopted by particular societies and communities for the development of these infrastructures (see also Danziger et al: 1982; Winner: 1986; Bijker et al: 1987).

TELECOMMUNICATIONS POLICY

Considering the rather pervasive impact that telecommunications and other technologies of the information society will have on the individual and collective lives of society, the imperative for a policy framework that will take account of the quality of service, content and distribution of telecommunications hardware and software within national

territories is evidently urgent. This imperative is made even more urgent given that the burgeoning developments in hardware and software delivery systems have outpaced the formulation of public policy and an adequate appreciation (particularly in sub-Saharan Africa), of the benefits and costs of these technological developments (Slack: 1983)

The reality of the policy conundrum confronting policy-makers (and especially those in developing countries who may not be already technologically advanced), in the area of communication technologies in general, and telecommunications and informatics in particular, is depicted by Pelton (1983) thus:

Modern telecommunications [technologies]....bring with them enormous political, economic, and social problems. Yet, one cannot hide the fact that they also bring with them enormous opportunities to diminish illiteracy and even opportunities to aid the cause of world peace.

New communication technologies offer abundant opportunities for improving social, economic, and political systems. Such office automation systems as facsimile, word-processors, and computer-message systems allow rapid access to data bases, convenient deployment of analytic tools, and improved communication among decision-makers (Moss: 1981,p.x)

Moss however points out that:

None of these...benefits of telecommunications are necessarily assured. They are dependent upon policies and decisions made today and in the future by government and industry...The introduction of technological innovations is not a simple matter: individuals and groups are often resistant to change and a systematic implementation strategy is essential to assure the successful incorporation of technological innovation into existing activities and

operations. Thus, it is necessary that organizational as well as technological factors be considered in the design and application of telecommunications systems.

One major thrust of telecommunication and informatics policy thus becomes a definition of the benefits and costs of such technological developments to particular societies, and the methods for appropriating the benefits and minimising the costs associated with them. In many countries, especially developing ones, decisions about new technologies have often been made with inadequate information about the direct and indirect effects of these technologies on social, cultural, employment, and even the political life of society (Moss: 1981). Usually, the cumulative effects of new communication technologies have been felt in areas and ways scarcely anticipated (see Moss: 1981, p.xii). Even in countries such as Japan and the United States where telecommunications technologies are highly advanced, strong suggestions continue to be made for an even stronger public policy regime to guide the further development and utilization of the industry (Takano: 1992; Industry Week, 1993).

Telecommunication systems are considered the economic base for the emerging information economies of the world, and many benefits (as discussed earlier in this chapter), are associated with the electronic infrastructure they provide (see also Moss: 1982; Salvaggio: 1983; Williams: 1991, et al). However, Ogasawara and Salvaggio (1983) caution that:

If telecommunication systems and services are not to "run amok",...a carefully designed public policy needs to evolve...Instead of allowing telecommunication systems to develop on an ad hoc basis, a determination needs to be made of how they can best serve to solve existing socioeconomic problems and be used constructively...

They contend that universal access to telephone service which has been achieved in most developed countries for example, could not have been achieved without a long-range plan for mass public use of telephone. They further cite Japan as an example of a country where a strong government policy on telecommunications and informatics has provided the framework and impetus for infrastructural development and organizational and management capacities for a critical industry.¹⁵

The mention of telecommunications and informatics which basically involve and deal with high technology infrastructures, has tended, in the past, to invoke less active responses from many developing country policy-makers (IDRC: 1990). Hanson and Narula (1990) also note that inspite of propositions that developing countries pay some attention to the development of communicative technological capacities, "the real aim of the developing nations is increasing self-reliance", often in areas that are considered 'basic needs' such as food and health service.

¹⁵. Japan has a comprehensive public policy that does not allow telecommunications to be developed by the private sector alone. Also, the Japanese government has been heavily involved in researching the nature of information, has invested billions of yen into experimental information systems, and has a long-range plan for replacing traditional media with advanced forms of telecommunications as the need arises (see Salvaggio: 1983).

Policy-making has thus tended to emphasise the development of "basic needs" such as adequate food and housing, health facilities, among many others. As countries of the developing South focus attention on dealing with such basic existential problems as illiteracy, and inadequate basic health services for example, the formulation of technopolicies has suffered (Hanson & Narula: 1990).

The reasons for the inadequacy in technopolicies in developing countries might be generally plausible. However, what cannot be overlooked is the profound extent to which advances in communication technologies are affecting (and would continue to affect) the structure of economic activity, the integrity of political processes, and the character of peoples' daily lives (see Mitchell Moss: 1981). Most important to be noted is the fact that these effects and consequences are not limited to developed or industrialized societies alone. In fact, these technological developments may probably hold far more worrisome consequences for the developing societies especially because they are in less than adequate positions to deal with the technological, political, economic and management issues involved in the IT boom.

Developing countries may indeed be faced with such basic existential problems as illiteracy, inadequate food and housing, and other necessities. These problems get further convoluted by continued economic depression, and unfortunate tendencies towards political instability, especially in sub-

Saharan Africa. Hanson and Narula (1990: p.15) however point out an apparently simple, almost self-evident fact, which I suggest, provide a rather strong reason why policy issues regarding information technologies should be of critical concern even to poor countries. They make reference to the notion of communication as a basic human right as enunciated in the United Nations' 1948 Declaration of Universal Human Rights, and point out that:

Technologies in many cases, particularly in the area of telephony, are no longer considered luxury appliances, but rather necessities. These technologies, and the means to make them work, must be cost accessible to the general public.

Perhaps an even more forceful picture is the one painted by Ajami (1990). He calls attention to the shift to a world economy based on service rather than production; the internationalization of markets, and the growth in the use of computer processing and telecommunications.

Ajami's perspective points to two important phenomena in world economic trends that place information technologies in general, and telecommunications in particular, in a more especially strategic location as far as the economic and other fortunes of national entities are concerned. First is the phenomenon of globalization or internationalization of economies, (national and regional), into an increasingly systemically interconnected global unit. Second is the rise of an information society that is shifting the locus of economic activity from the production of goods and materials to the production, processing and handling of information and

services (see also, Cruise O'Brien & Helleiner: 1980).

Graham Murdock (1982) refers to the globalization in communications and information industries as the "agglomeration of small media firms" into large and sprawling trans-national media corporations is itself part of a whole process of conglomeration which has been gathering momentum since the mid-1950's. He quotes L. Hannah as follows:

Conglomeration is a product of the merger movement which has been accelerating since the mid 1950's. In the ten years between 1957 and 1968 for example, over a third (38%) of all the companies quoted on the London Stock Exchange disappeared through mergers and acquisitions.

Anthony Smith's (1991) definition of globalization (cited earlier in this chapter, p:34), provides a useful description of the phenomenon. From Smith's analysis, the nature and character of the communications industrial complex becomes clearer. The basic characteristics of this industrial complex are: 1. chain ownership of newspapers; 2. cross-ownership between media , and finally; 3. acquisition of media by ordinary industrial concerns.

Against the backdrop of these characteristic features inherent in the growing global communications industry, Smith isolates the difficult nature of problems of national regulation, policy and control that arise out of a situation whose dimensions and centres of power operate beyond and outside the perimeters of national boundaries. As indicated, globalization is shifting the control over the information and communications industries in many countries, particularly

developing, to locations and hands often outside and beyond the geo-political jurisdictions of these societies (see p.34).

The notion of transnational economic linkages (TNEL's) outlined by Gereffi (1989) provides a useful theoretical framework for understanding the basic structure of globalization, and the position of developing countries in that structure. Gereffi points to a schema of transnational economic linkages which manifest themselves in four main relational categories: i. Foreign aid, ii. foreign trade, iii. foreign direct investment, and iv. foreign loans.

The reality of TNEL's brings a critically new perspective to bear on the salience of telecommunications infrastructure to the economies of developing countries whose economies are located firmly within the nexus of TNEL's. The imperative of international communication, particularly with reference to telecommunications and some of its attendant technologies is thus a key question of concern to economic development planning policy in developing countries.

In clear recognition of the importance of the emerging information economy, Gereffi notes that no nation has been able to get out of the throes of economic underdevelopment by remaining a primary commodity export-oriented economy. It is important to note here that the economies of most developing regions of the world, particularly sub-Saharan Africa, continue to be primary commodity export-oriented. For example, over 80% of Ghana's GNP earnings are from cocoa

exports (U.N: 1988: Africa's Commodity Problems: Towards A Solution).

Telecommunications/Informatics Policy In Sub-Saharan Africa:

Virtually all sub-Saharan African countries do not have any clearly articulated and comprehensive policy framework on telecommunications and informatics. What exists now basically take the form of government directives, incremental decisions based on circumstantial developments. In Ghana, for example, rather than evolve as part of a coherent national communication and development policy, telecommunication administration, until the mid-1970's, has been guided by the model bequeathed by the former colonial government.

Modern communications technologies and facilities were introduced to sub-Saharan Africa during the period of colonialism (see Ainsle, 1968; Hachten, 1971; Head, 1974; Mytton, 1983; Boafo, 1991).¹⁶ Beginning with newspapers, through radio to the telegraph, these communication facilities were to cater to the information, communication and entertainment needs of the expatriate colonial officials, and later, the small number of local elite who were mainly civil

¹⁶. The first printing press in sub-Saharan Africa was established in Sierra Leone, and started publishing the Royal Gazette and the Sierra Leone Advertiser in 1801 (see Boafo: 1991).

servants in the colonial governments and a small merchant class. Ansah (1985: p.6) points out that radio broadcasting for example was:

primarily aimed at enabling Europeans in Africa to maintain political and cultural links with the metropolitan countries. In the case of the French colonies, an additional reason was to spread metropolitan culture among the educated Africans.

Modern communications facilities thus emerged and developed in sub-Saharan Africa as an elite infrastructure, mostly urban-based, and without any particular linkage to the immediate developmental concerns of the broader national socioeconomic entity.

Most of the political leaders and administrators who emerged in post-independence Africa were mainly what Boafo (1990) calls "nationalist-politician-journalists" who had led their peoples in the fight for independence. Once these nationalist leaders assumed the reins of government, they tended to move into their new roles as policy-makers and political leaders with their career dominance over the communications and information apparatus of their countries. Boafo (1991) provides a useful perspective of this scenario:

Prominent independence leaders such as Kwame Nkrumah of Ghana, Nnamdi Azikiwe of Nigeria, Jomo Kenyatta of Kenya, Felix Houphoet-Boigny of Cote d'Ivoire, and Leopold Senghor of Senegal were also leading journalists who established or edited newspapers and other publications used to express nationalist sentiments, criticize colonial policies, and advocate political independence. Upon the attainment of independence, these nationalist leaders became political leaders and policy makers. They moved into government with their newspapers,...and, exercised excessive control over the media in the generally professed interest of nation building, political unity, and national consciousness.....The new

political leaders and administrators made very little genuine modification in the structure, utilization, and orientation of the media to make them effective and meaningful instruments for development (p.105).

The policy directions, management models, and the spatial distribution of infrastructural facilities of communications have remained largely unchanged from the colonial patterns. This situation has persisted well into the present time, and the policy content, context and direction have been strongly impacted by these historical factors. As a result, telecommunications, like the other media, have remained an urban phenomenon, and have been perceived largely as a luxury than a necessity. Other factors such as a continuing economic decline (and in some cases like Sudan and Burkina Faso, actual underdevelopment), political instability, a low level of industrialization, illiteracy, and a low level of priority assigned by governments to communication and information technological issues, have made even further negative contributions to an already dismal state of affairs, especially in the post-independence period of the mid-1950's to date.

The net effect of all these factors is communications infrastructural facilities in sub-Saharan Africa that are the least developed in the world. A well-known, rather serious joke is that the Tokyo conurbation alone has many more telephones than the whole of Africa put together (see Boafo: 1991; Williamson, J.: 1991). Of course, telephone count alone does not provide an adequate index of development in general,

nor even telecommunications in particular. However, at least a factual (if not a causal) correlation has been found to exist between telecommunications development and economic development. The ITU for instance, found that out of 18 countries in a sample of 98 that exhibited negative or zero economic growth between 1965 and 1988, and zero or negative annual growth in telephone density between 1983 and 1988, 12 were in sub-Saharan Africa (Williamson: 1991)

The sub-Saharan region is the only major area of the world that does not have its own regional satellite, although there are plans to launch an Afrosat. A Pan-African Telecommunications Network (PANAFTEL) was launched in 1962 to enhance intra-African communication. The main objective of the project was to change the telecommunications situation in which communication between even neighbouring African countries had to be routed through territories of their former colonial overlords. Direct telecommunication between most countries in Africa became possible less than 10 years ago, in some cases even much later than that.¹⁷

Telecommunication in Africa has developed mainly as a colonial infrastructure, based on a limited, hierarchical model: limited in terms of the spatial distribution and expanse of the infrastructural network, and hierarchical in

¹⁷. Until 1988, a caller in Accra making a phone call to Lome, capital of neighbouring Togo, 196 kilometres away, had to route the call through London, nearly 6,000 kilometres off the shores of Africa, to have the call re-routed back to Lome.

the sense that it only or at least basically provided communication facilities that served not the generality of the national population, but the political and business elite. In Ghana for example, the World Bank notes that "the government and the parastatal sector together make up about 50% of the users" of all telecommunications facilities available throughout the country (see "Ghana: Second Telecommunication Project - Appraisal Report", The World Bank, n.d., p.3). The restructuring and re-organization of such a colonial model for the development of information and communication infrastructure ought to form a major policy concern for the development of both the sector and the national entity.

Although telecommunication is naturally an interactive medium, the colonial model of master/servant relationship between rulers and the population occasioned a situation in which the subordinate position of the colonial peoples either did not entitle them to such communication facilities as telephones, or that they simply did not deserve nor need them. Any effort to develop telecommunication and other communication and information facilities in sub-Saharan Africa should thus take adequate cognizance of these deep-seated structural rigidities and flaws in policy, and address the critical issues of why develop telecommunications, and for whom. The basis for the building and further development of communications infrastructure, I would submit, is a political choice that coalesces into specific policy plans and actions.

Chapter 3

The Case of Ghana

Introduction

Ghana is located in West Africa, with a population of over 16 million people (see World Population Data Sheet, World Bank, Washington, D.C., 1992). Its economy is basically agricultural and export-oriented, with cocoa exports accounting for over 75% of all GNP earnings. Since the country gained political independence from the United Kingdom in 1957, the political landscape has been marked by enormous instability due to successive coups d'etat, resulting in a high level of economic regression and non-development. By 1983, the economic situation had reached crisis proportions, and the government initiated a major Economic Recovery Programme (ERP), under a World Bank/IMF sponsored Structural Adjustment Programme (SAP).

The ERP was designed to rehabilitate the economic decline caused over the years by a combination of factors including political instability, political and economic mismanagement, corruption, and depreciating external and internal financial reserves (due to a deteriorating balance of trade) among other

factors. It was recognised by the government at the time that the role of telecommunications was becoming more and more important in national economic development, both at the macro and micro levels, and that telecommunications growth is central to overall economic growth (see Ghana Telecommunications Law, 1991; Ghana: Second Telecommunication Project - Appraisal Report, The World Bank, Undated, p.9). Telecommunications was thus ranked high on the ERP agenda. The telecommunications rehabilitation and restructuring programme envisaged under the ERP will be discussed in greater detail below.

Telecommunications In Ghana - Background

Telecommunications in Ghana date back to colonial times. The earliest systems were built in 1881, when the British colonial government installed basically a telegraphic system using under water copper cable networks that linked it to the colonial office in London. A second purpose of the system was to provide communication services for the railway system that had been put in place to link the sea ports at Takoradi and Elmina to mining and cocoa growing hinterlands to facilitate the exports of such commodities to Britain and other external markets.

The pioneer infrastructural networks utilized manual switchboards which literally meant an operator sitting in front of a switchboard, pulling the pin of one line out of its

slot and plugging it into another to connect callers. Through a rather long and slow process of development, the network has grown to digital (electronic) switching systems employing stored programme control technology (Gyimah: 1992) Up to the present time, the telecommunications system in Ghana, like most other sub-Saharan African countries, relies on copper cable networks.

As indicated in Chapter Two, the development of modern communications media in Africa was patterned along colonial lines. Hedebrø (1982) notes that, in most developing societies, the media did not come to be carriers of a desirable cultural exchange. Instead, they came to be powerful instruments for cultural domination (p.55), and this was precisely the case for Ghana.

At its very inception (and for a very long time subsequently), the telecommunication system was basically a telegraph service. Later it was developed into a voice message service linking Accra to London via submarine cable, to provide telecommunications service for the colonial administration. The system served as a means by which the colonial government sent important messages to London and got updated on important official issues, especially on political directives concerning the administration of the territory. The period between 1948 and 1957 (when Ghana became independent) would turn out to be crucial for telecommunications particularly because the nationalist

MAP OF GHANA SHOWING RAILWAY NETWORK AND PIONEER TELEGRAPH SYSTEM

Fig. 1

struggle for independence reached a peak, culminating in incessant political upheavals on which the colonial government needed urgent updates and directives from London on an almost daily basis.

Radio had been introduced in the then Gold Coast in 1935 to serve the cultural and entertainment needs of colonial officials, both expatriate and local, and the telegraph system was to provide critically needed day-to-day communication with London, particular in view of political developments like boycotts, strikes and other such insurrections.

The second function of the telegraph system was to provide communication services for the railway system which had been built to link the port towns along the Atlantic coast to the mineral and timber extraction locations, and cocoa growing areas of southern Ghana. Indeed, to date, the approximately 300-kilometre railway network in the country has remained intact and undeveloped from what the colonial administration left behind (see Fig.1).

It was not until 1963-1968, ten years after the attainment of independence, that subscriber trunk dialling (STD), providing telephone communication links between the capital and some regional centres, was introduced in Ghana (see Fig.2). Until this time, telegraph, and later telephone services, were primarily between Accra and London, and along the tiny railway network. It took another 20 years (1988), for international direct dialling (IDD) to be introduced.

