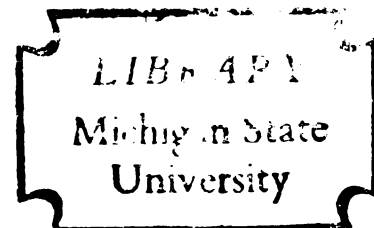


THE ROLE OF MASS MEDIA
IN THE MODERNIZATION
OF THE INDIVIDUAL

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
ELY D. GOMEZ
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This is to certify that the

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THE ROLE OF MASS MEDIA
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ABSTRACT

THE ROLE OF MASS MEDIA IN THE MODERNIZATION OF THE INDIVIDUAL

By

Ely D. Gomez

There is general consensus that mass media are important in developing countries. However, there is no unanimity as to the actual role they really play. The purpose of this exploratory study was to ascertain the role that mass media play in the process of modernization. Pertinent research literature was reviewed and generalizations formed regarding this role, particularly as it pertains to the individual.

The theoretical scheme for this study centered around two major concepts--mass media and modernization. Assumptions established about mass media were: (1) that the philosophy, role, functions and potentialities of mass media are determined by the nature of the social system; and (2) that they serve as agents of reinforcement rather than agents of change. Assumptions

established about modernization were: (1) it is a process involving both societal and individual changes; (2) as a process involving changes within the individual, it can be viewed both in terms of changes in attitude and behavior; and (3) it is a multilinear process and/or a multivariate phenomenon.

Studies were selected for review according to a specific set of criteria: (1) they must be of an empirical nature, and (2) they must deal with the relationship between some aspects of mass media and either the modernization of the individual or the modernization of the social system. The studies were categorized as to correlational studies and field experiments. The individual, village, and nation were used as unit(s) of analysis.

The studies were analyzed according to the following generalizations:

(1) In general, mass media exposure creates in the individual a favorable climate or attitude toward modernization rather than providing specific behavioral skills.

(2) In general, mass media exposure is not likely to be inherently one kind of variable, i. e., it can act as an antecedent, an intervening and a consequential variable in the process of modernization.

(3) In general, mass media exposure is not the only good predictor of modernization.

For the most part, the empirical studies reviewed tend to support the generalizations. Mass media can be effective in creating awareness, interest and favorable attitudes, but are less effective in teaching specific behavioral skills. Secondly, mass media exposure acts as an antecedent and an intervening variable but not as a consequential variable in the process of modernization. Lastly, although mass media exposure is a good predictor of modernization, other variables such as education, literacy, and social status may serve as equally good predictors.

The results of the study have provided a framework in which the roles of mass media in modernization can be viewed. But this is only one step forward. It is hoped that the implications for mass media discerned in this study will open avenues for further research which will eventually lead to more viable generalizations.

THE ROLE OF MASS MEDIA
IN THE MODERNIZATION
OF THE INDIVIDUAL

By

Ely D.^{Doming} Gomez

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CHAPTER I

INTRODUCTION

The process of change in the modern era . . . is the most dynamic of the great revolutionary transformations in the conduct of human affairs. . . . Man perceives opportunities and dangers that for the first time in human existence are global in character, and the need to comprehend the opportunities and master the dangers is the greatest challenge that he has faced. (Black, 1966, p. 4)

Scope of the Study

There has been an increasingly awakened desire for improvement in the developing countries of the world today. As Gill (1963, p. 84) remarked: "What is new in the modern under-developed countries is not the fact that they are poor but the fact that they have become aware of being poor and have grown increasingly determined to do something about it." The realization that there is a better way of life has made people in these countries intensify their demand for rapid progress.

It appears that change in these developing nations is inevitable. The question now is not whether people will change but how they will change. Schramm (1964, p. 35) stated this explicitly

when he said: "Change will be coming to those developing countries, and the questions are not whether, but how fast, by what methods, and in precisely what directions."

This does not preclude the fact that, in changing, choices are possible, provided they are made within certain limits. However, people "need to know what choices are possible, what limits are upon choice and what opportunities lie beyond a given choice, if they are to make use of local choice whatsoever" (Schramm, 1964, p. 36). It is along this line that social scientists can play an important role. They may be able to help people make rational choices by studying the processes involved in social change.