Fig. 2 Existing STD Network in Ghana

Initially, this service was limited to 12 exchange areas across the country (see Gyimah: 1992).

Telecommunications service in Ghana are primary provided by the Ghana Posts and Telecommunications Corporation, a statutory public corporation established by decree, the SMC Decree 311, in November 1974. By legislation, the corporation has, until 1991, had the monopoly of providing all public telecommunications and postal service in Ghana. The bulk of telecommunications service provided by the corporation is basic voice telephony, with a limited amount of dedicated networks available to meet the specialized requirements of the police, the military, railway, and the civil aviation industry (see STP p.2).

Apart from service provision, the Ghana P & T also carries out some regulatory functions such as setting equipment standards, and granting equipment type approvals. Management of the radio frequency spectrum is carried out by the Ghana Frequency Registration Board.

Three phases in the development of telecommunication in Ghana can be documented: Phase One is considered to cover the period between 1881 to 1974, during which, as Gyimah (1992) notes, there was "stagnation, characterized by little progress in telecommunication development due to low investment" in the sector. Probably the major innovation within the period was the introduction of STD (1963-1968), to link some regional capital to each other and then to Accra.

Phase Two, ushered in during 1975, was set in motion principally by the creation of the Ghana Posts and Telecommunications Corporation, a crown corporation to provide postal and telecommunications services under the Posts and Telecommunications Corporation Decree, NRCD 311. The decree stipulated that the Ghana P & T shall establish and operate internal and external postal and telecommunications and related services (Part II, Paragraph (a) - (k), pp1-2). Indeed, the decree represented, at the time, the main frame of the government's policy on telecommunications, and perhaps the first major policy document ever on the sector.

It is significant to note that nowhere in the 38-page decree is any clear or categorical reference made to link the infrastructure of telecommunications, to the social, economic, cultural, and other developmental objectives of the country. In a sense, the colonial, limited and hierarchical structure of the organization, infrastructural set up and spatial distribution of telecommunications facilities continued to inform telecommunication development and delivery policy in Ghana.

Clauses were included which vested the privilege for the provision of postal, telecommunications and related services exclusively in the corporation (Part VI, 24,(1) p.10; Part VII, 62 p.22). This meant that telecommunications services were provided under state monopoly, guided somewhat by the notion of natural monopoly. Clearly, there was no competition

and Trade (GATT) (Broadman & Balassa: 1993).

In 1989, the United States Trade Representative (USTR), proposed to negotiate terms relating to access and use of basic telecommunications on the international market. In 1991, the USTR offered a proposal for negotiating the provision of basic telecommunications services. Broadman and Balassa (1993) note that the entry into the basic telecommunications arena has its roots in concerns raised by United States services industries regarding their access to foreign markets.

To these U.S firms who possess enormous market experience and the requisite financial, technological and manpower resources, the advent of new market opportunities has not brought with it sufficient access, due to fact that most countries continue to provide telephone and basic telecommunications service on a state-monopoly basis. The U.S. has thus pushed for a regime in which trade policy tools of deregulation and liberalization are applied to telecommunications services (Broadman and Balassa: 1993; Miller: Undated). The result is that what had previously been a regulatory area reserved almost exclusively for telecommunications ministries at home, and the International Telecommunications Union (ITU) at the international level, is increasingly becoming a market access issue, addressed domestically by trade ministries, and internationally by the negotiations for a General Agreement on Trade in Services

from other service providers who in fact were non-existent, and were in any event prohibited by law from coming into existence.

A close examination of the 1975 law shows what little sensitivity the policy at the time had of the interest of potential users of the service. The law states *inter alia* that:

-the Corporation shall not incur any liability -
- (a) by reason of any interruption whether total or partial in the telecommunication services;
 - (b) by reason of failure to provide or delay in provision of any telecommunications services;
 - (c) by reason of overhearing, interception or disclosure in accordance with the provisions of this Decree of any communication sent over telecommunication services operated by the corporation;
 - (d) by reason of suspension and restriction of the telecommunication services and any fault in communication by means of a telecommunication service;
 - (e) by reason of error in or omission from the Directory for use in connection with telecommunication services.

In short, the corporation was almost completely indemnified against consequences for the provision of sub-standard service, especially to the general public. The corporation was further insulated against any public scrutiny by Part VII, Section 72, which vested both legislative and regulatory functions in the telecommunications sector in the corporation's own Board of Directors.

Obviously, the policy on telecommunications in Ghana as enunciated by NRCD 311, paid no attention to the needs of the large mass of the Ghanaian population who did not even have access to telecommunications facilities; and if they should

procure such facilities in the future, the policy environment made the organization responsible for the provision of service simply non-responsive to their concerns. The corporation was virtually insulated against any complaints telecommunications users may bring regarding standards and quality of service among other things.

Based on primarily security and political integrity concerns of government, provisions were actually included which permitted the confiscation of telecommunications facilities developed and maintained by any person within the state, and also allowed the interception of messages sent over such facilities in the event of "a public emergency."

As may be typically characteristic of military regimes, penalties for contraventions, and prohibitions of varied sorts, rather than encouragement and a pro-active mentality tended to provide the main thrust for telecommunication policy in Ghana, at least until 1991 when a new telecommunications law, the Ghana Telecommunications Law 1991, was enacted. However, even in this law, no chance nor encouragement is provided (not even by the sector policy), for local, independent engineering and technological experimentation. Nor is there any corporate agenda on the part of the Ghana P&T sufficiently articulated to develop, in any systematic, concerted manner, the possibilities of building local technological and management capacities and capabilities in telecommunications in particular, and IT in general.

Status of Infrastructural Facilities:

As indicated previously, telephone (voice service) facilities constitute the bulk of telecommunication facilities available and in use in Ghana. A study conducted by the Ghana Posts and Telecommunications Corporation (GPT), and the Nippon Telecommunications Consulting Co., of Japan indicates that by February 1989, Ghana had twenty-four (24) automatic telephone exchanges, with twenty-seven (27) telephone switching equipment for local telecommunication. This provided a total exchange capacity of 45,000 lines.

There were 418 manual exchanges, providing a total of 10,880 line capacity. The average exchange utilization (fill) for telephone was 70.88%, which the study notes was low. The number of subscriber lines connected to the automatic switching equipment was 33,898, with 5,961 lines connected to the manual switching equipment. For long distance service there were nineteen (19) subscriber trunk dialling (STD) centres, serving one of three categories of transit centres known as Tertiary, Secondary, and Primary Centres.

A network of microwave links, (including the Ghana portion of the Pan-African Telecommunications Network) undertaken between 1975 and 1986, has provided the backbone microwave and UHF (ultra-high frequency) radio links between Ghana, Togo and Cote d'Ivoire, from east to west, and between Ghana and Burkina Faso, from south to north. UHF radio and microwave links have also been provided to connect the

country's 10 regional centres.

Ghana has an INTELSAT Standard A type satellite earth station at Nkuntunse, near Accra, working with INTELSAT Atlantic Ocean Primary Satellite. The station, built by Spar Aerospace Corporation of Canada, was commissioned in 1975. After commissioning however, defects in the feedback chain and the automatic tracking device meant that the station could only receive and not transmit international broadcast and telecommunications signals. Also, tracking of the station's receiver dish to intercept satellite signals could not function automatically and, this had to be done manually by aerial riggers who had to climb to an altitude of about 1,000 feet to adjust the dish.

A contract for the further improvement of the earth station was awarded to a French company and in 1989, it was recommissioned with 73 telephone circuits to five overseas transit points, 32 circuits more than the originally scheduled 41 circuits. The station is equipped with 168 channels expandable to 180. There is a total of 46 international telephone circuits connected to five countries.

Until 1992 when a new international digital switch was installed at the Accra Communication Centre, international telephone services were provided on operator handling basis. This meant that users could not dial direct to international destinations except through the GPT's operator. Following this rehabilitation and expansion of the network, 60 rural and

district centres have been provided with telephone and telex facilities.

Altogether, telecommunications services provided in Ghana are reported to be among the lowest in the world, even in comparison with developing countries of similar per capita levels, as Table 1 (on telephone densities) below indicates. For example, between Ghana, Kenya, Zambia and Zimbabwe, all countries whose per capita incomes are fairly comparable, Ghana has the lowest telephone density. It is interesting to note that Kenya, with a per capita income much lower than that of Ghana, has a higher telephone density.

TABLE 1 Telephone Density of Ghana and Comparable African

<u>Countries</u>		
<u>Country</u>	<u>DEL Density (%)</u>	<u>GDP Per Capita (US\$)</u>
Ghana	0.33	399
Kenya	0.54	262
Zambia	0.64	413
<u>Zimbabwe</u>	<u>1.31</u>	<u>565</u>

Source: Ghana Telecommunications Master Plan, 1989, GPT & Nippon Telecom Consulting, (p.III-4).

The rather dismal status of telecommunications in Ghana, as in other parts of sub-Saharan Africa, can be attributed, in large part, to the lack of a concerted and co-ordinated development policy in the sector (see Boafo, in Sussman & Lent: 1991, p.106).

The result of such a policy malaise is not difficult to find. The Nippon Telecommunications Consulting Company study states inter alia that:

...telecommunications service provided in Ghana is extremely

Fig. 2 Existing Transmission Network in Ghana

poor. ...Automatic exchanges in the main cities are overstrained in capacity with the equipment entirely obsolete and worn-out. The situation with the manual exchanges in smaller areas is the same. Most of these saturated manual exchanges are obsolete and worn-out.

This state of affairs the Nippon Company attributes mainly to a lack of co-ordinated telecommunications planning function in the Ghana Posts and Telecommunications Corporation, a lack of long-term plans and an articulated network development strategy, and the lack of the required engineering, technical and management manpower capacities (p.1).

Ghana is reportedly one of the few countries in the world where telephone facilities actually decreased over time. Between 1981 and 1987, telephone density fell from 0.4 lines to 0.3 per 100 people (Regional Overviews, IT10-011-154, July 1989 McGraw-Hill).¹⁸

A World Bank appraisal of the telecommunications in Ghana states that Ghana is one of the few countries in the world where telephone facilities have decreased over the past seven years. Telephone density in 1981 was 0.4 DELs per 100 and the number of DELs were:

38,129, compared with statistics of 1987 which posted a telephone density of 0.35, and a total number of DELs of 38,046. In fact there has been a serious decline in the sector's performance since 1980 manifested by the deteriorating quality of service, and the long list of waiting

¹⁸. At the end of 1987, Ghana had about 38,000 direct exchange lines (DEL's), and a telephone density of 0.3 per 100 people. This compares with the 1981 telephone density of 0.4 DEL's per 100 people.

applicants and poor financial performance.¹⁹

At the end of June 1987 for example, the World Bank reports further that only 55% of expressed demand viz connected subscribers plus registered waiting applicants, was met. The registered waiting list 30,000 applicants was about 82% of existing working subscribers and the subscribers who have been discouraged from applying for telephone service because (i) the average waiting time for connection is long (exceeding five years in some cases); and (ii) the quality of service has been consistently poor.²⁰

TABLE 2 Telephone Exchanges, Line Capacity and DELs: 1987

Total number of exchanges	442*
Automatic	24*
Manual	418*
Total line capacity of exchanges	55,880
Automatic	45,000
Manual	10,880
Total number of direct exchange lines	38,046
Automatic	34,046
Manual	3,310

Source: Regional Overviews, IT10-011-154, July 1989, McGraw-Hill.

*Figures updated using data from Ghana Telecommunications Master Plan.

Even in spite of a second major telecommunication

¹⁹ Ghana: Second Telecommunication Project - Appraisal Report, The World Bank, Washington, D.C., n.d., p.10.

²⁰ In the absence of reliable data, it is difficult to estimate the actual demand for telephone service in Ghana. As part of the telecommunication rehabilitation and development programme, the "Telecommunications Master Plan: 1987 - 2006", 1989, has proposed methodologies and approaches for more reliable demand forecasting (see ch. IV, pp IV-1 - IV-12).

rehabilitation project underway in the country since 1987, and calculated to be completed by the end of 1994 (to be discussed more fully below), telephone density to be achieved by the end of 1994 is put at 0.335 per 100 people (see Gyimah, 1992, p.27). Indeed, Ghana's telephone density is among the lowest not only in Africa, but also among developing countries as Table 3 illustrates.

TABLE 3

Developing Country Telephone main lines per 100 inhabitants

<u>Country</u>	<u>1977</u>	<u>1982</u>	<u>1987</u>	<u>1989</u>
Ghana	0.35	0.30	0.30	0.35
Kenya	0.43	0.49	0.66	0.73
Tanzania	0.19	0.21	0.25	0.29
Cote d'Ivoire	0.38	0.38	0.61	0.59
South Korea	4.22	10.61	20.75	28.32
Singapore	13.87	25.34	33.29	36.56
Thailand	0.59	0.89	1.67	2.09
Malaysia	1.76	4.27	6.85	7.34*
Indonesia	0.17	0.31	0.44	0.49
China	0.36	0.47	0.70	0.79*
India	0.26	0.33	0.45	-
Brazil	2.71	4.47	5.58	6.01
Turkey	2.00	3.24	9.01	10.50

* indicates value for 1988

Source: International Telecommunications Union, Yearbook of Common Carrier Statistics, various issues, quoted in "Ghana 200 and Beyond: Setting the Stage for Accelerated Growth and Poverty Reduction", Africa Regional Office, Western Africa Department, The World Bank, Feb., 1993.

The existing facilities for telecommunications in Ghana are not only inadequate for purposes of social and economic development and service to the population; the spatial distribution of the facilities between urban and rural areas is enormously lopsided as well. Telephone service for example is presently concentrated in the ten regional capital areas,

particularly in the national capital. These regional urbanities which account for a little over 10% of the national population, consume 75% of all the telephone facilities available nationwide, with the vast majority (90%) of the population living in rural areas having to share the 25% 'leftovers'.

TABLE 4 Urban to Rural Area Distribution Ratio of Direct Exchange Lines

Area	<u>No of DELs</u>		<u>Total</u>	<u>Ratio (%)</u>
	<u>Auto-Exchange</u>	<u>Manual Exchange</u>		
1. Urban	33,898	3,877	37,775	94.8 (95)
2. Rural	-	2,084	2,084	5.2 (5)
Total	33,898	5,961	39,859	100

Telecommunications Master Plan:
1987-2006, Prepared by: Ghana Posts And Telecommunications Corporation and the Nippon Telecommunications Consulting Co., Japan, Feb. 1989, p. (IV-10).

Households and businesses have actually adapted to the lack of telecommunications facilities, and physical movement of people carrying messages as a substitute for telephone conversations is a major daily undertaking. As a result there is considerable congestion in the centre of the capital, Accra, and on the inter-city roadways (see Ghana 2000 and Beyond: Setting the Stage for Accelerated Growth and Poverty Reduction, World Bank, Feb., 1993, p.84).

Apart from fact that most telecommunications facilities are concentrated in Accra and the ten regional centres, the social distribution of users indicates that most of the available service is consumed by the government and the

parastatal sector. According to the World Bank, current statistics do not directly differentiate between categories of users of telecommunications facilities nor the traffic composition. The Bank, however points out that "billing information indicates that the government and the parastatal sector together make up about 50% of the users" (STP p.3). The remaining users could be grouped into business and residential, but in Ghana (as in most developing countries where telephone facilities are underprovided), many residential telephones double for both business and private purposes.

On the average, less than 50% of all the connected lines were operational at any time during 1987. Out of the 413 manual exchanges with a capacity of 10,900 lines, only 46 of them (3,300 lines) were in service. The rest have been out of service for more than three years, mainly due to the lack of spares for power supplies, and faulty overhead trunk transmission systems.

The overall consequence is that telephones work intermittently. Each telephone is inoperational for six months in the year, and it takes an average of one month for faults to be rectified. The average call completion rate for local calls is 60%, and rates for the completion of subscriber trunk dialling and international calls are even lower: 20% and 12% respectively. The frustration of users is reflected in the average rate of call cancellation which, as of December

31, 1987, stood at 40%, (that is, 40% of all calls were cancelled due to the rather lengthy waiting time for calls to go through) (STP p.3).

The situation of undersupply is not limited to telephone facilities alone. The supply of telex facilities also falls far below the expressed demand, let alone fulfilling a perceived economically necessary national requirement. Although the use of telex is declining around the world, it continues to be a basic and required means of telecommunication in Ghana.

Consequently, there continues to be an increasing demand for it. This is basically due to a substantial accumulated and latent demand, as well as a lack of alternative services such as telefacsimile, teletex/videotext and data. A World Bank technical team estimated that the growth in telex connections between 1987 and 1992 was only 15% per annum, and this demand would continue to grow, as Table 6 indicates.

TABLE 5

Expressed Telex Demand for December 1984 - 1987

<u>Year</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
No of connected telex sub lines	324	373	433	489
No of waiting <u>applicants</u>	<u>624</u>	<u>748</u>	<u>850</u>	<u>943</u>
Total	948	1,121	1,283	1,432
Density per <u>10,000 people</u>	<u>0.265</u>	<u>0.296</u>	<u>0.333</u>	<u>0.365</u>

Source: Republic of Ghana, Telecommunications Master Plan: 1987-2006, Prepared by the Ghana Posts and Telecommunications

Corporation and the Nippon Telecommunications Consulting Co., of Japan, Feb. 1989, (p.IV-9).

On other telecommunication technologies, the GPT/Nippon study notes that such services as teletex, database access and retrieval, digital facsimile, videotext, message handling systems, and several value-added services are generally either not in use altogether, or are yet to be introduced. These services are in fact not going to be available before 1995, when a new international packet switched network is expected to be introduced (IV-12).

The development of informatics (the generic terminology used to described the above services and related technologies), has been rather slow in Ghana. According to Allotey (1987), the first mainframe computer (an IBM 1401), was installed in Ghana in 1963 for the use of the Central Bureau of Statistics (now Statistical Service). There is no readily available and reliable statistics on the actual extent of computerisation in Ghana. However, since the Ghana Data Control Board (DCB) was set up by law in 1975, there is evidence of a growing level of computerization, both within the government and parastatal sector, as well as the private sector (particularly in banking), and in the university systems.