Research studies conducted on developing countries have looked into the variables leading to social change, or to use the new term, "modernization." Social scientists prefer to use the concept "modernization" instead of social change because it is "theoretically useful."*

Over and over again, exposure to mass media has been suggested as a "crucial variable in causing large-scale directed

*Lalit K. Sen, in "The Concepts of Tradition and Modernity: A Re-evaluation" presented at the Second World Congress of Rural Sociology in the Netherlands in August, 1968, said: "This new term 'modernization,' bears the stamp of our contemporary age and reflects the frustrations of social scientists with the sterility of the concept of 'social change.'"

social change and economic development in developing societies" (Rogers, 1965-66, p. 614). As such, the mass media earned such labels as the "great multiplier" (Lerner, 1958), the "smoother of transition" (Rao, 1966), and provider of a "climate for development" (Schramm, 1964).

There is a growing interest among social scientists today concerning the role that the mass media play in the modernization of less-developed countries. Whereas a few decades ago this topic was hardly an object of investigation, today it has become one of the important research areas in the behavioral sciences. Consequently, in recent years empirical investigations in this area have proliferated.

Studies have been done both at the micro- and macro-levels of analysis* on the role of mass media in modernization, but to the knowledge of the present writer, there has been no attempt to make a systematic documentation and review of them. Moreover, these empirical investigations have not provided any theoretical base for the role of mass media in the modernization process. The present study will attempt to fill this need. More specifically, the

*Micro-level studies generally use the individual as unit of analysis whereas macro-level or aggregate studies use a large socio-geographical entity such as the village or nation.

role of mass media in modernizing the individual will be the major focus of the study.

This study has two goals: (1) to provide social science researchers some guidelines for future research, and more important; (2) to put the role that the mass media play in the modernization of the individual into focus. The objective of the study, however, is not necessarily to advance a single theory of mass communication in modernizing societies but rather to open new avenues that will lead to further investigations.

Plan of the Study

In essence the present study is formulative or exploratory (Selltitz, et al., 1951). The main purpose of an exploratory study is the formulation of relevant hypotheses for more definitive investigation. Three different methods are considered useful when making an exploratory study: (1) a review of related social science and other pertinent literature; (2) a survey of people who had practical experience with the problem to be studied; and (3) an analysis of "insight-stimulating" examples (Selltitz, et al., 1951, p. 53).

The first method was used in this study. Thus, research literature pertinent to the role of mass media in the modernization process was reviewed with the primary purpose of

forming hypotheses or generalizations that may lead to further investigations.

Empirical studies reviewed were taken from social science research journals and monographs, doctoral dissertations, and other relevant research publications. In addition to these general sources, research studies conducted by different universities involved in international communications and/or national development programs were also looked into.

Due to the vast amount of materials published in this field, it was necessary to limit the selection of the research studies reviewed. The two criteria used in the selection were: (1) the study must be of an empirical nature, and (2) the study must deal with the relationship between some aspects of mass media and the modernization of the individual or the social system.

For purposes of simplification, the research studies reviewed were categorized in two major categories with subcategories as listed below:

1. Correlational Studies
 - a. The individual as unit of analysis
 - b. The village or nation as unit of analysis
 - c. The individual and the village or nation as units of analyses

2. Field Experiments ✓

a. On mass media only

- (1) The individual as unit of analysis
- (2) The village or nation as unit of analysis
- (3) The individual and the village or nation
as units of analyses

b. On mass media and interpersonal communication

- (1) The individual as unit of analysis
- (2) The village or nation as unit of analysis
- (3) The individual and the village or nation
as units of analyses

Thus, Chapter I has discussed the problem of the study, i. e., the need to systematically review and document empirical ✓ studies concerned with the role of mass media in modernization with emphasis on the individual. The exploratory research conducted ✓ served as a basis for the plan of this study. Chapter II is devoted to ✓ a discussion of the theoretical background for the study. With this ✓ background, a synthesis and analysis of the research studies reviewed are developed in Chapter III. Chapter IV summarizes and ✓ points out the specific trends of these studies. A set of generaliza- tions is formulated which may generate further research.