Among other things, the Board's main tasks were:

1. to promote the training and development of computer-based systems in government administration;
2. to promote the development of data processing

professionals;

3. to regulate the acquisition and use of computers and related equipment by public entities; and

4. to control the importation of computers and related equipment.

Since the setting up of the DCB, none of the above-stated objectives have been achieved to any significant degree. As a consequence of the general restrictions earlier on placed on the acquisition and use of computers and related systems, the environment for the development of informatics in Ghana has, for a long time, been rather stifling and delimiting.

Apparently, this situation is not peculiar to Ghana. Referring to Africa, the Canadian International Development Research Centre (IDRC) notes, for example, that:

Awareness at the policy level of the importance of informatics in development is professed but....the tendency to control rather than promote the development of this sector by means of restrictive rules and regulations governing the acquisition of informatics equipment and products.....certainly puts the brakes on development. Lack of understanding of the full potential and the impact of informatics on society creates a suspicious outlook which engenders doubts as to the relevance of informatics in development.

The report of a National Information and Communication Policy seminar held on Ghana in July, 1992, makes a similar assessment of the Ghanaian informatics and information technology situation. The report states inter alia that:

One of the basic obstacles to technological development in Ghana has been political - the fear or suspicion on the part of governments that a proliferation of sophisticated communication and information technological tools would further compromise an already fragile national security

situation. While national security is a matter for serious consideration at all times, the Group proposes that in determining the role that communication and information technology have to play in national development, emphasis should be placed on economic and human development considerations rather than the over-emphasis on political and security matters.

Over time, however, there has been a growing tendency towards computerization, albeit slowly. There has been an increase in both government and private acquisition and use of computer systems and other informatics technologies such as facsimiles. This has led to considerable relaxation of regulations that restricted imports and use of computers and computer systems without prior approvals from the DCB.

The level of informatics development in Ghana is still rather low. The number of informatics-telecommunications professionals in Ghana is small, and most of the older professionals have been trained on the job by foreign equipment suppliers. The training they received has therefore been limited and geared towards particular products. Without adequate training facilities locally, most of the high-level personnel, especially in the technical and engineering sector, have been trained abroad, and most have shied away from returning home, principally due to dismal working conditions and low levels of remuneration (Allotey: 1987).

Technical, regulatory/administrative, and manpower factors have thus come together to create a situation in Ghana where telecommunications transmission networks are inadequate. Computer-mediated-communication is consequently starkly

undeveloped. As indicated earlier, there is no available data on Ghana. However, Allotey (1987) quotes a 1983 survey conducted by the Intergovernmental Bureau for Informatics on Transborder Data Flow Policies as indicating that computer-communications use in the whole of Africa constituted only 3% of the world total (p.153).

Telecommunications development in Ghana, as in most other African countries, has often taken place in reaction to international technological developments, management practices and policy trends, and the rather strong lobby of equipment suppliers and bilateral and multilateral funding agencies. Shetty (1991) notes that the privatization and liberalization of the telecommunications sector in Africa is taking place primarily as a result of the involvement of private sector equipment suppliers and service providers.

Incidentally, all of these equipment and service providers happen to be foreign. A report titled: "The Telecommunications Equipment Market in Africa", prepared by Gerard Amangoua, a trade analyst of the United States Embassy in Abidjan, Cote d'Ivoire, lists the World Bank, the United Nations Development Program (UNDP), the French aid agency, the USAID, and the U.S. Trade and Development Agency as among the "key players" in the African Telecommunications sector.

Foreign telecommunications suppliers from Europe, South

East Asia, and North and South America have virtually carved up the African market among themselves, with the funding agencies mentioned above leading and sponsoring major telecommunications infrastructural and policy development projects across Africa, in direct support of the market agenda of the suppliers. Amangoua notes:

In the West and Central African market, French and British companies are leading the market, although there is an increasing presence of U.S. companies. Japanese companies have taken the lead in the Southern African market. The main U.S. telecommunications companies involved in the African telecommunications market include Motorola, GTE Spacenet, Comsat, AT&T, Harris Corporation, and Scientific Atlantic.

A really good example of the overbearing presence and involvement of external agencies in shaping and directing telecommunications development in Africa is Ghana, where the World Bank, the African Development Bank, and a number of other Western European and Japanese companies and investors are designing, managing and executing current major telecommunications projects. An unpublished World Bank document states that:

IDA has three main roles in the telecommunications sector in Ghana. IDA is in a unique position to assist the government in improving the sector management and organization, financial management, investment planning and staff training. Second, IDA's involvement is needed to maintain a balance between physical and institutional development of the sector. Without IDA's presence, adequate attention to setting appropriate policies and goals, management improvements, strengthening technical and financial systems and maintenance is unlikely;* efforts would instead focus on network expansion and many of the past mistakes would be repeated. IDA's involvement in this sector has been catalytic in attracting cofinancing from Japan, France, and Holland and in directing available resources into priority

areas such as rehabilitation of subscriber cable networks.²¹

The available evidence, in my opinion, underscores the assessment of Boafo (1991), Grooscors (1991), Servaes (1991), the MacBride Commission Report (1980), the IDRC (1990), and many others. that the development of communication and information infrastructural facilities have not been accorded the required priority by most governments in most developing countries, particularly in Africa. In effect, what has prevailed in the communication policy field are policies that are neither rigorously formulated nor methodically applied in terms of the overall objectives of national development. Existing policies (where there are any), have also not adequately addressed investment planning for sustained and systemically integrated infrastructural development.

The determination of levels of technologies required for optimal economic, social and cultural development of the society has been generally disjointed from the larger goals of society's total development. There has been little or no harmonizing of communications systems with objectives for global development, and the rationalization of information, and the employment and development of indigenous human resources, have been lacking in developing societies like Ghana (see Grooscors, 1991).

In 1991, for the first time in the country's history,

²¹ *Emphasis mine.

reference was made to the need to integrate the telecommunications sector in overall national development planning, well over a century after the first telegraphic facility was introduced in Ghana (then Gold Coast), in 1881. The Ghana Telecommunications Law, 1991, represented the first major step in terms of creating a development-oriented basis for telecommunication policy in Ghana. Also, it would appear that the first major hint at meeting the national demand for telecommunications facilities and services was to assume some dimension of salience on the social development agenda of the government.

The 1991 Law was basically a distillate of a Telecommunications Master Plan prepared in 1989 by the Nippon Telecommunications Consulting Company of Japan, in collaboration with the Ghana Posts and Telecommunications Corporation. Before the preparation of the Master Plan, the World Bank notes that there was a "lack of coordinated telecommunications planning function in GPT, no long-term plan or articulated network development strategy exists" (STP-Appraisal Report, Annex 3-4, p.55). The objectives of the Master Plan were thus:

- to establish long-term development targets for the sector;
- to establish target standards of service for the sector at 5, 10, and 20 year horizons; and
- to determine key policy decisions that must be made for

a consistent long-term network development including digitalization policy.

The study was covered by a World Bank loan of \$750,000 (U.S), under the Bank's Structural Adjustment Loan (SAL) scheme to Ghana. A major condition for the execution of the SAL scheme was that, in the short-term, the Ghana P&T was expected to produce a five-year corporate plan, against which performance is to be monitored through the revived State Enterprises Commission (SEC). Major policy initiatives like the split of the GP&T into separate Posts and Telecommunications entities also formed part of the conditions for implementation of the World Bank scheme. Analyzing the trajectory of telecommunications policy and infrastructural development in Ghana from this perspective, one gets a sense of the predominantly externally motivated nature of national policies and development plans.

Certainly there is nothing wrong in selecting advice and suggestions, as well as resources, from external sources for internal development. However, where the kernel of policy formulation, design and implementation appears to be principally driven from and by external forces, there is room for concern, particularly regarding the ability of the national entity to pursue development as a consequence of internally recognised and analyzed needs, rather than a

reaction to external stimuli. The World Bank particularly became so heavily involved in determining "key policy decisions" apparently because the national government, after failing to determine such 'key policy decisions' out of its own initiative and innovativeness, was at the same time requesting major funding from the Bank for the development of the sector. Indeed, the construction of the Ghana Telecommunications Law, 1991, conforms perfectly to the Bank's dictates.

In its very opening paragraph, the 1991 law states that the minister responsible for Transport and Communication "shall have a duty to promote the development of telecommunication throughout Ghana". As part of this new development-oriented, and apparently people-sensitive telecommunication development policy, "all reasonable demands for telecommunication services in Ghana" were to be satisfied as part of a continuous process, and that "the telecommunications sector makes an effective contribution to national development"²² (see Ghana Telecommunications Law, 1991, Part I).

As it were, the 1991 law was to set out, in broad outline, certain major policy concerns that together provide, for the first time, a framework that attempts to deal with some of the critical policy agenda issues previously not addressed at the level of policy. Such issues as the P&T's

²². Emphasis mine.

exclusive authority for the provision of telecommunication services, consumer interests, and pricing of services were recognised as areas of policy concern, and given some amount of treatment.

In an era when value-for-money has become an important buzzword for measuring the efficiency and utility of even government bureaucracies, the new law fashionably legislates market efficiency as a major instrument for managing, as well as a criterion for assessing the performance of the telecommunication industry. Liberalization, privatization and deregulation (to be discussed in detail in Chapter 4), are among major policy instruments proposed. Quite unlike the 1974 decree, the 1991 law stipulates that the provision of service shall be:

calculated - (a) to promote the interests of consumers, purchasers and other users in Ghana in respect of prices charged, and the quality and variety of telecommunications services provided and telecommunications apparatus supplied in Ghana.²³

As indicated earlier, the rehabilitation and development of telecommunications in Ghana become a major national priority in 1983 when the government of the Provisional National Defence Council (PNDC) launched its national Economic Recovery Programme. Telecommunications in Ghana had been characterized by two major problems:

1. The state-run Ghana Posts and Telecommunications

²³ Ghana Telecommunications Law, 1991, Part 1, Section (2), (a).

Corporation, GPTC, which provides all public telecommunications and postal services was suffering a lack of management capacity and trained manpower to operate and maintain the existing facilities efficiently, and to plan and implement development programmes for the sector.

2. The sector in general, and the GPTC in particular also lacked the requisite financial resources for the procurement of equipment and materials for maintaining and expanding the system. Several individual factors have been identified as having combined to account for this state of affairs. But the one, underlying factor has been the general lack of priority given to the development and expansion of the sector by succeeding governments, resulting in an uncoordinated and unclear policy environment (see Telecommunications Master Plan: 1987 - 2006, p.1; Williamson, 1991, p.2; Boafo, p. 106). Thus, major institutional, structural and operational changes were envisaged in the telecommunication sector as part of an overall Public Enterprises Reform Project (Regional Overviews, July 1989).

One overriding institutional and structural reform that is being pursued is the proposed split of the Posts and Telecommunications organization into two separate entities, Posts and Telecommunications, with the eventual aim of privatizing the corporation, or at least liberalizing the telecommunications sector. At the operational level, the

network which runs on "old-fashioned equipment"²⁴, or what Williamson (1991) calls "antique" systems is to undergo major rehabilitation and expansion. At the institutional level, there was to be carried out sector reorganization and the design and implementation of a management improvement programme (STP Appraisal Report, p.12).

First Telecommunication Project, FTP

Before the launching of this rehabilitation programme (dubbed Second Telecommunication Project (STP), a First Telecommunication Project (FTP), estimated at \$76 million and funded by the World Bank, had been undertaken between 1975 and 1986 (see Gyimah: 1992). The major components of this project were:

1. Rehabilitation and expansion of existing facilities;
2. Combined Satellite Earth Station and International Switching Centre;
3. Construction of the Ghana section of the Pan-African Telecommunication Network (PANAFTEL); and
4. Rehabilitation of the national microwave network.

At the end of FTP the World Bank assesses that:

Unfortunately, these objectives were not met, in fact there has been a serious decline in the sector's performance since 1980 manifested by the deteriorating quality of service, and the long list of waiting applicants and poor financial performance.

A number of reasons were assigned for the failure of the

²⁴. Telecom Master Plan, p.1

project including:

1. Difficult economic conditions in Ghana;
2. Lack of adequate staff and management personnel at the GPT;
3. Initial delays in what was an overly optimistic implementation schedule, (in retrospect);
4. local unavailability of key construction materials;
5. Large overruns in local costs that GPT could not finance...; and
6. Delays in meeting a cost overrun in foreign exchange due to a decision to change switching technology from electromechanical (analog) to digital electronic (STP Appraisal Report, p.11).

Second Telecommunication Project

As a follow-up to the First Telecommunication Project, a Second Telecommunication Project was initiated to cover the period 1987 to 1994, at an estimated cost of \$173 million. As indicated previously, the STP had two basic objectives:

1. To address the problem of institutional and management inefficiency; and
2. To address the problem of an apparently perennial financial, capital and general resource inadequacy, basically through improved financial management practices.

According to the World Bank, the Ghana government's primary aim for undertaking the project was its recognition of the fact that "well functioning telecommunications services

are essential to supportobjectives under the Economic Recovery Programme". It was expected both by the World Bank and the government of Ghana, that "rehabilitation and limited expansion" envisaged under the project would lead to a reduction in the country's high fuel costs (due to excessive usage of road and other transport for purposes which could have been achieved by means of telecommunications), the creation of an improved infrastructure and incentive for investment, and a more efficient export trade among other gains..

Much as these objectives are laudable and urgently required, it is important to note that they are still being pursued within a basically ad hoc context. More long-term developmental goals of the telecommunications sector, especially in view of the fast pace of technological changes, is still yet to be laid out in an overall national development planning policy. A clear indication of the ad hoc, short-term nature of the approach being pursued in the sector, particularly under the STP is the fact that most of the technical and infrastructural works are executed on a "turnkey basis, where suppliers will also be responsible for installation and commissioning" of the new equipment (Ghana: STP - Appraisal Report, p.11).

Under such turnkey arrangements, local engineers and technicians are basically employed more as ancillary staff, without adequate preparation for these local engineers and

technicians to assume responsibility for maintenance and possible adaptation and further development of the technical infrastructures so installed. Neither are they sufficiently integrated into this process of what I would call technology transplantation in order to at least provide a basis for sustainable local development of the telecommunications industry. It is important to note that after entire national infrastructural systems have been left to run down and decay so badly over so long a period of time, any attempt to get them working adequately again takes off with some critical minimum momentum, which is what it appears schemes like the first and second Telecommunications Projects are designed to achieve. However, it would appear that the main thrust of these projects tends more towards isolated and episodic treatment of what is clearly a rather systemic problem, instead of more comprehensive, systemically designed approaches for dealing with problems of a broader national developmental dimension.

Of particular importance in projects such as the FTP and the STP is the need to set out in a clearly articulated manner, the substantive linkages between telecommunications and specific sectors of the national entity, as well as the rate and mode of technological developments required in order for telecommunications to actually contribute to national development. In both the First and Second Telecommunication Projects, reference is made to the need to "train" local

personnel, both in management and technical fields. However, the lack of emphasis put on local technological development as part of a longer-term means of developing a sustainable telecommunications industry and infrastructure does little to provide a sustained basis for building local expertise and capacities for telecommunications development and management.

Perhaps a broader question of national development that is not addressed in a project such as the STP is the very delineation of development itself, viz, what kind of development is envisaged and, syllogistically, what contribution is telecommunication expected to play in that process? In the absence of such considerations, one thing that appears lost in the whole programme of rehabilitating and developing the telecommunications infrastructure is the question of telecommunications as a social infrastructure.

What the project appears to do is to consider telecommunications in basically monistic terms, putting insufficient emphasis on the role of telecommunication as a tool for social interconnectivity of people for purposes of social and cultural enhancement of their lives. In fact, the World Bank emphasises that its involvement in the telecommunication rehabilitation in Ghana is not only to help harness the necessary financial and capital resources to undertake the project; it is also to ensure that efforts are not focused on network expansion. The Bank does indeed indicate that there are "priority rehabilitation" needs to be

undertaken. However, other recommendations it has made (for example, the almost immediate privatization of the national telecommunication entity), have the potential to jeopardize the effective provision, within the foreseeable future, of even basic telephone facilities on a nationwide scale.

From such a perspective, telecommunications development and policy considerations are pursued in basically economic-utilitarian terms, without sufficient cognizance being taken of the technology and infrastructure as having a critical role to play in the development of peoples in so-called developing societies. In a 1989 article in Telecommunications magazine, David Harper exemplifies this perspective.

Harper notes that regulatory regimes should shift emphasis from universal service, and focus attention on end-users whose "needs must be considered first - with regulatory considerations factored into decision-making processes". In other words, the provision of enhanced and improved services to high-volume, value-added users should take priority over universal service.

As it were, the question of universal service then becomes a policy by-product.

This position is obviously the underlying thinking of the World Bank in its support of the development of telecommunications in Ghana. The Bank has in fact stated that its role in the sector's development in Ghana is inter alia, to ensure that efforts and resources are not diverted to

network expansion (STP Appraisal Report, p.12).

The two important objectives of the Second Telecommunication Project are institutional/organizational restructuring, management practice improvement as well as personnel development on one hand, and infrastructural and technological development on the other. While the benefits of technological and infrastructural improvements may not be a matter for overarching polemics, the distribution of such benefits as a result of the institutional and organizational changes that are being pursued tend to raise complex questions as to who is going to be the actual beneficiary of the technological and infrastructural improvements envisaged: the larger Ghanaian public or merely the new owners of the telecommunications entities and the state? Do these structural changes make telecommunications contribute in any meaningful way to the development of the lives of the majority of the Ghanaian people?

From the general premise of these two broad questions, I would argue that the current structural reorganization may indeed be aimed at developing telecommunications in Ghana. However, the policy directions being followed, particularly with regard to the liberalization, privatization and deregulation regimes that are being advocated, may in fact turn out to restrict the contribution a critical national infrastructure like telecommunication can make to the development of a national social, cultural, economic and human

entity.

In the next chapter, I consider the policy instruments of privatization, liberalization and deregulation in the telecommunications industry. I focus attention on the extent to which such policy instruments may or may not be useful in the Ghanaian context for the development of people, not just the building of a technical infrastructure that fulfils more of a political rather than a human developmental need.

Chapter Four

POLICY ANALYSIS

A critical analysis of the situation in Ghana shows that telecommunications development has followed an ad hoc trajectory. Over the years, there has been a lack of a concerted, systematic and systemic policy framework for developing the sector, both in quantitative and qualitative terms. Worse still, whatever ad hoc measures have been adopted, precisely because they are ad hoc, have not engendered the creation of a policy environment that properly situates telecommunication and information infrastructures in an overall national development plan. It is thus important that a holistic approach to national development be pursued (if the fragmented, inconsistent development of the country is to be changed), with telecommunication seen as both an integral part and a unifying element of a systemic whole.

Hyden (1986) notes that the sector-specific outlook that has characterized development in Africa tends to swing the pendulum of development efforts too far in particular

directions at the expense of other equally critical sectors.²⁵ Usually, the emphasis on one sector has tended to mean an invariable lack of attention paid to other(s), thus leading to situations where the interconnectivity, inevitable overlaps and linkages that naturally exist between and among sectors are overlooked. Telecommunications and informatics should therefore be developed both as a critical, economic sector, and as an important factor in a systemic framework.

The value of telecommunications in both sectoral and global development is perhaps commonplace now. This value has been heightened in what is being described as the "new economy", in which technology in general, and information technology in particular, enable new possibilities and provide the momentum for transformation. From an inter-sectoral, holistic perspective, telecommunications applications and usages are rapidly emerging from the earlier and traditionally assumed role of an isolated sectoral support service (Butler: 1986, p.42) Butler affirms that:

Telecommunications are now recognized as an integral element of developmental strategy and planning. The existence of an adequate telecommunications infrastructure is seen to be absolutely necessary for economic and social progress (Ibid).

²⁵ Hyden cites the dramatic slow-down of agricultural production in many sub-Saharan African countries, in the immediate post-colonial period when these countries were pursuing import-substitution industrialization as an example. He notes that the industrialization process eventually suffered due to the inadequacy of agriculture's output of needed raw materials.

The MacBride Commission Report underscores the centrality of telecommunications services to overall development in even more urgent terms. Among many others, the Commission concludes that:

- The slow development in many countries of postal and telecommunication facilities and services is a real obstacle both to persons and societies. These facilities and services are not only the outcome of economic growth, but also a precondition of overall development and democratic life.

From this perspective, then, telecommunications and the emergent information and communication technologies and facilities continue to assume importance in the progress of contemporary societies, an importance which policy makers ignore or pay insufficient attention to, to the detriment of their particular societies.

In the enterprise of designing and implementing telecommunication and IT policies, it is important to recognize the two aspects of the role and position of telecommunication in development: first, as a bona fide sector, and second, as an inter-sectoral factor. The integrative and catalytic characteristics of telecommunications demand that a holistic, rather than a sector-specific, approach be adopted in policy development.

Those factors that influence information and communication structures are central to the study of all institutions. The influence of these controlling factors with respect to economic institutions is invariably most significant (Melody: 1990).

Melody notes further that:

....major parts of this sector provide important infrastructure services or enabling functions that affect the operation and efficiency of almost all other industries, including manufacturing and agriculture, as well as government agencies and most other institutions (p.10).

In this connection, I would recommend that Ghana consider the holistic approach proposed by the Ontario Advisory Committee as a strategy for the development of that province's telecommunications infrastructure.

In the committee's view, telecommunications and information technology constitute both an economic sector, as well as providing the infrastructure of the new economy and society as a whole. The committee states that its strategy is not simply

a sectoral strategy - dealing strictly with the issues of building a vibrant and healthy industry of telecommunications manufacturers, carriers, software companies, and service providers - but instead, [is] a broadly based strategy dealing also with the enabling effects of telecommunications.²⁶

In Ghana, this approach has not been followed and, as Servaes (1991) notes, "existing national communication policies are characterized by fragmentation, and by uncoordinated and sometimes contradictory objectives" (p.52). A good example in the Ghanaian context has been the continuing restriction on the acquisition and use of communication equipment like faxes and computers while the government continued to trumpet its determination to develop communication capacities and facilities for the development of

²⁶ Ibid. p.4

the country.

Even when in 1991 a draft Ghana Telecommunications Law which appeared to be more pro-development was enacted, general restrictions (through tariff, non-tariff and other means) on the acquisition and use of radio-communication and information storage and processing equipment continued to inhibit the development of the telecommunications sector in particular, and other sectors generally. Customs and import regulations have not been in harmony with the broader goal of promoting the use and further development of the informatics sector. An over-emphasis on immediate revenues to be derived from Customs duties simply stifled the possibility of stimulating the growth of telecommunications and informatics.

As indicated in Chapter 1 (and consistent with the MacBride Commission proposal and other studies), it is important that a country delineates what kind of development it wants to pursue before fashioning out communicative policies and strategies congruent with those developmental objectives. This is important both in considering telecommunication as a sector and as an inter-sectoral factor. In the absence of such broadly defined national developmental objectives in which information technologies are assigned clearly articulated roles, the likelihood of inter-sectoral conflicts and discontinuities is high, as is evident in most developing countries including Ghana.

The fragmented approach to development communication is now affecting efforts towards integrating new information technologies, including telecommunications in development (Woods: 1993; p.29). Woods refers to the success of isolated telecommunications projects in places like India, Peru, and even in the United States (pp. 29,84). He stresses, however, the usefulness of a co-ordinated and integrated approach towards the socially and economically viable diffusion and development of IT infrastructure for purposes of a balanced spatial distribution and development of the infrastructure.

Besides the lack of a holistic approach, the failure and ineffectivity of most policy initiatives in Ghana can be attributed in significant part to the lack of involvement and participation in the policy process itself of the broad mass of the population and interested groupings within it. In a sector such as telecommunication, where the critical mass dimension of diffusion and use, and market creation, are essential elements for initiating and sustaining development, the co-determination approach towards policy construction outlined by the Ontario Advisory Committee on Telecommunications would offer a viable model for policy discourse in Ghana.

The committee provides the following definition for codetermination:

The notion of codetermination is that through effective collaboration among stake holders the ensuing strategy will be better, jointly held, and more likely to be implemented....We were no longer meeting as competitors in the marketplace or

combatants across the negotiating table, but as co-owners of a new opportunity to bring about change that is in our mutual interest.

In its effort to propose a strategy for the future of Ontario's telecommunications, the Advisory Committee identified "business, government, labour, communities, and above all, the people of Ontario" as the "key stakeholders." These stakeholders are to operate a framework for decision-making in which a number of strategic thrusts, and an "integrated set of proposed actions" are to be taken "in partnership...to move Ontario forward in achieving the vision" (see also Melody:1990).

The lack of adequate identification and involvement of all the 'key stakeholders' in the current telecommunications policy, organization and infrastructural development in Ghana provides the basic thrust for my critique of the Ghanaian context. This lack of involvement of the relevant stakeholders in the case of Ghana is characteristic of the policy instruments of deregulation, privatization, and liberalization in the telecommunications sector being pursued by the government at a fast pace, without due reference to all the key stakeholders, particularly the public at large. This invariably has meant a lack of adequate appreciation for their concerns, needs and interests.²⁷

²⁷ Since the on-going major changes in the organizational structure of the public telecommunications operator, the GP&T, and the subsequent policy changes were initiated, there has been virtually no public debates or hearings on how these changes affect communities and the larger population.

Privatization, Deregulation and Liberalization: The Background:

The 1980's and 90's have witnessed increasing calls and demands for more responsive and accountable institutions, particularly in capitalist, liberal democratic societies. In what has been seen as an "overgoverned" society, "big government" and its non-responsiveness to the 'public interest' have been criticized with varying degrees of cynicism. The notions of accountability, efficiency and value-for-money have become new criteria by which the utility of government practice and public-sector management are measured.

The primacy of market-driven forces have assumed a new impetus and importance in what has been termed the new "Managerialism" (Pollitt:1990). In a sense, the emergence of managerialism is symptomatic of a redefinition of liberal democratic, capitalist-oriented notions of Western societies. But it is something more than that: "Managerialism may be....an ideology, but ideologies are normally firmly rooted in some very concrete socio-economic conditions, to which conditions the ideologies appear to give meaning" (Pollitt: 1990; p.28). Thus British Prime Minister Margaret Thatcher and U.S. President Ronald Reagan may have been obsessed with managerialism. Pollitt posits however that "they were able to popularize 'the message' so successfully because it was already formulated and because the conditions for its

widespread dissemination were ripe" (p.28).

The factors that created the conditions for this apparent rethinking of public management methodologies were basically the economic crisis of the mid-1970's and 80's, and the disillusionment with government regulation that is an essential element of the mixed economic management practices of liberal capitalist societies.²⁸ As most capitalist societies were confronted with increasing difficulties in defining new and more effective mechanisms for managing the economic decline of the 70's and 80's, the ideology of contemporary capitalism began to question "the state's intrusions into what in an earlier period of capitalist development were private-sector preserves" (Brooks, S.: 1993, p.23). Especially in the 1980's, the notion that excessive or 'big' government was a part of the pathological condition of economic stagnation and negative growth gained increasing popularity.

As these criticisms grew both in intensity and scope, the usefulness of government regulation which is a necessary aspect of the mixed economy framework, was brought into

²⁸ In capitalist economies, the allocation of resources and the efficiency of production and distribution are basically left to market forces. The primacy of the market notwithstanding, it is common to talk about a mixed economy in virtually all capitalist-oriented, liberal democratic societies. While the market works to provide the impetus and direction for economic activity, the state is required to play the umpire, ensuring that conditions exist for 'fair competition'. Such means as taxation, regulation, subsidies and incentives, inter alia, are employed to achieve this end.

serious question.²⁹ A second factor that heightened the questioning of government regulation was the increasing globalization of the economies of national entities to the extent that there was an increasing blurring of policy jurisdictions, particularly in an industry such as telecommunications (see Chapter 2 for details on globalization).

An important aspect of globalization is the creation of regional economic blocs and markets in Europe and North America, which have contributed to accelerate the drive for deregulation and economic liberalization. Once the movement towards a common European market became a legal reality in 1992, and Canada, the United States and Mexico signed their famous North American Free Trade Agreement (NAFTA) in 1993, national regulation of all aspects of trade are increasingly blurring into regional and international jurisdictions.

Regulation

Before proceeding to discuss the arguments made for deregulation, it would be useful to take a brief theoretical look at the concept of regulation itself. Atkinson (1993) quotes Doern as describing regulation as "the hidden half of government" (p.199). In more technical terminology, Atkinson

²⁹ Government regulation, particularly of the private sector, and of businesses 'affected with a public interest', has been a major instrument for managing the economy in capitalist-oriented societies.

sees regulation as government legislation or agency rules, having the force of law, that proscribe certain activities or behaviour on the part of individuals or institutions, mostly private but sometimes public (Ibid).

The Economic Council of Canada (ECC) also provides a useful definition of regulation. The ECC sees regulation as "the imposition of constraints, backed by the authority of government, that are intended to modify economic behaviour of the private sector significantly". The definition adopted by Strick (1994) accords quite closely to the ECC's. Strick defines regulation as:

Government imposition of rules and controls which are designed to direct, restrict or change the economic behaviour of individuals and business, and which are supported by penalties for non-compliance.

In his conceptualization of regulation, Strick differentiates between the broad, universal activity of government (to 'regulate' society), as against the adoption and implementation of specific policy instruments for managing the national economy. For purposes of the present discussion, regulation would be used in the latter sense: viz, the adoption and implementation of specific policy instruments in relationship to particular sectors of the national economy (here, the telecommunications sector).

In discussing regulation, one important element to consider is that regulation affects choices of producers, distributors and consumers. Here, choices that would otherwise be made by 'free market' forces are consciously

steered or modified to operate within a certain rationalized boundary of choices through administrative mechanisms. This would usually result in the delimiting or narrowing of the range of choices available.

Factors such as market failure and public interest theories; political-bureaucratic behaviour theories; and specialized private-sector vested interest theories, among others, make regulation even in the context of capitalist-oriented economies plausible.³⁰

Despite the plausibility of these factors as reasons to warrant regulation, as indicated earlier, the latter parts of the 1970's and the 1980's saw increasing disillusionment with regulation. The perception was that the economies of most liberal democratic societies were "over-regulated." The crises of the times, and the heightened appeal of market-driven policy alternatives are depicted quite graphically by Apter (1987):

....Today countries as diverse as Britain, France, and the United States confront these tendencies in the contexts of "deindustrialization" and zero-sum growth. All have experienced rising unemployment and marginalization. In all, per-man-hour efficiency has declined relative to wages, despite restrictions on wage increases. All have experienced severe fiscal crises. The pressure to "modernize" has become almost ineluctable and that means increasing productivity by means of innovative enterprise, eliminating unprofitable and subsidized firms, while relying increasingly on market forces to ascertain, define, and determine functionality (p.35).

³⁰ A detailed discussion of these factors go beyond the scope of the present study. See Pollitt: 1990; Strick:1994.

Calls for a more 'open' economy continued to gain ascendancy, particularly in the United States. Indeed, by 1980, the Reagan administration had set up the Office of Information and Regulatory Affairs charged with the responsibility of "reviewing and approving all new regulatory proposals" (Strick: 1994). Further to this move, the U.S. president appointed a Task Force on Regulatory Relief to oversee the administration's deregulatory programme. The programme included the appointment of regulators who favoured regulatory reform and deregulation; the reduction of the budgets of regulatory agencies; a proposal to Congress to attach "sunset laws" to new regulatory legislation; proposals to streamline the regulatory process by reducing unnecessary paperwork and bureaucratic red tape, and the encouragement and continuation of the deregulation movement, especially in industries such as airlines, railroads and telecommunications.

Particularly through the instrumentality of institutions like the World Bank system and the General Agreement on Tariffs and Trade (GATT), in which the United States commands an overbearing influence, the deregulation and liberalization ideology soon became a global phenomenon (Broadman & Balassa: 1993). Through the GATT talks, the United States has long fought for a deregulation and liberalization in Trade in Services (Miller: n.d). As a result of this persistent campaign, coupled with other factors such as globalization, and difficult economic situations around the world, a spate

of deregulation broke out, significantly in the telecommunications industry.

In 1984, British Telecom became the first major European public telecommunications entity to be privatized. According to Damian Peachey:

The sale of British Telecom (BT) by the U.K. government in 1984 was the event that established the concept of privatization in telecommunications. The extent of the sale, the first billion- pound share issue on the London Stock Exchange, convinced governments around the world of privatization's usefulness as a component of government policy.

Like a stone thrown into a lake, the ripples from the BT privatization spread out wider and wider, and other major telecommunications privatizations began to take place, particularly in Europe. For example, the Dutch government took the first step towards privatizing the country's public telecommunications entity in 1989, creating the PTT Telecom Netherlands BV as a state-owned corporation, and splitting it off from the telecommunications ministry. (The separation of the telecommunications entity from the telecommunications ministry is expected to facilitate later movement towards privatization). As of July 1993, the government planned to float a minority batch of PTT Telecom shares by 1995. In Portugal, the government announced its plans to partially privatize Telecom Portugal. Sweden plans to examine full or partial privatization of its Televerket. Germany's Deutsche Bundespost Telekom is expected to be privatized imminently. A float of 49% of the corporation's stocks was expected to yield

over \$19.7 billion to the German government (see Communicationsweek International, July 6, 1992).

The available evidence shows the phenomenon of deregulation and privatization to be a predominantly capitalist-oriented, Western liberal democratic phenomenon, fuelled principally by the political and ideological transformations of liberal politics. It has been observed that there was, in fact, a link between the popularity of privatization and the election of governments throughout the Western world in the late 1970's strongly committed to liberal economic policies (Peachey: op.cit).

Fero (1993) indicates that "with the downfall of communism, the socialist policies adopted by most African countries has been giving way to privatization....Many African countries have adopted a foreign investment code....This policy establishes a good capitalist perspective".

In Britain, Mrs. Thatcher's government pursued privatization, underpinned by her commitment to "roll back the frontiers of the state" (Peachey: op.cit). In Canada, deregulation took the form of increased competition and opening up of the regulated monopoly telecommunications market largely controlled by Bell Canada. By 1982, for example, the Canadian Radio-Television and Telecommunications Commission (CRTC) had issued Telecom Decision 82-14, the commission's final ruling regarding the liberalization of interconnection to the common carrier network operated by Bell (Strick: 1994).

In 1985, the privatization of Japan's Nippon Telegraph and Telephone Public Corporation (NTTPC) made the new Nippon Telegraph and Telephone Corporation (NTTC) the world's largest telecommunications operating company (World Bank Discussion Papers-179: 1992). Probably, the most publicised liberalization in telecommunications in Western economies was the 1984 divestiture of American Telephone and Telegraph Company (AT&T). The breakup of AT&T into its local operating companies across the United States was actually announced by the Justice Department in 1982, but the company was allowed two years to go through the necessary re-organization procedures (Horwitz: 1986)

It is important to note that prior to the upsurge of deregulation, regulation, particularly in the telecommunications sector, had been undertaken primarily for reasons of universal access, cost accessibility and equity in distribution concerns. The principal rationale for regulation, then, was to ensure that basic voice telephony for example was available to the broad mass of people across national territories. The companies that provided these services were thus granted 'natural monopoly' status³¹, with monopoly in

³¹ The 'natural monopoly' theory suggests that within a given market only a single provider is capable of supplying the service at the lowest cost. The rationale is that multiple providers would lead to a socially wasteful duplication of enterprise and higher costs (Columbia Journal of World Business, Dec. 22, 1993).

the provision of service and, in return, a virtual undertaking that such service would be provided based more on public interest and to a lesser degree on profit-oriented concerns.