CHAPTER II

THEORETICAL BACKGROUND

AND FORMULATION

Communication is the web of human society. The structure of a communication system with its more or less well-defined channels is in a sense the skeleton of the social body which envelops it. The content of communications is of course the very substance of human intercourse. The flow of communications determines the direction and pace of dynamic social development. Hence, it is possible to analyze all social processes in terms of the structure, content, and flow of communications. (Pye, 1963, p. 4)

There are two major concepts in the study that need explication: mass media and modernization. A primary task of this chapter is therefore to examine these concepts by reviewing several theoretical viewpoints. Based on this review, a set of basic assumptions will be derived and a set of generalizations, inferring the role of mass media in the modernization of the individual, will be developed.

Definition of Terms

Mass Communication
vs. Mass Media vs.
Interpersonal Communication

Some authors use the terms "mass media" and "mass communication" interchangeably but for purposes of this study,

mass communication will refer to a process (leaning to the abstract) and mass media to the means (leaning to the concrete).

Thus, Wright (1959) defines mass communication as:

. . . a form of human communication which is directed toward relatively large, heterogeneous and anonymous audiences; messages are transmitted publicly, often timed to reach most audience members simultaneously, and are transient in character; the communicator tends to be, or to operate within, a complex organization that may involve great expense (p. 15).

Similarly, Larsen (1964) refers to it as:

. . . the relatively simultaneous exposure of large, heterogeneous audiences to symbols transmitted by impersonal means from an organized source for whom audience members are anonymous (p. 348).

On the other hand, mass media refer to the means of transmitting, or the carriers of, a message to the mass audience. Thus, the mass media will include the print media such as newspapers, books and magazines; the electronic or broadcast media of radio and television; and motion pictures.

The word "mass" connotes large numbers of people who are heterogeneous, anonymous, unorganized, and with little interaction with each other (Blumer, 1946; Wirth, 1960).

The main variable of interest in the present study is mass media exposure which refers to such activities as reading a newspaper or magazine, listening to the radio, watching television and attending the cinema.

Questions approximating the following were used as criteria to determine whether mass media exposure was used as a variable in the empirical studies reviewed:

Radio: Approximately how many hours a day do you listen to radio?

Television: Approximately how many hours a day do you watch television?

Print: Which newspapers/magazines do you read daily or regularly?

Film: How many times in a year do you see a motion picture?

Interpersonal communication, as contrasted with mass communication, refers to a direct face-to-face exchange between the communicator and the recipient of the communication message.

Some of the distinguishing characteristics are as follows: (1) it permits greater flexibility of content, (2) it is more casual, apparently less purposive, and more difficult to avoid, (3) it provides immediate provision of reward and punishment, (4) the communicator can sometimes achieve his purpose without actually persuading the audience to accept his point of view, and (5) people are likely to put their trust in the judgment and viewpoint of persons whom they know and respect (Lazarsfeld, et al., 1948).

In addition, more sensory channels are usually involved in face-to-face communication, thereby resulting in a rapid exchange

of information between persons each of whom may serve as receiver and sender of messages. On the other hand, in mass communication, the input of information from the receiver or audience is less, because the flow of information is largely in one direction, i.e., from the mass media to the audience (Westley and MacLean, 1955).

Speaking in terms of persuasive messages, interpersonal communication is more likely to reach people who are undecided or have opposing views than the mass media. People approach mass media messages with an awareness of their purpose. This is unlike in face-to-face communication where people are less defensive. However, while interpersonal communication makes attitude change possible, it is of relatively less importance in changing cognitions or increasing knowledge (Lazarsfeld and Menzel, 1963).

Regardless of some differences between these two forms of communication--interpersonal and mass communication--their basic elements are essentially the same. In both cases, the communicants encode and transmit messages, select and decode messages, and elicit responses.