With this public interest theory as the overriding objective of telecommunications service, the delivery of the service has been operated by either state-owned public corporations, or state-regulated private monopolies. In the case of Ghana, the state-owned model has been in place until the current World Bank sponsored privatization was initiated within a broader context of a Public Sector Adjustment programme. The critical question is whether the privatization of the Ghana P&T, as is being advocated by the World Bank, would fulfil the social and other developmental needs of a developing country such as Ghana in a holistic sense. As will be shown, not in the 'hook-line-sinker' format the Bank is presenting to Ghana as the most viable option. As is evident, the whole liberalization, privatization and deregulation movement currently taking place has a more or less logical sequence with other political and economic, as well as technological changes and developments taking place in Western economies. Thus the present levels of deregulation and privatizations being advocated appears to be more in sync with the economic, political, and even social and cultural circumstances of these societies.

Transplanting such a model of so-called economic liberalization to countries like Ghana would mean some form of developmental colonialism, a mere extension of the dominant development models more suited to Western liberal needs, but not so appropriate to the reality of Ghana. It would mean the transplantation of a model which is largely out of sync with Ghana's economic, social and even political conditions. It would mean, in effect, the extension of a model for which the grounds have either altogether not been prepared (as in Ghana), or at best only partially prepared.

As indicated previously, at the heart of the deregulation, liberalization, and privatization movement is the political drive to 'roll back the frontiers of the state'. The circumstances of most developing countries in terms of the centrality of the state to economic development, political stability and cultural identity, however, does not warrant such a roll back. To better situate this argument in perspective, a brief discussion of the role the state was expected to play in newly independent sub-Saharan African countries, would be worthwhile.

The State and Development: The African Experience

Upon the attainment of nationhood, several factors were to determine the nature of the state and its role in newly independent, developing, even under-developed countries. The particular circumstances of a historic colonial past, the

challenges of nation-building in an already highly competitive world political and economic environment, and the arbitrary geopolitical demarcation of national boundaries by the colonial powers which brought with it the creation of multi-ethnic nations are but a few of the many factors that affected nationhood and the role of the state in West African countries (for example Kohn: 1955; Liebenow: 1986).

Of Western European nationalism Kohn (1955) has noted that nationalities are products of the living force of history, most of them possessing certain objective factors distinguishing them from other nationalities like common descent, language, territory, political entity, customs and traditions or religion (Kohn: 1955, op.cit). Given the way the nation-states of West Africa were virtually carved out and configured by European colonizers, it is hardly possible to describe any of the nations in most of Sub-Saharan Africa as 'products of the living force of history'.

Unlike Western Europe, state-formation in Africa and other parts of the world has not occurred as a spontaneous product of evolutionary history. Rather, as Liebenow (1986) puts it, it has universally been the product of self-conscious acts on the part of a committed elite that is determined to fashion, maintain, or even realign the bonds of solidarity between itself and some or all of the masses included within its territorial jurisdiction (Liebenow: 1986, op.cit).

The challenges of nation-building which countries like Ghana, Nigeria and Sierra Leone (all former British colonies) faced soon after gaining political independence, dictated that the state was to assume more direct responsibilities in the matters of development. Under the circumstances the broad conceptualization of development meant national identity, recognition and prestige within the community of nations, the integration of largely disparate cultural, ethnic and linguistic 'nations', and the building of an indigenous political, administrative machinery manned by the indigenous people.

It is against this background that the state in most newly independent nation-states of West Africa increasingly emerged and took shape as the chief executive officer of the nation-building, developmental enterprise. In this enterprise of development the main focus would be economic progress based on rapid industrialization and modernization along the quintessential models of Western Europe (Rooney: 1988).

Industrial, physical infrastructural and social institutional building has been the development project in Sub-Saharan Africa. The major task of building authentic political institutions to give effect to the attainment of nationhood was an underlying problematic. However, as indicated earlier, factors that had influenced and contributed to state-formation in liberal Europe were not the same in Sub-Saharan Africa (Saul: 1979; Evans: 1980). In most of the newly emerging

states in Africa, there were no clearly defined and formidable middle classes. A myriad of ethnic and linguistic groupings which had previously existed as 'nations' were forced into these new nation-states. This of course contributed a debilitating element to the building of nationally cohesive states. There were also no national religions nor were there any single national languages as was the case in Britain say.

Perhaps the most important single challenge to nation-building and statecraft in sub-saharan Africa was colonialism itself. Unlike Britain or most of Europe, virtually all of sub-saharan Africa has a colonial past. And whereas nation-building spanned centuries in Europe, evolving through a more-or-less 'natural' process, African countries have been engaged in building their nations in the contemporary world for less than five decades.

After independence, the first task facing the new states was how the nationalist political elite would assume and manage a government machinery that was essentially colonial. There was the overriding need to 'Africanise' the civil service, the military and other government departments to lead the march towards the building of a nation.

As regards economic development, Evans (1980) presents a most insightful analysis that underscores the massive interventionist role that the state in most developing countries has had to assume. Most developing countries did not have a local mercantile and industrial middle-class

comparable to those of Europe at the time of the rise of nation-states. Evans notes that what could be described as a "national industrial bourgeoisie" in most of these new developing states was the step-child of imperialism, never completely abandoned but never given a full opportunity to develop. The world-historical role of the "conquering bourgeoisie", according to Evans had already been pre-empted by the developed nations (Evans: 1980, Ibid).

Evans points out further that the political position of the national industrial bourgeoisie developing countries has been as ambiguous as its economic position. As a class, it never achieved a hegemonic political position, and as its economic strength was more compromised than consolidated, so also was its political significance.

In a study of the post-colonial state in East Africa, Saul (1979) quotes Mamdani as follows:

The ruling class in independent Uganda was the petit-bourgeoisie. What is central to understanding the 'underdeveloped' ruling class in contradistinction to that in developed capitalism, is its weak economic base and its fragmentation at the level of politics. The 'underdeveloped' petit-bourgeoisie is not a consolidated class.

Saul refers to Alavi's analytic characterization of the post-colonial state in Pakistan and Bangladesh, which exemplifies the importance of both political and economic preoccupations for the state. Alavi points to a post-colonial state which was essentially structured along the lines of the metropolitan colonial style in terms of the political leadership role it was expected to provide.

Apart from being rooted in a colonial legacy, it took shape within the context of the production process: viz, state formation and consolidation occurred at the same time as the foundations for economic development were being laid. Thus the state here assumes a new and relatively autonomous economic role, which is not paralleled in the classical bourgeois state.

The state in the post-colonial society directly appropriates a very large part of the economic surplus and deploys it in bureaucratically directed economic activity in...promoting economic development (Saul: 1979, Ibid).

The sheer dimensions and magnitude of the infrastructural development projects that were embarked upon by most post-colonial nations were such that negotiating for their funding and managing their execution outside of the state machinery would have been impossible. In the case of Ghana, for instance, one of the major projects of economic development was the Volta River Hydro-Electric Project. In the view of the first post-colonial president, Kwame Nkrumah, the project was to be the foundation of a massive national industrialization and modernization programme. As David Rooney (1988) puts it:

Nkrumah realized Ghana's need for the hydro-electric power which the scheme would produce, but he also saw the Volta Project as a symbol and keystone of all his plans for the development of Ghana as a modern industrial country.

For a venture which in the 1950's was estimated at 300 million pounds sterling, it is hardly feasible to imagine the non-existent local private sector of Ghana at the time being

capable of initiating or undertaking a national infrastructural project of that scale. Indeed, the funding negotiations which involved, on the one hand, the World Bank, the Eisenhower and Kennedy administrations of the United States, the Macmillan administration of Britain, and the American investor Edgar Kaiser, and Ghana on the other, could only have been undertaken by the state of a newly de-colonized nation. Even today, it is hardly possible to talk of a local entrepreneurial entity capable of a task such as negotiating telecommunications infrastructural and organizational development funding from external sources of the magnitude currently on-going in Ghana.

Economic development programmes similar to the one undertaken by Ghana is obviously a strong reason for the state in most post-colonial countries to assume direct responsibility for the economic development planning and direction. As part of the bureaucratic and administrative mechanism for designing and implementing such development programmes, Economic Planning Ministries or Departments were established with parastatal/quasi-public corporations as the direct executing agencies of most of the government's development schemes.

Evans analyses the interventionist role of the state in post-colonial countries in the context of imperialism, dependency and dependent-development theory. While noting that the centrality of the entrepreneurial state to economic

development is not peculiar to dependent capitalist development, he emphasises that "given the importance of the state in other instances of industrialization, the centrality of the state in dependent development is special" (Evans: 1980, Ibid. p.43).

Needless to say, virtually all developing countries have dependent economies, as defined within World Systems, Dependency and Imperialism theories (Evans: 1980; see also Frank, A.G.). According to Evans, the disarticulated nature of the dependent social structure makes bureaucratic roles more independent of the dominant class. He indicates further that "the mutilated nature of the natural community in the periphery confers an apparent relative weight and special functions upon the local bureaucracy that are not the same as those of the bureaucratic groups at the centre."

Also using dependency theory within the broader context of the world systems model, Carnoy (1984) advances a similar position in his analysis of the state in the development of developing countries. He makes extensive reference to Frank (1978), Amin and Vasconi. Frank particularly posits that the state in developing countries (which constitute the periphery of the world system), is different from those of the metropole. While the functioning of the state in the metropole is articulated almost entirely by internal impulses and stimuli, the nature of the state in developing countries "is conditioned by an 'underdevelopment' process that is set by

the metropole bourgeoisies and the power of the metropole states that those bourgeoisies command" (Carnoy: 1984, Ibid).

Evans posits that the interaction of dependent, developing states with multinationals introduces a critical twist to the very nature of the state in those countries, and the extent of its involvement in the economic development project of their countries (Evans: 1980). According to Evans, "the penetration of the local economy by the multinationals means that the state's traditional role of dealing with the external environment has an internal economic dimension which demands as much attention as normal statecraft" (Evans: 1980).

In the instance of a conflict between the interest and needs of the nation and multinationals, the agency most suited and competent enough to redirect the global rationality of multinationals to reflect (at least to some degree) the necessities of local accumulation is the state. The state must continually coerce or cajole the multinationals into undertaking roles that they would otherwise abdicate.

In an analysis of the situation in West Africa, Onwuka and Sesay (1985), further confirm the divergencies in the interests of transnational corporations as against those of their host countries. They note that in efforts to develop self-reliant economies, West African countries will need resources, all of which are not available internally, and thus will have to rely, to a significant extent, on external resources, often transferred through TNC's. As they put it:

"....the profit-motivated interests of the foreign investors...run into conflict with the development-oriented motives of their hosts. This is the dilemma confronting West African leaders".

The state in the dependent, developing country thus cannot assume the classical role assigned to states as in purely liberal theory and practice. Indeed, the Marxist critique posits that, even in Western liberal societies, the interventionist role of the state in matters of crucial national developmental concern has not been merely mediatory (Jenson: 1986).

As indicated earlier, economic development of developing countries is situated within the context of a world capitalistic, market economy. The recent collapse of the Soviet bloc has lent even further impetus to the growing hegemonic influence and dominance of the world economic scenario by capitalist notions and modes of accumulation. Increasingly, the market in general and specific market-oriented mechanisms such as devaluation and inflation (often leading to constantly fluctuating stock values and interest rates), budget cuts, credit squeezes, and the privatization of public enterprises, are influencing, and in fact, dictating the course of investment and development in developing countries more and more (Onimode: 1989).

Major investments in poorer economies and societies by Western investors are primarily driven not by philanthropic and altruistic pretensions to public service, but 'naturally' by profitability and 'rate-of-return' concerns (Onimode: 1988). A major curtailment of state intervention would thus mean a disarticulation and distortion of the development of these societies since, often, the state has had to cajole or virtually coerce foreign investors to consider investments and projects that respond to critically needed, but not-so-lucrative public-oriented services. Where a lucrative venture that also happens to be a critical public service sector (such as telecommunications) has attracted foreign investment, investors have often opted for the even more lucrative end of the service (for example value-added services and service to high-volume business users).

In the telecommunications sector particularly, Broadman and Balassa (1993), indicate that: "advances in telecommunications technology have created market opportunities....and...access to foreign markets" for telecommunications firms who can now "negotiate trade agreements that bring in profits, using tools formerly reserved for trade politicians". In this example, one of the services foreign telecommunications firms have targeted for provision is fibre optics, a technology which is still largely not yet integrated in telecommunication systems in most African countries.

The lack of capital and the negative trend of accumulation in developing countries are making these economies even more dependent on a world system (U.N.: 1990). The direction of capital accumulation which flows more from the developing to the developed economies, and the sheer strength of world market forces are seen by states in most developing countries as critical imperatives best addressed on behalf of their countries by the state if developing countries are to survive the tidal waves of a re-invigorated world capitalist system. And the absence of a strong local middle class imposes a greater obligation on the state.

In view of these factors, it is not expedient to 'roll back the state' in the development of developing societies as is being advocated by the World Bank, a wide array of Western governments, and bilateral and multilateral institutions. By all accounts, the circumstances that demanded a strong state in the early years of independence in Ghana have not changed yet. If anything, those circumstances have deepened, making the state's role in development even more imperative, and more so in a sector such as telecommunication.

Telecommunication Regulation and Universal Access

A brief look at the role state intervention and public policy-oriented regulation has played in the development of telecommunications development and service delivery in some Western countries will help situate the context for the discussion of the case of a developing country such as Ghana. In the United States for example, under a regime of regulation for well over 75 years, AT&T had provided "reliable, affordable telephone service" to the majority of the United States public (Teske:1990). The era of "inexpensive" local rates were however to be significantly affected by the change in regulatory environment.

In Canada, regulation had served as an instrument for moderating the telecommunications industry. For many years, it had worked as a tacit compromise governing the industry, performing the dual roles of working as government oversight for the protection of the monopoly position of the major operating entities, as well as ensuring that basic services are provided to the public at reasonable cost (Mosco: 1990). What this means is that while the government provided protection for the monopoly position of the telcos, the telcos in turn, provided service that was priced to meet social policy requirements of government, viz: service that was both accessible and affordable. Pricing was in fact one of the most contentious issues in the Canadian regulatory environment (and also in many other countries where the public operator

was a private company, such as AT&T in the U.S.) As indicated above, under fully regulated conditions, telecommunications companies (telcos) were granted monopoly franchises in return for the provision of cost accessible services, particularly basic voice telephony, to domestic and rural consumers (Smythe, Dallas W.:1981; Globerman, S.:1988; Mosco, V.:1990; Strick, J.:1994). The telcos then used a 'rate-of-return' mechanism to determine prices³², and were allowed to cross-subsidize their less profitable domestic and rural services with profits from the higher yielding long-distance services and equipment supplies.

Japan's experience offers a very useful point of reference. For well over 100 years after the introduction of telephony and telecommunications in general, the overriding objective was universal access. Since its inception in 1869, the telecommunications sector was operated as a public corporation. With reforms in the post-war period, the telecommunications department was split from the Communications Ministry in 1949 to become the Telecommunications Ministry. In 1952, a separate public utility, the Nippon Telegraph and Telephone Public Corporation (NTTPC), was set up to provide "universal domestic service."

³² The 'rate-of-return' mechanism for price determination meant that prices of services are set based on the companies profits as a ratio of its operating and amortization costs. What this means is that the prices charged for the services rendered should be adequate to cover the companies operating and amortization expenditures, as well as ensure a healthy rate of return.

A new private entity, the Kokusai Denshin Denwa Company (KDD), was also established to provide international services. Takano (1992) reports that, by the end of fiscal year 1978, the NTTPC had achieved its two major objectives toward constructing a unified domestic telecommunications, thus eliminating the backlog of subscriber applications, and providing nationwide direct dialling (p.4).

Ogasawara and Salvaggio (1983, p.72) point to the fact that mass public use of telephone service in Japan could not have been achieved without a long-range plan, based firmly on a carefully devised and vigorously pursued policy. They state for example that:

Japan's government has been heavily involved in researching the nature of information, has invested billions of yen into experimental information systems, and has a long-range plan for replacing traditional media with advanced forms of telecommunications. The goal is to utilize the potential of the technology to meet all of Japan's future information needs in the fields of education, journalism, business, and government. Put in another way, Japan is preparing for the information society..

Takano (1992) provides concrete evidence of the outcome of this concerted and systematic approach:

Until the latter half of the 1970's, research and development policy had focused on technologies to achieve the twin goal of eliminating order backlogs and providing nationwide direct dialling.Efforts had also been made to pursue R&D activities, such as the evolving synergies in information processing combined with data communications.

It is doubtful whether such a holistic and inter-sectoral approach to the development of telecommunication which has been so productive and successful in Japan's experience could have been achieved with the kind of privatized and market-

driven model that is being pursued now. Indeed, Japan's Ministry of Posts and Telecommunications (MPT), has contended (and rightly so) that the public nature of telecommunications demanded that an appraisal and assessment of the usefulness and viability of the industry should not be based in the main, on market-driven objectives. The MPT argued that an evaluation of the telecommunications sector:

must be approached in terms of broad national and public interest, including such factors as service to isolated islands and remote locales, measures for coping with disasters, ensuring national security, and protecting the confidentiality of communication, (Takano: p.8).

In determining such public interest and public service issues, Japan's Basic Issues Research Committee and the Communications Committee of the Policy Research Council both concluded that: universal service must be provided even to such unprofitable service areas as isolated islands and mountainous or remote locales; and that basic pioneering research and development activities must continue to be stressed, and that overall technological standards must not be put at risk by permitting R&D investment to be redirected only to those fields promising greater profitability.³³

³³ Takano notes that although Japan did privatize its telecommunications industry, the process was rather prolonged and involved a great deal of careful considerations of issues that continued to fall in the domain of regulation and public policy control mechanisms. He states for example that "while...the nature of telecommunications itself was strongly inclined towards monopolistic operations, the MPT stressed that any ill effects stemming from a monopoly could be overcome through systematic regulation". Furthermore, the Ministry had advised that "several hurdles were to be overcome before any structural changes such as privatization could be discussed", p.8.