Modernization vs. Modernity

Modernization implies a process of change; an evolutionary transformation of human affairs. Black (1966, p. 7) defines it

as the "process by which historically evolved institutions are adapted to the rapidly changing functions that reflect the unprecedented increase in man's knowledge, permitting control over his environment, that accompanied the scientific revolution."

Similarly, Feldman and Hurn (1966, p. 378) define modernization as those "social changes that generate institutions and organizations like those found in advanced societies." More specifically, Rogers (1968, p. 20) refers to it as the "process by which individuals change from a traditional way of life to a more complex, technologically-advanced, rapidly changing style of life."

Modernity connotes a state of being. Smith and Inkeles (1966) suggest two referents of modernity: society and individual. When used to describe a society, it means a "national state characterized by a complex of traits including urbanization, extensive mechanization, high rates of social mobility and the like." When applied to individuals, modernity refers to a "set of attitudes, values and ways of feeling and acting, presumably of the sort either generated by or required for effective participation in a modern society" (p. 353).

Thus, modernization refers to societal change; the process by which countries acquire the characteristics common to a modern society. Modernity, however, when used in reference to

individuals is primarily a state of mind. It is an "expectation of progress," a "propensity to growth," or "readiness to adapt oneself to change" (Lerner, 1958).

In this study, the term modernization is used in reference to the individual instead of to society. Thus, "modernization of the individual" refers to the acquisition of certain characteristics by a person presumably as a result of exposure to mass media.

A "modern man," as used in this study, possesses among others the following qualities:

1. Readiness for new experience and receptiveness to new ideas, e.g., agricultural and health innovativeness.
2. Orientation toward the present and future rather than the past. Traits like attitude toward risk-taking and commitment to planning were classified under this.
3. Belief that he can shape his own future. Examples are such qualities as educational aspiration, occupational aspirations and achievement motivation.
4. Awareness of the dignity of others and disposition to show respect for them. A person with empathic ability possesses this trait.
5. Awareness of events happening in his environment and also outside of it. An example is an individual with political awareness or knowledge.

Basic Assumptions

Mass Media

The theory underlying this study is that the mass media act as agents of reinforcement rather than of change. Klapper (1960) has presented research evidence to substantiate this.

In a summary of research done on persuasive communications, Klapper concluded that the mass media serve as reinforcers rather than agents of change because of the part played by such mediating factors as the individual's predispositions and the processes of selective exposure, perception and retention; group membership and group norms; interpersonal dissemination of communication content; and opinion leadership. Although there are instances when changes can take place, this happens only when the mediating factors become "inoperative" or when they are "found to be themselves impelling toward change" (Klapper, 1960, p. 8). The fact that there are some factors contributing to the probability that the mass media serve as agents of reinforcement is an indication that they must be examined.

As reinforcers rather than agents of social change, and as reflections rather than the forefronts of change, the mass media maintain the status quo or consensus in a society (Lazarsfeld and Merton, 1960; Breed, 1960; Wirth, 1960). They work toward the

preservation of the prevailing norms of society so as not to disrupt the consensus which is based on common culture, values, traditions, kinship ties and others.

Consensus here does not mean complete agreement on all the issues among the members of society. Thus, the mass media can help inculcate the feeling of belongingness to a community where it is not likely or necessary for everyone to reach unanimity on all matters that concern them.

The role that the mass media play in a society is dependent upon the nature of the social structure. Hence, in an authoritarian society the mass media system though not necessarily government-owned, is used as an instrument to carry out government policies. Criticism of the government by the media is prohibited through such restraint measures as restrictive licensing and censorship. In a Soviet-Communist type of society, the mass media are committed to implement the objectives of Communism. Consequently, the government exercises a high degree of control over the mass media system not only in its formal organization but also in its communication content. On the other hand, mass media in Western countries generally seem to operate under a combination of two philosophies: Libertarian and Social Responsibility. The Libertarian philosophy emphasizes the freedom of the media

especially from government control, whereas the Social Responsibility concept dwells on the moral and social responsibilities of persons or institutions operating the mass media. Thus, in the former, the mass media keep an eye on the activities of the government; in the latter, they see to it that all sides of the information are presented impartially and that the public has enough information on which to base its decision (Siebert, et al., 1956).

In this connection, there have been disagreements regarding the type of mass media system that would speed up the modernization of a developing country. Pye (1966) said:

Some people argue that there are certain advantages in authoritarian methods as compared with the democratic approach in speeding national development. . . . Others justify poor performance in national development on the grounds of their commitment to democracy (pp. 345-346).

Pye commented further that:

What needs to be noted is that there have been a host of authoritarian societies that have not had great successes in national development. Indeed, there is quite as much evidence to suggest that authoritarian ways can impede rather than speed up modernization. There are, in short, both efficient and inefficient authoritarian systems just as there are efficient and inefficient democracies (p. 346).

One reason for the argument seems to stem from the fact that totalitarian societies invest heavily in mass media facilities. This is unlike developing democratic societies which tend to invest more on education and less on mass media. As a result, there is a

great dearth of mass communication facilities in developing democratic societies. UNESCO reported that about 120 nations covering approximately 70 per cent of the world's population do not meet the UNESCO "minimum" of ten copies of daily newspapers, five radio receivers, two cinema seats, and two television sets per 100 inhabitants (Unesco, 1961, p. 16).

It appears then that one important drawback of the developing societies that demands immediate attention concerns the shortage of mass media facilities. This prompted Pool (1963a, 1963b) to suggest that one issue the less-developed countries must resolve is to determine how much of their scarce resources should be invested in the mass media.

The question of which mass media system, totalitarian or democratic, is more effective in speeding up national development tends to indicate that the mass media possess enormous potential. Extensiveness, speed, relative controllability and potential effectiveness are the frequently cited attributes of mass media for modernizing societies (Frey, 1966).

This suggests that the mass media are a quick means of reaching large numbers of people; they can be used as instruments for achieving developmental objectives with greater ease; and they have the capability of being one of the most effective agents of social

change. Speaking about political socialization, Hyman (1963) said that the standardization of the mass media is the "very thing suited to producing widespread national uniformities of patterns of behavior . . . " (p. 142).

It must be realized, however, that the mass media also have corresponding drawbacks. They can bring about undesirable effects or unintended socio-psychological changes. Consequences that are unwholesome or undesirable from the point of view of the welfare of society or its members are labelled dysfunctions (Merton, 1957). Thus, the mass media may have both functional and dysfunctional effects.

Turning now to the functions that the mass media perform, they are classified generally into four types: (1) surveillance, (2) interpretation and prescription, (3) education, and (4) entertainment (Lasswell, 1960; Wright, 1959). Surveillance principally means forewarning the people about impending dangers and threats; interpretation and prescription involves preventing undesirable consequences of the mass communication of news through careful selection, evaluation and explanation of news; education means the transmission of knowledge and social heritage to succeeding generations; and entertainment refers to the use of mass media for amusement purposes.

Two other functions of mass communication are status conferral and enforcement of social norms. The mass media enhance the prestige of a person through news reports about him. Likewise, the mass media tend to enforce social norms by bringing into public view violation of norms (Lazarsfeld and Merton, 1960).

According to Schramm (1964), the mass media generally perform three communication functions in developing societies: watchman, decision-making and teaching. As watchman (a function akin to surveillance) the media "scan the horizon" and report to the people the information which is of significance to them. In so doing, they can focus attention and raise levels of aspirations, thus "creating a climate for development." As a contributor to the decision-making process, the mass media make available the information necessary for the discussion of issues. As a result, they may be able to modify slightly held attitudes or influence decisions on matters of social concern. Finally, as teacher, the mass media can help in different forms of teaching and training. They can help speed and facilitate the growth of literacy and education; they can even replace or assist a poorly trained teacher.