The experiences of the United States, Canada and Japan, all indicate that one of the overriding objectives of telecommunications entities has been the provision of public service, based principally on a universal access principle. Even when large private operating entities such as AT&T were divested, and public entities such as Japan's NTTPC were privatized, the provision of more efficient service has always been cited as the reason for such major structural and policy changes in the sector (Teske:1990; Takano: 1992).

In the case of Ghana however, with particular reference to privatization and the involvement of foreign firms in the telecommunications sector, is actually geared to achieve the very opposite of what the Japanese have been pursuing. For example, Shetty (1991) indicates that AT&T's involvement in Ghana and other African countries are focused "on several countries where the revenue stream has the most potential."

Arguments that "the participation of the private sector in the provisioning of telecommunications and the entry of foreign suppliers has realigned priorities toward promoting economic, trade, and industrial development" are in fact more dubious than credible. In the first place, the so-called 'realignment of priorities' has actually meant a realignment of the business and profit-oriented priorities of foreign telecommunications equipment suppliers and service providers. The new priorities that are being set in Ghana are obviously not aimed at creating access to telecommunications facilities

to the broad mass of the population, but rather at improving the existing limited service to those already enjoying it, and the introduction of new, value-added services to business and government departments, currently the biggest consumers of telecommunications goods in the country.

The argument here is not to denigrate the role foreign telecommunications firms could play in the development and further improvement of the sector in Ghana. Neither is it aimed at denying the importance of the need to improve existing facilities and the introduction of new ones. However, to suggest that the current approach has the capacity to address a real need for the creation of a widely accessible telecommunications infrastructure, thereby providing a basis for economic development, is questionable.

Secondly, it is also doubtful to suggest that the entry of foreign telecommunications firms into the African market (which is an important component of the liberalization/privatization campaign), has realigned priorities toward promoting economic development. To begin with, foreign telecommunications firms have always been in the African market, and have indeed always been in control. With the exception of South Africa, Algeria and Egypt (to a limited extent), all other African countries have always imported telecommunications equipment and machinery.³⁴ The presence of

³⁴ Gerard Amangoua (1993): "The Telecommunications Equipment Market in Africa", in Market Reports, April 14, 1993, National Trade Data Bank, Washington, D.C. According to Amangoua's

foreign private telecommunications companies in Africa is not new, and thus, it is incorrect to suggest that these companies are now entering the African market. Secondly, if their presence over the years, has not been able to 'realign' priorities, it is difficult to see such a realignment of priorities toward development just because privatization has been introduced. If anything at all, we probably should be expecting the very opposite, since these companies would strategically go in for the lucrative ends of the market usually, which, more often than not, results in the neglect of a real development of the local economy.

With the acute lack of capital resources and funds, privatization continues to be seen as probably the only or best means available to countries such as Ghana for raising the requisite resources needed to develop the telecommunications sector. In the face of dwindling sources of capital and financial resources for major infrastructural development projects, privatisation has been proposed as an alternative and viable policy option even for governments in the developed countries. When British Telecom (BT) got to the brink of financial bankruptcy for example, the Thatcher administration opted to privatise it. And in 1984, 50.2% of BT's stocks were sold to private interests for 1bn pounds (Peachey: Communications MEA Vol.2 No.9).

report, only Algeria and Egypt have limited facilities for assembling some telecommunications equipment in Africa, apart from South Africa.

In Africa public service telecommunications industries slated for privatisation include those in Cote d'Ivoire, Kenya, Ghana, and Nigeria. For most governments confronted with the difficult problem of raising enough financial and capital stocks to improve and expand a stagnating informatics industry in the face of a communication revolution, the only way out seems to be privatisation.

For countries in Sub-Saharan Africa however, the option of privatisation of the informatics industry ought to be approached with a great deal of caution. This is because the financial sources likely to be able to fund the huge capital outlays required to purchase the equipment and capital stocks needed for running an efficient telecommunications and informatics industry are most likely to be available from already powerful foreign conglomerates rather than the non-existent local business class. By so doing, a most strategic sector of the economies of these countries would have been mortgaged to foreign interests, thus further deepening the dependency of poorer countries on external political and economic forces. A way out of this admittedly difficult situation, in my view, would be the contracting of the necessary external financial, technological and management resources, with the cardinal objective of developing local financial, technological and management capital in the long-run.

It is important to note that even developed economies like Canada, France, Italy and Spain, and also in a fairly developed economy such as South Korea, privatization and liberalization of the telecommunications industry are being approached "step-by-step" (Galbraith, M. :1990). Harper (1989) notes that:

Even though telecommunications is moving from a "natural monopoly" to a competitive marketplace, regulation will continue to play a key role in the future of the industry. The timing and scope of deregulation will significantly affect the manufacture, distribution, and use of telecommunications products and services.

In Canada, the CRTC, after allowing competition in the long-distance market in 1992, "wants to examine whether or not there are more efficient and effective way to regulate or streamline regulation...." It ought to be noted that if a cautious approach to further deregulation and opening up of the telecommunications sector is being advocated for Canada's telecommunications industry (which is one of the world's largest and most developed), then the need for such a cautious approach for Ghana is even more cogent³⁵.

By the end of 1993, Spain's Telefonica de Espana, the public operator, had been placed on a competitive level on the European market ("Telefonica Says Ready for EC Deregulation",

³⁵ Kozak (1993) notes that Canada has one of the world's largest telecommunications industry, with a turnover of over 12 billion dollars in 1992. An industry that large has a capacity to deal with the vicissitudes of privatization and liberalization that obviously cannot be compared to the weak telecommunications public operating entity in Ghana. The consequences of privatization thus would be significantly different in the two environments.

BC Cycle, Nov. 24, 1993, Reuters Ltd.). While Spain announced its readiness to "compete and more than that, to compete successfully" within the framework of an increasingly liberalized European Community market, the company's chairman is quoted as saying that: "basic telephone service and voice transmission will remain protected at least until 1998, though those services in Spain, Portugal, Greece and Italy will be protected until 2003" (see BC Cycle, Nov 24, 1993, op.cit).

The reasons provided for this cautious approach to deregulation and liberalization is that "open markets would penalize countries whose rural areas may still lack the necessary infrastructure. Market protection will remain for an additional five years in those countries which lag behind in voice transmission....We have to debunk the myth that liberalization drives better prices, in the sense of lower prices for everyone" (see BC Cycle, Nov. 24, 1993, op.cit). Using the above criteria, if there is any country which needs to go it slow and cautious on deregulation, liberalization and privatization of its telecommunications, that country is Ghana.

Teske (1990) notes that: "For deregulation to take place, as with regulation, there must be a demand for it in society and supply of it by government" (p.xi). This might easily be construed as a self-evident, rather elementary economic theory of 'supply and demand'. However, the real question to ask is that in the case of Ghana, whether the current deregulation

policy choices that are being pursued are in response to a perceived need, or an expressed demand of the people of Ghana, or mere' a project of political expediency, basically driven by an externally-generated demand. It would appear that the institutional arrangements, and the infrastructural development patterns being followed respond more to an external rather than an internal demand.

It would also have to be noted that privatization in the telecommunication industry in Africa is being suggested along lines similar to what has happened in Europe and North America, particularly since the mid-1980's. Within the political and economic context of these regions, telecommunication is now considered more as an economic commodity, and a profit-oriented industry rather than as a public or social good. However, even before this scenario emerged, telecommunication had been considered more as a public /social good, to the extent that in Canada for example, Bell Canada (which is more or less the pioneer and leader in the telecommunications industry in Canada), had for many years enjoyed a monopoly and statutory protection to provide universal and cost accessible service.

In public policy analysis, interest group or public choice theories, and institutional, vested bureaucratic interest theories are among the main methodological approaches (see Brooks: 1993; Pollitt:1990). Teske (1990) posits that in the United States for example, variables from institutional

theory, such as legislative party control and regulatory budget tend to provide a better explanation of policy choices in comparison to interest group theories (p.xii). It would appear that like the United States, political and institutional variables provide the thrust for designing and implementing public policy, more than social demand and public interest factors. In order for policy to serve the needs of Ghanaian society better, social contextual and interest group factors need to be given greater salience in the policy process.

Melody (1990) notes that the major deficiencies of public policy formulation generally are inadequacy of substantive research and analysis on the public interest implications of policy options, and absence of effective advocacy of concrete policy actions to reflect the public interest. In the event, regulatory authorities and national public service suppliers have become 'judges' and 'authorities', rather than seeking out evidence on public interest implications of the policy decisions they take.

Hitherto, information, access to it, and the capacity to participate in social communication have been perceived as prerequisites for the effective functioning of democratic societies. The neo-liberal rethinking of democratic practice in general, and the market economy in particular, have worked to bring a redefinition to bear on the very essence of information and communication. Information and communication

are now conceptualized more in commodity terms rather than as a social good.

These apparently ideological dimensions of the conceptualization of information and communication have been affected in a most profound way by a second factor, namely, technology. The emergence of information/communication technologies have given new meaning to the usefulness of information in industry, commerce, politics and education among others. Technology has rendered the 'packagability' and the 'saleability' of information that otherwise was considered the by-product of other more substantive activities (such as manufacturing), an instant economic, financial, political and even cultural reality of immense importance.

In the event of such commodification of information and communication, the open-market has been thought to be the most suitable mechanism for developing this lucrative trade. Innovations in information technologies have led to what has been described as "convergence" of previously disparate modes of information carriage. A wide variety of delivery systems like off-air broadcasting, co-axial cable, voice, data and video transmission, processing, storage and retrieval have merged.

It has thus become increasingly problematic to talk about regulation, as the various services are developed and marketed under increasingly competitive conditions. As McDowell (1993) notes:

Since it was not considered to be technologically possible to restrict access to programmes, since it was not possible to restrict the use of particular technologies, and since the expansion of consumer choice was accepted as an inexorable law of economics and society, therefore, convergence and its policy implications of "deregulation" must be accepted.

Currently, the technology boom in the information and communication sector in general, and telecommunication in particular has led to a dramatic downturn in the cost of equipment. This was however preceded by significant capital and financial investments in research and development (Takano, Y.: 1992). An expansion of the cost of research and development, coupled with the economic misfortunes of the 1970's and 80's made alternative ways of improving capital stocking and profitability a virtual imperative in most Western European and North American economies. In the event, deregulation, privatizations and increased competition were readily considered as viable policy alternatives as opposed to continued and expanded regulation (see detailed discussion on deregulation and privatization in earlier portions of this chapter).

The deregulation and "less government" campaign has been spearheaded mainly by the United States. One very important catalyst of this campaign and the increasingly pervasive influence of the notions of deregulation around the world has been the insistence by the United States, that trade in services be included in the range of items covered under world trade within the framework of the General Agreement of Tariffs

(GATS), under the auspices of the General Agreement on Tariffs and Trade (GATT).

Deregulation: Pros and Cons

Opinion on deregulation and increased liberalization of the telecommunications industry has not been unanimous. On the part of those who think market-driven mechanisms are a better means of increasing the productivity and efficiency of the industry, there has been a valorisation of the benefits of liberalization, deregulation and increased competition.

For the sponsors of deregulation, the need to approximate to 'real costs' overtakes the principle of compensation for inequalities and disparities between major users and marginal sectors. The widening gap between the technologically rich and the technologically deprived become less of a concern, and there is also a push for an end to equal tariffs.³⁶

Advocacy for deregulation and liberalization had by far been the dominant position. Outcomes such as increased competition, leading to a lowering in prices and an improvement in service are the key benefits expected. As Killen & Associates, a California-based market research firm puts it: "Regulatory relief in the Canadian long-distance

³⁶ In 1984, the United States advocated for an end to the 'equal tariff' regime that operated in Intelsat's provision of satellite facilities for 109 countries, developed and developing. When Intelsat was set up in the 1960's, tariffs were fixed such that the industrialized countries contributed indirectly towards subsidizing links with developing countries.

market, and the privatization of the Mexican telecommunications structure have created the largest and richest telecommunications market in the world." K&A adds confidently that the market would represent new opportunities and competitive challenges, and that companies such as AT&T, BT, France Telecom, KDD (Japan), and Stentor (Canada) would see a broader market.

Deregulation advocates like Lord Sharp, former chairman of British Cable and Wireless Public Limited Company (plc.), argue that privatization in telecommunications for example, would lead to more efficient and competitive organizations, since their cost structures are more open and accountable to shareholders (Hayes: 1992). Furthermore, urgently needed capital resources can easily be generated through privatizations. In this example, the British Telecom case is often cited.

After the UK Public telecommunications operator was privatized in 1984, statistics have continued to point to an improved and more efficient entity. Investment which the organization so badly needed exceeded \$25.5bn by 1991. Where there was only one digital switching unit prior to 1984, there are now 56, together with 3,675 digital local exchanges. Seventy- Three per cent of the telephone-using population is now served by digital exchange. There has been a hundred-fold increase in the amount of fibre-optic cable available, from a 1984 figure of 8000 miles to 805,000 miles in 1991. Public

payphone networks, which was a major source of embarrassment to BT, grew from 77,000 boxes in 1984 to 98,000 boxes by 1991, and its direct exchange lines went from 20 million to 26 million within the period (Peachey, D: "Is Privatization The Way Forward?", Communications MEA, Vol.2, No.9, Microwave Networks Inc., Houston).

Statistics such as the above tend to vindicate the claims of privatization, liberalization and deregulation advocacy, strengthening their appeal as policy options for managing and developing the telecommunications sectors of both developed and developing countries alike. In anticipation of deregulation, Spain's Telefonica de Espana has worked to eliminate the waiting list for phone lines, and reduced the number of breakdowns. Detailed billing and integrated networks have been implemented for a growing list of users, and much of the network has been upgraded to digital technology.

On the other hand, it has to be borne in mind that especially for societies where basic voice transmission telephone service has not been significantly attained, liberalization and increased competition would only make the attainment of universal access even more remote. The argument here is that liberalization with its attendant increase in competition in the market tends to give a boost more to specialized, high-tech services suited more to the needs of large-volume, solvent business users than to the large mass of

less affluent domestic subscribers (Shetty, V.: 1991, Ibid). Some analysts have even stated clearly that "open markets would penalize countries whose rural areas may still lack the necessary infrastructures" (BC Cycle, Nov. 24, 1993, Reuters Ltd.).

The arguments submitted by critics of deregulation tend to be cast in socially redistributive terms which advocate compensation for the economically and socially disadvantaged sectors of the population. From this critical perspective, deregulation is decried as "the extension of the law of value to zones of individual and collective life" in which "invocations of individual freedom forestall talk of social equality" (Mattelart, A., 1991). At a broader level, Weissman (1990)³⁷, does actually raise questions as to whether the whole process of macro-economic policy adjustment being pursued in Ghana, in which privatizations and deregulation are major components, addresses social equality issues. He notes that:

It is very questionable,...,whether present structural adjustment policies are encouraging a process of equitable economic development.....Structural adjustment policies have failed to deal with the key constraints to equitable development in rural Ghana, with the conspicuous exception of attempts to privatize....government.....companies (p. 1625).

One of the big advantages cited for deregulation and liberalization is the creation of a bigger market, with attendant economies of scale, and the creation of

³⁷ Stephen Weissman is a member of the U.S. House of Representatives Subcommittee on Africa.

opportunities for easier capital access (Williamson, J. (1991): "The Crisis In Africa's Telecommunications Infrastructure", in Telephony, Vol 220, No.13, April 1, 1991, Telephone Publishing Corp.). However, given the weakness of many African economies and a global downturn in economic activity, and the daunting developmental tasks facing most African societies, it is doubtful whether opportunities to be derived from "a broader market" as a result of deregulation, liberalization and privatization in telecommunications, would accrue to weak telecommunications entities like the Ghana P & T. Privatization in a developing country would obviously not provide the same outcomes as for the industrialized economies.

As previously mentioned, liberalization and privatization are taking place as part of the broader drive towards realigning managerial and public administration principles and practice. A major implication, has been that the involvement of the state or government in the running of the economy should be progressively reduced. The experience of a number of developing countries, particularly in East Asia, would, however, suggest that, for weak and fragile economies, state intervention is still required to a very significant extent, and in a significant number of ways (Hirsh: 1993).

At a time when the momentum for deregulation and 'less government' is on the ascendency, Hirsh (1993: op.cit.) notes that:

The equality of income distribution and high personal savings rates the East Asians were achieving under the state's strong hand were the wonder of economists worldwide.....The East Asians were using painstaking, often outrageous economic methods, spurning simplistic formulas like deregulation.

With the enormity of the task of economic, social, and political development confronting most developing countries, Hirsh quotes a World Bank official as admitting that "you cannot abdicate development to the private sector and sit back" (op. cit).

The telecommunications industry in Ghana would, it would appear, continue to require a strong state involvement, at least until such time that a viable developmental policy environment has been clearly and adequately articulated, and the local private sector is in a strong enough position to take on a greater portion of the task of economic development. What needs to be emphasised, however, is that the relevance of the state's role in this process would depend principally on its integrity in the eyes of the Ghanaian public, as well as its responsiveness to the public's needs.

Chapter Five

RECOMMENDATIONS AND CONCLUSION

Recommendations

The discussion advanced in this study so far gives an indication of the fact that telecommunications policy analysis does not readily present easy or self-evident solutions and options. For example, in a situation where one would advocate a delay in the drive towards privatization and deregulation, one is immediately confronted with the problem of how to raise sufficient capital and other resources for investment in an industry that is obviously capital intensive, that is, assuming that privatization is indeed an avenue for raising investment capital.

We have however, attempted to show one underlying imperative that needs to be taken into account in the telecommunications policy process in Ghana: that telecommunication has integrative and enabling characteristics that make it a crucial inter-sectoral sector of any national economy (see Unesco: 1980; Schrandt & Williams (eds): 1989; Melody: 1990). It is the recommendation of this study that a holistic approach be adopted to development policy planning and action, with telecommunication as a central tendency of

such a model.

A Holistic Model for Telecommunication and Development Policy

In a study of the relationship between telecommunications and economic development in the U.S. state of Nebraska, Harper and Younger (1989) concluded that: "Recognition of the link between telecommunications and economic development, and the impact such a link can have upon a state's economy, has important implications for....policy initiatives" (p.102). Since 1984 when the International Telecommunications Union (ITU) published its report on Worldwide Telecommunications Development, the debate on the link between sustainable economic prosperity and telecommunications has continued to gain increasing ascendancy. As discussed previously, until 1991, Ghana did not have any policy statement that specifically linked telecommunications to the promotion of economic and other aspects of development. Neither has there been any policy for the development of the telecommunications sector. The initiation of a study that culminated in the "Ghana Telecommunications Master Plan", a document now considered the blueprint for telecommunications development in Ghana, was significantly influenced by demands of the World Bank, which also funded the study.

In view of the continuing importance of telecommunications and informatics infrastructures in what is being termed the "new economy", it is of critical importance

that Ghana adopt a holistic model for development. Such a model should consider telecom both as a critical sector in its own right, as well as a unifying, catalytic and enabling intersectoral factor. From the perspective of this model, the two levels of policy, namely a sectoral policy for the development of telecommunications itself, and an overall development policy that situates telecommunications as a unifying and enabling factor, need to be addressed with equal intensity, purpose and direction.

At the sectoral level, a strong infrastructural set up is an absolute sine qua non to all other aspects of the telecommunication industry's own development, as well as the contribution that it can make to the development of other sectors. The focus of such infrastructural development should be towards achieving adequacy, both in terms of the quality of service, and also in the spatial distribution of the facilities across the national territory to meet the expressed and potential demand of users.

In this regard, the current programme of rehabilitation being undertaken jointly by the Ghana government and a host of multilateral and bilateral partners, principal among whom is the World Bank, is in the right direction. However, the programme is limiting in terms of its perspective of network expansion and further development of the basic infrastructure. If telecommunication is not to make only a limited impact as a sector, and more importantly, as an intersectoral factor in

a multi-faceted, multi-dimensional developmental infrastructure, then it is important that priority is given to network expansion as also to the rehabilitation of existing facilities.

This is a rather crucial question in policy formulation and implementation, both in terms of the telecommunications sector, and in the broader context of all aspects of national development. It is important to note that as a configuration of highly interactive media, telecommunications is particularly important as a social infrastructure. It does not only have relevance as a factor of economic production; it is perhaps even more important in its capacity to provide social and cultural interconnectivity between and among communities and individuals. National developmental programmes and policies would lack a critical thrust, the human essence, if such policies and programmes do not construe the infrastructure of telecommunications as a social facility as well as an economic facility.

In proposing that telecommunications infrastructural facilities should be developed not only with an economic but also a social objective, the unavoidable question that needs to be answered is how such a project should be funded, especially where the majority of the population are in no position to make any meaningful financial contribution towards such a project. The question gets even further convoluted, especially where one is generally doubtful about investment

capital generation as a reason for privatization and deregulation in the industry.

In an attempt to address this rather tricky question, it is important to note that privatization as an option for raising capital for investment in the sector is not being rejected in toto. Other long-term national strategic, cultural, and even political sovereignty concerns, demand, however, that privatization of the industry is undertaken with adequate consideration of the relevant local factors and conditions. One of such factors is the ability of the local entrepreneurial classes to adequately participate in the process of determining the future of the national economy, as well as their capacity to contribute towards it, particularly, in this instance, in the privatization of the local telecommunications industry.

Thus, it is important that the privatization of telecommunications is put in perspective of the overall need to strengthen the capital and financial capacities of local financial, industrial and commercial entities. As these local entities are strengthened, (which obviously is going to be over time and involve a whole set of macro and micro-economic, as well as other sectoral policy initiatives), these local entrepreneurs would have been put in a better position to participate in taking up the challenge of contributing towards the development of such national infrastructural requirements as telecommunications, manufacturing, and banking among

others.

A policy strategy that emphasises the role of the indigenous private sector has at least two advantages for sustainable development. First, the energies for development would not continue to be derived from foreign/external sources, and the first steps towards breaking the vicious circle of dependent development would have been taken. Secondly, the control of critical aspects of national economic infrastructural sectors would not have passed into the hands of owners who are basically foreign, with the possibility of compromising national sovereignty.

A proposal of this nature certainly suggests also that the current programme of deregulation and privatization of the telecommunications sector in Ghana should be phased out, and possibly staggered over a rather long period of time, while other policy measures are taken to ensure that by the time the programme reaches full implementation stage, local entrepreneurs would have been adequately prepared to participate meaningfully. Details of the time frames required for such a phased project could be worked out, also as part of a broader national developmental policy.

Considering the complexities of the issues involved in such a programme, the possibility is that a 10 to 20 year period might be considered for example. But if the details of objectives, targets and the means to realize them are well planned, this would be a worthwhile strategy. The reason is

that numerous authorities cited earlier in this work and elsewhere, have demonstrated that long-term, rather than short-term, ad hoc measures, are the most viable means of assuring a sustained programme of national development.

In the process of nurturing the local entrepreneurial class, the role of a public operating entity would continue to be crucial. Although there is a global drive for privatization, Ghana should not opt for privatization as a public policy instrument just because there is a global, basically external push for it. This is not to suggest that the economy of Ghana is unaffected by development on the international scene. Indeed, Ghana's economy is closely tied to a global, world-systemic economy. Nonetheless, privatization of telecommunications should be undertaken mainly as a policy instrument geared towards fulfilling identified needs and addressing locally relevant conditions, and only secondarily as a reaction to external factors.

In order that the public operator will be more efficient than it is at the moment, the current regime of public sector management, under which public corporations enter into performance contracts with the State Enterprises Commission should be strengthened and streamlined. A close monitoring of such a performance contract, based on the achievement of clearly defined social, as well as commercial and other economic goals, should work towards making a public telecommunication entity profitable and viable, both in terms

of the sector's own growth, and its role in a holistic sense. The gradual introduction of competition in certain telecommunications services (such as the recently introduced mobile cellular phones), can provide an added incentive for efficiency.

Still on the question of financing the development of telecommunications in Ghana, the establishment of a Telecommunication Development Fund may be of long-term usefulness. Setting up a fund with the sole purpose of providing financial and resource support for the development of telecommunications would help not only to provide some of the required financial resources needed by the sector; it would also serve as a mechanism for focusing attention and development policy planning on the urgency of the role telecommunication is expected to play in society.

Initially, the government can provide the seed money. Business concerns, institutions, organizations and individuals could then be encouraged to contribute to the fund, as part of a continuing campaign to generate resources from both external and (primarily) internal sources. The objectives of the fund can be to support research and training related to the development of the sector, both in technical/engineering, as well as managerial/policy fields. Depending on how much resources the Fund can generate, direct appropriation could be made towards the funding of specific infrastructural projects, either within communities, schools, or at the national level.

Up till the present time, local investment resources for the telecommunications sector in Ghana continues to be starkly inadequate. This is without prejudice to the fact that "there is evidence that African telecommunications operators generate some of the worlds's highest average incomes for main line telephones". In the case of Ghana for example, Dentu (1989) reports that in just over a year after the installation of an international direct dialling facility in Accra, and the introduction of phone cards, the Ghana P&T's revenues shot up from next-to-nothing, to \$3,316 (1989 U.S. dollars) a day. This represents an increase of about 90% over the GP&T's revenue rates up until 1987.³⁸

From a revenue statistic of this kind, it is obvious that an operator such as the GP&T is more than just profitable; the possibility for the corporation to generate substantial amounts of resources to support re-investment and expansion programmes is rather high. It is therefore critically important that current efforts at streamlining the corporation's billing and accounting machinery is pursued with the rigour, expertise and determination that it deserves.

The importance of such an exercise is reflected in the fact that the generation of investment resources locally offer a more viable alternative to sustained, long-term planning and development of the sector, although a resort to external

³⁸ "Ghana: The Commercial and Regulatory Environment", Regional Overviews, IT10-011-151, July 1989, McGraw-Hill.

funding sometimes may not be ruled out altogether. Local revenue generation is closely tied to market creation and an extension of the existing, rather limited telecommunications user market.

In both basic and value-added, specialized services, the extent of services provided falls far short of services made available by the GP&T, as our analyses in this study have shown. Any attempt to improve the sector's revenue base should thus pay particular attention to the question of network expansion, and improved access to both basic and value-added services.

As indicated previously, the current programme of rehabilitation and improvement of the telecommunications sector in Ghana assigns virtually all available resources to an improvement of the existing infrastructure, and the provision of enhanced services to high volume users.

This might be a useful short-term measure, particularly for purposes of raising the revenue status of the operating entity. However, efforts to ensure a self-sustaining sector should emphasise an expansion of the market, while an improvement of the quality of service is also pursued. As Rogers (1986: p.121) points out, the critical mass dimension of the adoption of communication technologies, constitutes an important factor in their sustained and accelerated development.

Apart from serving economic and commercial performance criteria functions, market expansion which most invariably entails network expansion and improvement, serves to deal with issues of social equity in the distribution of telecommunications facilities, thus addressing the question of universal access and density improvement. As has been indicated earlier in this study, telecommunications may rightly be considered not only as an infrastructure, with basically economic utility for the operators, but perhaps more importantly as a social infrastructure.

A perspective of telecommunication as a social infrastructure is expressed by Melody (1990), who notes that:

The population at large has a much greater opportunity to participate as initiators of information exchange through the postal and telecommunication networks. The opportunity to influence a mass audience is not present, but as media that require active participation, they have provided a major stimulus toward participatory democracy.....The renewed interest in telecommunication shown by national policy-makers in virtually all developed (and many developing) countries does not arise from a sudden recognition that universal service will facilitate participatory democracy and economic efficiency at local and national levels. Rather, it is a recognition that the telecoms infrastructure is becoming a crucial building block affecting the competitiveness and efficiency of the entire national economy.

In logical sequence, a policy framework that pursues universal access and network expansion, will most invariably be dealing with the colonial (limited and hierarchical) nature of the infrastructure of telecommunications. Of course in itself, the problem of a colonial infrastructure has to be identified and addressed as a policy problematic. Thus, while

universal access and equitable spatial distribution of the facilities are pursued, the problem of a colonial structural and distributional framework must be clearly set out as an area for major policy attention. Such a clear definition of the colonial nature of the infrastructure as a policy problematic, will further galvanise the resolve of policy makers and the government for that matter to develop a truly people-sensitive, development-oriented infrastructure.

Privatization

The evidence available does indicate that the prime movers of the privatization and deregulation campaign in the telecom- munications industry around the world are basically market and economic efficiency factors (see Chapter 4). Brooks (1990) confirms that:

The most important development of the last decade or so has been the rapid shift in the United States, and a somewhat less rapid but unmistakable shift world-wide, from a planned telecommunications infrastructure governed primarily by the goal of universal service, to a system increasingly driven by market forces dominated by the needs and demands of the largest users of telecom services (p.21).

Brooks points out further that most of the privatizations in the industry that have taken place around the world after the AT&T divestiture in 1982, have, to a significant degree, imitated the U.S. pattern (p.22). The current policy reforms being undertaken in Ghana conforms to this U.S.-style privatization, where the emphasis is on improving value-added services, and de-emphasising universal access.

The point that has to be stressed however is that not enough attention is paid to the fact that the social, cultural and even economic and political circumstances of Ghana are far from being the same as those in the United States. As we have attempted to show in this study, the technological, as well as the economic strength of the local private sector, which has provided the bulk of the steam for the privatization and deregulation movement in the United States and Europe do not obtain to the same degree in Ghana, or any Sub-Saharan African country for that matter. It is thus not entirely sound policy practice for Ghana to follow the North American and European models of an overwhelmingly market-oriented telecommunications industry.

Further to that, Mosco (1990) notes for example, that in the United States where privatization and deregulation may have reached their peak, the outcomes have been mixed, and telecommunications subsidy programmes such as "Link-up America" and "Lifeline" which provide service discounts, have replaced a programme such as "Phone Stamps" which existed prior to divestiture and deregulation.

This would appear to underscore the notion that the running of a highly public-sensitive infrastructure such as telecommunications cannot be left entirely to market forces, to the extent that where market factors have further disadvantaged some members of the public, these 'telephone welfare' programmes have been considered appropriate. But the

question that requires to be answered is whether the largely low-income majority's interest should be taken care of only when it becomes apparent that a market has failed.

Privatization may be a plausible means of creating a 'more efficient' industry, and a viable option for capital generation. It is, however, important that the drive towards privatization of telecommunications in Ghana is pursued with adequate consideration of such long-term issues as universal access, the ability of the local private sector to adequately participate in the process, and even the possibilities of developing local technological/ engineering and management capacities, among many other factors.

As indicated previously, successful privatization of state telecommunications entities should be considered within the context of the political, as well as economic and social environment of the particular country concerned. In the Ghanaian context, the conflicting interests of P&T and the newly emerging telecommunications service providers such as Millicom Ltd. (so far the only private operator offering cellular services), needs to be clarified. Furthermore, the interests of telecommunications workers, the consuming public, equipment suppliers and the national government itself, among others, ought to be clarified and worked out in any privatization scheme.

Privatization also requires that market structures and the regulatory environment should provide the new owners with incentives and obligations to invest and perform. There should also be the provision of institutional arrangements to ensure that operators are not subjected to unwarranted controls. Mechanisms should however be created at the same time, for the protection of users, and to reconcile commercial interests with broader developmental objectives.

Commercialization

Giving a significantly commercialised dimension to the operations of public entities has been proposed as a "halfway house" between undue state control monopolistic regimes, and outright privatization. Peachey (Communications MEA, Vol.2, No.9) defines commercialization as "the operation of a nationalised industry as a company separate from the government, making its own decisions". Peachey further quotes a spokesman of the African Development Bank and confirming that "commercialisation is a good first step towards telecoms modernisation".

Kayani (n.d.) posits that commercialization is a:

...process which is a stage towards non-governmental structures. Commercialization essentially entails operating public owned enterprises autonomously as a business venture free from day-to-day interference from the owner which is the government.

My own recommendation would be to reinforce suggestions for commercialization, and to emphasise that one of the greatest

This model is by no means presenting a scenario of perfect, mutual harmony in which the natural human tendencies of competition, envy, strife, etc. are completely evened out. It operates on the assumption that levels of these centrifugal tendencies that work to either limit or altogether hamper the attainment of the developmental telos of society would be reduced, making it less problematic for society to reach these goals.

Communication would play a role in such development only to the extent that any society decides what kind of development it aspires to, and then incorporate communication strategies that both support general development and develop communications, particularly telecommunications, as a critically important sector of contemporary social, cultural, political and economic organization.

The issues to be taken into account in the formulation and implementation of these policies in Ghana may not have been exhausted in this discussion. However, the concerns raised here, I believe, constitute some of the salient issues needed to be addressed in the whole process of designing comprehensive information, telecommunication and informatics policies for Ghana.

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drawbacks to the viability of the GP&T has been undue government interference in the corporation's day-to-day operations to the extent that frequent changes in top management positions has virtually become part and parcel of the corporation's organizational and structural routine.

Between 1985 and 1989, there were three Directors-General, and a rather high turn-over of top management positions has severely limited the corporation's capacity for sustained and consistent management practices.³⁹ It is quite obvious that even before a full scale privatization is undertaken, the GP&T could achieve a significant level of economic and commercial efficiency if its day-to-day running is entrusted to a competent, credible management, which I contend the corporation largely possesses.

Advocates of privatization have criticised commercialisation as "fudging the privatization issue" (Communications MEA, Vol.2, No.9). But it has to be emphasised that their main concern continues to be making the telecommunications sector a market-driven business. Also, as ADB spokesman Walter Susungi rightly points out, "the concept of privatization has perhaps been taken up too quickly on the African continent" (Communications MEA, op.cit).

³⁹see Regional Overviews (1989): "Ghana: The Commercial and Regulatory Environment", Regional Overviews, IT10-011-151, July 1989, McGraw-Hill.

Sectoral Telecommunications Requirements

As has been maintained through this study, the one critical goal of telecommunication policy in Ghana must be the sector's role as an inter-sectoral factor. In this holistic sense, telecommunications ought to be assigned specific roles as far as the particular needs of each sector are concerned. It would be useful for instance, to identify, in clearly substantive terms, what role telecommunications is expected to play in sectors such as education, health care delivery, industry, banking and commerce, and social connectivity among people.

Such clearly defined roles for telecommunication in particular sectors would obviously help to determine technologies and infrastructures required and considered as most appropriate and feasible for the overall infrastructural development of the sector. As the contribution of telecommunication is thus clarified in sectoral and inter-sectoral terms, the process of policy formulation and implementation itself would be accorded greater importance than has been the case in the past.

The International Development Research Centre (IDRC:1990) of Canada points out that for national information and informatics policies to be effective instruments for development, such policies should be based on the identified information needs of the various sectors of the national economy. For policies to address the relevant developmental

needs of developing countries, a number of suggestions and proposals are put forward by both national governments, individual experts and international agencies (such as the UNESCO, IDRC and the German Foundation for International Development) concerned with the development of the information and communication sector.

From the perspective of most of these governments, experts and agencies, considerations for the formulation and implementation of effective informatics policies, while covering the multi-sectoral informational needs of countries, should deal with certain specific policy objectives. Telecommunications, for example, should be assigned particular objectives in the development of education, health service delivery, and international trade (see Woods, Bernard: 1993).

Technology Adoption

Basically, when it comes to the adoption and use of information technologies (IT) in developing countries, three broad suggestions are made: i. that what Africa, (and for that matter other developing regions of the world) needs is Appropriate Technology; ii. that developing countries need Simple Technology; and iii. that Advanced Technology is what will help developing countries 'leap frog' to join the current communication revolution. There is somewhat a fusion of ideas between the Appropriate technology and Simple technology schools. The real contention then is between this group on

the one hand and the Advanced technology advocates on the other. The debates from these opposing perspectives constitute the central tendency of the techno-policy problems faced by most developing countries.

An instance of ambivalence had for example persisted in Ghana for a long time regarding the adoption of Integrated Services Digital Network (ISDN) for telecommunication services. Up until now, there is a great deal of debate as to whether fibre optics is appropriate for Ghana. The basic arguments advanced in certain quarters are that these technologies are probably too 'high', and do not suit the 'low/appropriate' technological needs of Ghana.

New Technology: The question of informatics technologies occupies a central position in discussions on informatics and information policy. In view of the current technological changes in the spheres of telecommunications, computers and publishing design and operation, African countries need policies that will take optimal advantage of the enormous capacities and new methods of communication provided by computer and telecommunications software and hardware. The consequences of policy ambivalence towards these technological developments have been discussed earlier on.

Policies on technology should address the questions of acquisition and use of imported systems; maintenance and expansion of existing infrastructures; and the development of local technical expertise for the maintenance, development and

eventual local production of both software and hardware.

As part of the World Bank-sponsored rehabilitation and development programme of the telecommunications sector in Ghana, the introduction of fibre optics for network construction and the digitalization of switching and signal transmission technology are being considered. Currently, there is a great deal of misconception about the introduction of fibre optics for example. While some have argued that it provides greater capacities for the provision of a wide range of telecommunications services at very high speeds, others opine that the initial cost for the installation of the technology is rather too high for Ghana to undertake. Some experts have, however, suggested that due to the critically important nature of transmission and switching technology in telecommunications, Ghana should be working towards installing fibre optics and digital systems which would vastly enhance the quality and range of services provided.

The Nippon Corporation/GPT study proposes that:

Transmission and switching techniques hold the key to the development of communications and play a major role in communications. Coaxial cables are being replaced by optical fibre cables in the cable network, and.....satellite circuits are being replaced by digital radio systems, as new media for transmission (1989: Ghana Telecommunications Master Plan, p. VIII-7).

The study proposes further that due to the fast pace of technological change, and the imperatives of a global trend towards public data switching network, Ghana should work

towards the early introduction of a "packet switching system".⁴⁰ An update of the switching and transmission technology is expected to provide a sounder technological infrastructural basis for the expanded usage of computer-mediated communications and related telecommunications services.

What needs to be said, however, is that whichever of these technologies may be adopted, Ghana does not produce any one of them. This means that the technology is basically being imported, and in fact most of what is coming in is being installed on a turn-key basis.

Considering that newer technologies are tending towards lower costs, and also that users may find it more difficult to maintain obsolete infrastructures, I would propose that Ghana update its technological infrastructures as quickly as practicable. This is by no means to suggest that there should be an uncritical, 'hook-line-sinker' approach to technology adoption. In the long term, it should be a major policy concern that local capacities are developed in technology building, especially in a strategically crucial industry as micro-electronics and telecommunications. Having said that I think it would be a far less costly enterprise for Ghana to maintain up-to-date rather than obsolete technological gadgetry.

⁴⁰ "Packet" type transmission enables the efficient, flexible handling of information exchange in the network. Additionally, an error control mechanism is provided in the forwarding packets, and high quality transmission is achieved (see: 1989: Ghana Telecommunications Master Plan, p.VIII-13).

Whatever the debates are, whether for Simple/Appropriate technology or for Advanced/High-tech infrastructures, the crucial fact is that there is the 'need to improve and expand the present stocks and network of telecommunications and telematic infrastructures if economic growth in African countries is to be given the necessary impetus. Even in comparison to other developing regions Africa is still behind in informatics, and under-investment is severely restricting economic growth (Boafo: 1991, p.106)

The picture is even worse when developing country informatics infrastructural outlays are juxtaposed with that of the developed world. As previously mentioned, while telephone density in the developed world average 19 telephones per 100 people, the telephone density in Sub-Saharan Africa averages 0.3 per 100 people. This is without prejudice to the fact that:

"The correlation between a country's GNP and its telephone density is proven, and therefore increasing telephone density is of paramount importance to developing countries"⁴¹.

The conundrum however is that most sources of funding for telecommunications and informatics projects in Africa would want to see an improvement in the economy and even in communications facilities before extending funds for such projects.

⁴¹ Datapro Reports on International Telecommunications (1992): "Telecommunications In Africa", in Regional Overviews, IT10-01-101, Sept. 1992, McGraw-Hill Inc.

Regulatory Framework

Telecommunications regulation in Ghana which basically involves standardization of equipment, allocation of the radio frequency spectrum, and pricing of telecommunications services, was mainly undertaken by the GP&T until 1977, when the Ghana Frequency Control Board (GFRCB) was established to assume certain aspects of the regulatory functions. From 1977, the two public entities, that is the GP&T and the GFRCB have continued to share the job of regulating, with P&T's role narrowing somewhat to price determination concerns, while the GFRCB takes on more of standardization of equipment, and frequency licence allocation, particularly after cellular phones were introduced in 1992.

For the P&T, it was the case of an operator which more or less regulated itself, generally guided by inflationary trends, and broad macro economic policies of the Ministry of Finance and Economic Planning. However, the 1992 Constitution has brought into effect a National Communications Commission (NCC), somewhat like the U.S. FCC or Canada's CRTC, to assume all regulatory functions in the information and communications field.

The establishment of the NCC is highly recommended since it provides a degree of autonomy of the oversight for the communications and information sector from direct government intervention. As an autonomous public institution, its operations are expected to be characterized more by social,

and public-interest concerns, and less by purely political considerations which tended to be the case when the final regulatory authority of the two institutions mentioned earlier (P&T and GFRCB), rested with the Ministries of Information and Transport and Communications.

It has to be pointed out, however, that as Ghana considers privatization, the regulatory framework for privatizing an essentially monopolistic sector (particularly where new operators are emerging), must adequately differentiate between potentially competitive activities, establish tariff and interconnection regimes, clarify service goals, and develop mechanisms for containing costs of operators while providing incentives for further investments in the sector.

Of particular importance is the ability of the regulatory body to meet the new challenges that will be thrown up as a result of the new regime of commercialization, liberalization, and eventual privatization. The NCC, for example, requires adequate expertise to deal with such sensitive and complex issues as pricing policy, and determine which pricing mechanisms would be most appropriate for the Ghanaian environment. Until the attainment of full privatization, it is proposed that Ghana adopts a rate-of-return model as against price caps.⁴²

⁴² For an explanation of 'rate-of-return', see (Ch.4, p.134). In the 'price cap' or price ceiling model, telecommunications services provided by an operator are

In the previous regime where the P&T combined regulatory functions with operational ones, regulation and policy making tended to be generally arbitrary, naturally paying more attention to the interests of the operator/regulator as against the consumer. The challenge for instituting regulatory measures that responded adequately to the public interest, and the formulation of long-term policy was thus not as formidable. In the emerging regime of commercialization, leading up to eventual privatization there is the need for the regulatory body to possess the adequate competency in dealing with the more onerous issues of policy formulation and efficient regulation.

Separation of Posts From Telecommunications

In consonance with a proposal by the Ghana government and the World Bank to separate Posts from Telecommunications, it is recommended that postal services of the GP&T be separated from its telecommunications operations. Over the years, postal and telecommunications services have been provided by

considered to be a 'basket' of services. The averaged price of these basket of services are by regulation, not allowed to exceed the highest limit of the cap. The problem particularly for consumers, is that operators tend to price services with inelastic demands (such as long distance voice service), far above the cap limit, and price other low-end services (such as domestic and local voices services) at generally low levels. Although prices for the services with inelastic demand may be much higher than what the regulated ceiling allows, the averaged price of the basket of services will show a price that may be generally within the limits of the cap, thus masking the fact that real prices in certain services are actually much higher than the cap allows.

the P&T, with reasons of economies of scope as the main justification for such an organizational structure (see Kayani: n.d.).

Changes in postal and telecommunications service operations and markets have however made separation plausible. Added to these changes are even more far-reaching changes in the technological requirements and practices of the telecommunications sub-sector which have made it technically more dynamic, rapidly evolving, and capital intensive. This is coupled with the fact that telecommunications operate in a far more competitive market environment compared to postal services. Separating postal from telecommunications will enable each of the sub-sectors to re-organize its operations in tandem with their changing environments.

Manpower Development

At the core of the technological, managerial, social and economic development problematic of telecommunications development is the question of manpower and skill development. Kwame Karikari (1992) notes that the answer to the human resource development policy of any country should be found in "the objectives set out by the economic and political policies of the state....The human resource capacity available is also a consequence of the economic policy environment."

Like most other sectors of development planning in Ghana, the development of the required manpower resources to support an overall national development project has been lacking, more so in the information and communication sector, both in terms of technical and engineering, as well as managerial and administrative personnel. The experience of countries like Japan (discussed at length in Chapter 4), Germany, or India, amply demonstrate that investments in Research and Development, which are underpinned by the presence of highly skilled manpower, is a prerequisite for success in all aspects of development.

A number of suggestions have been made to underscore the need for African countries to develop a consistent policy framework for creating local technical and managerial resources for sustainable economic and other aspects of development (see African Alternative Framework to Structural Adjustment Programmes for Socio-Economic Recovery and Transformation, U.N. Economic Commission for Africa: 1991).

As an immediate, short-term measure towards improving the skilled manpower situation of Ghana (both in technical/engineering and management/administrative capacities), existing departments in universities, polytechnics, and other tertiary training institutions concerned with technical and managerial training are placed a national manpower training priority list, and provided with facilities, resources and instructors (both foreign and local) as a matter of urgency,

to help re-organize and re-focus the training objectives of these departments.

The environment for such training programmes should be sector-oriented, tailored to respond to specific and identified sector priority needs. Since it is not immediately possible for a stagnating public sector to absorb this new cadre of professionals (who obviously should have been trained to be career-oriented), a national programme of placement with both public and private sector enterprises should be set up by the government in close collaboration with the private sector to provide an avenue for experimentation, professional expression and productivity for graduates of these training programmes.

One of the major problems associated with retaining high calibre personnel has always been poor conditions of service and low levels of remuneration. It must be emphasised that it just does not make any sense to train personnel only for them to be paid starvation wages when it is obvious that right across the Western border (in Cote d'Ivoire), employers are prepared to pay these same professionals a number of times over and above what government's budgetary wage levels allow them to be paid in Ghana. It is therefore important that a realistic wage structure is set up in Ghana, as part of an overall strategy to train and retain urgently needed skills. The fact indeed is that even within Ghana, wage levels have been kept low more as an instrument of political expediency

for the government, to the extent that foreign private enterprises who deem it justified to pay higher wages are restrained by government for fear that such wage increases may have a demonstration effect on the macro environment. Thinking up more realistic means of dealing with inadequate remuneration (particularly in relationship to the cost of living) as against suppressing wage levels, I suggest, would be a more viable means of ensuring growth and economic and other development.

This situation has affected the growth and productivity of the telecommunications sector as the following Regional Overviews report argues:

The telecommunications staff at the end of 1987 numbered 4,038....During the past seven years, GPTC lost about 1,500 skilled staff, mostly from the engineering section. Out of 76 positions for engineers, only 21 positions (28%) were filled. There is also a shortage of qualified accountants, with the result that many accounting positions in the finance department are filled by non-qualified personnel. The loss in skilled staff has been largely due to poor economic conditions in Ghana, poor remuneration, and lack of incentives⁴³ (op.cit).

A programme for training and retaining skilled manpower for the telecommunications sector should thus be an important component of policy concerns.

⁴³ Emphasis mine.

Research and Investigation

As indicated earlier, telecommunications and informatics policies should aim at meeting the identified needs of the various sectors of the national economy. Such needs would be clearly identified and articulated only through systematic and systemic research of national developmental objectives and priorities. Investigations could look specifically at the particular sectoral needs, deficiencies of existing telecommunications and informatics services in terms of infrastructures and technological capacities, manpower resources, and sources of capital and other requisites for the development of the sector.

A strengthening of local entrepreneurs and support for their entrepreneurial efforts would improve their capacities for making financial contributions (by way of service charges) and investments towards the further development of the telecommunications sector. Such an approach should work to improve the chances of the local business class of taking a more pro-active role in investment and economic development. This should in the long haul, also work to minimize the over-dependence of the national economy on external resources for growth.

Over-dependence on Foreign Consultants

The IDRC (1990) further points to the over-dependence of most Sub-Saharan African countries on foreign consultants in the development and enactment of key policy guidelines. This, the Centre notes, has contributed to the formulation of policies that do not adequately address the real needs of these countries. As a key factor in the fashioning of information and informatics policies therefore, countries are advised to work with and further develop local expertise. The Centre notes that:

The preference for foreign experts is symptomatic of the lack of confidence of African administrators and policy-makers in their own national professionals. This aspect of the dependency syndrome needs to be addressed, and African administrators must learn to respect the professionalism and expertise of local personnel by using them (IDRC: 1990, p.133).

This is a critical factor, considering that the inability of most Sub-Saharan African countries, such as Ghana, to develop sustainable models for their development has been due to their over-dependence on external forces (Hyden, G & Bratton, M.:eds.: 1992, p.81). Thus the need to utilize and further develop the capacities of local experts in the field of policy development and implementation is of prime importance to the chances of creating sustainable development.

Over-dependence on Foreign Information Sources

As a corollary to the above problem of over-dependence on foreign consultants, there is also the problem of over-

dependence on foreign information and data sources on the part of African countries. Much as there is the need to cultivate and improve local information and informatics personnel, there is also the corresponding need to develop and utilize more and more the information and informatics sources located within national and regional territories.

In the present era of a growing information economy, the usefulness of such locally developed information, informatics and telecommunications infrastructures to the national economy is rather critical. Of course, due to easier global networking and information access, tapping into information and data bases in other parts of the world is not such a problem. However, the strategic nature of the kinds of information generated and disseminated demand that countries invest in developing facilities for local generation and storage of important nationally required information and data.

Legislation

The competing sectoral interests that converge in the information and communication sector have served to complicate attempts at legislation to support the effective implementation of communications policies in general, and telecommunications policy in particular. There is the need for legislation that would adequately harmonise the needs and interests of all sectoral actors within the broad framework of

a national information and communication policy.

In order to reduce the incidence of conflicting and divergent goals, existing legislation should be synthesised to ensure that the infrastructural, institutional and other needs of the various sectors are not at variance with each other. Legislative and administrative instruments on issues such as regulation, equipment standardization, equipment imports and acquisition, for example, should be sufficiently complimentary, and aimed at basically similar broadly defined objectives. This is even more crucial especially in the face of the fast changing technological, organizational and market regimes in the telecommunications and informatics sector.

In formulating and enacting such legislation, it is also essential that the aims and mandates of regulatory bodies like the Ghana Frequency Board, the Data Control Board and the Customs, Excise and Preventive Service, are carefully synthesized. In the past, the absence of such a synchronized approach to the mandates of various public agencies, particularly those in enforcement and monitoring roles, have come into conflict with each other, thus inhibiting rather than promoting the common goal(s) that they are all supposed to be working towards.

Legislation should also be holistic and sufficiently clear on the issue of regulating the telecommunications and informatics sector. The 1992 Constitution provides for the setting up of a National Media Commission. While the Media

Commission has a responsibility to ensure the free and uninhibited operation of the "media", the provisions of the constitution are not sufficiently clear on the electronic aspects of the media, particularly telecommunications-related media such as electronic publishing, data and electronic information services, et al.

There is an obvious lack of appreciation of the conflicting roles that the National Media Commission and the national Frequency Control Board would be performing in the new era of information technological convergence. Without an adequate streamlining and defining of jurisdictional mandates, the likelihood of the pursuit of conflicting objectives by the two bodies is rather high.

Implementation and Follow-up:

One of the basic problems of development policy planning and action in Sub-Saharan Africa has been insufficient and often inefficient systems of implementation and follow-up. Policy objectives for the telecommunications and informatics sector should be rather strong and sufficiently lucid on the methods and mechanisms for implementing the proposed policy objectives and for follow-up and evaluation of the implementation process.

CONCLUSION

In the IDRC's definitional terms, development policies are necessary instruments by which governments define national problems and set goals and directions for the development of national economies. The Centre points out further that policies are declarations of intent by governments to undertake action in given sectors of an economy (IDRC: 1990, p.3). This definition of the character and usefulness of policies for the management of particular sectors, as well as the totality of the national entity, in my view, provide a useful basis for approaching the policy problematic in Ghana, more so for the informatics and telecommunications sector.

The policies required by Sub-Saharan African countries, and Ghana in particular, should thus reflect the overall developmental needs and objectives of these countries, as well as stipulate specific goals and methods of developing and sustaining an efficient information and informatics industry.

As the Unesco Commission (MacBride, 1980: p.258) has suggested:

Development strategies should incorporate communication policies as an integral part of the diagnosis of needs and in the design and implementation of selected priorities.

Servaes (1991: p.52) notes, however, that operational policies on communication in most developing countries tend to be rather ad hoc without adequate conceptual, organizational or structural framework. Existing national communication policies are characterized by fragmentation, and by unco-

- Parker, E. & Mohammadi, A. (1977): "National Development Support Communication", Teheranian, M.; Hakimzadeh, F., & Vidale, M.
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This model is by no means presenting a scenario of perfect, mutual harmony in which the natural human tendencies of competition, envy, strife, etc. are completely evened out. It operates on the assumption that levels of these centrifugal tendencies that work to either limit or altogether hamper the attainment of the developmental telos of society would be reduced, making it less problematic for society to reach these goals.

Communication would play a role in such development only to the extent that any society decides what kind of development it aspires to, and then incorporate communication strategies that both support general development and develop communications, particularly telecommunications, as a critically important sector of contemporary social, cultural, political and economic organization.

The issues to be taken into account in the formulation and implementation of these policies in Ghana may not have been exhausted in this discussion. However, the concerns raised here, I believe, constitute some of the salient issues needed to be addressed in the whole process of designing comprehensive information, telecommunication and informatics policies for Ghana.

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