In the light of the foregoing discussion, the following assumptions can be made about the mass media:

1. The philosophy, role, functions and potentialities of mass media are determined by the nature of the social system.

2. The mass media serve as agents of reinforcement rather than agents of change.

Modernization

The concept "modernization" may be viewed from two theoretical viewpoints: (1) in terms of internal factors, i. e. , socio-psychological; or external factors, e. g. , urbanization, industrialization, education, etc. , and (2) as a unilinear or multilinear process and/or a univariate or multivariate phenomenon.*

It appears that one way to explain modernization is in terms of socio-psychological or personality characteristics. Support for this standpoint has been provided principally by McClelland, Hagen and Lerner.

McClelland's (1961) key hypothesis centers on psychological factors; in particular, on achievement motivation or the need for achievement (n Achievement or n Ach). He theorizes that certain socio-psychological forces, roughly measured by high n Achievement scores, are responsible for rapid economic growth.

*"Unilinear" and "multilinear" refer to a series of stages in a process, e. g. , traditional to modern. "Univariate" and "multivariate" refer to the number of variables involved in a process. For example, modernization as a multivariate phenomenon may have such dimensions as mass media exposure, education, innovativeness, high need for achievement, high empathy, etc.

N Ach, which McClelland (1966, p. 38) calls a "mental virus," leads to a "desire to prove oneself better than others," an essential factor to social change.

Trying to test his theory by constructing a scale of measurement for n Achievement, McClelland concludes that a "concern for achievement as expressed in imaginative literature--folk tales and stories for children--is associated in modern times with a more rapid rate of development. . . . What people want, they somehow get, in the main and on the average . . ." (1961, p. 105).

Like McClelland, Hagen (1962) places principal emphasis on the psychological factors in development. His basic theory stresses the difference between traditional and economically progressive societies in terms of their divergent personality structures. In traditional developing societies, the predominant personality type is the authoritarian; in developed societies, the prevalent type is the creative. By means of case studies, Hagen confirmed his main hypothesis that a change in a person's personality is the prime mover in social change.

Lerner (1958) propounded the thesis that there is a pre-disposition among certain people to enlarge their view of the world and break with their traditional attitudes and life patterns. They are then led to seek exposure to the mass media which increases their

"empathy"-- the capacity "to see oneself in the other fellow's situation" (p. 50).

Based on data gathered from seven Middle East countries, Lerner (1958, pp. 54-65) advanced the following model of modernization: increased urbanization tends to increase literacy, rising literacy tends to increase media exposure, increased media exposure goes with wider economic and political participation. A modern society, in addition to being industrial, urban, literate and "participant," also has a high empathic capacity.

While empathy or, as it is sometimes called, "psychic mobility" is a very crucial factor in modernization, Lerner (1963) says that it is not sufficient. There must be a corresponding achievement for every aspiration desired. It is the imbalance in the "want-get" ratio that leads to rising frustrations in developing countries.

In other words, satisfaction results only when there is an equitable ratio between what an individual wants and what he gets; or between his aspirations and his achievements. In this connection, a study conducted by Cantril (1965) on human concerns revealed that the expectations or demands of people are patterned largely according to the phases of development they are in within their society.

The theoretical points of view mentioned here indicate that one way to look at modernization is in terms of socio-psychological

factors. This implies that the process of modernization starts with the individual. Inkeles (1966) agrees with this viewpoint. Although he identified two schools of thought by which the modernity of man can be examined (external, internal), he is more inclined to define a modern man in terms of internal factors, i. e., attitudinal and value changes. He questions the appropriateness of calling a man modern on the basis of external characteristics. External characteristics, in this case, refer to such terms as education, urbanization, industrialization, mass communication, etc. As Inkeles commented:

Although his exposure to the modern setting may certainly contribute to the transformation of traditional man, and although that setting may in turn require new ways of him, it is only when man has undergone a change in spirit--has acquired new ways of thinking, feeling and acting--that we come to consider him truly modern (p. 140).

Within this frame of reference, Inkeles (1966, pp. 141-146) suggested the following description of a modern man:

1. Modern man has readiness for new experience and openness to innovation and change.
2. He has a disposition to form or hold opinions over a large number of the problems and issues that arise not only in his immediate environment but also outside of it.
3. He is oriented to the present or the future rather than the past.

4. He is oriented toward and involved in planning and organizing and believes in it as a way of handling life.

5. He believes that man can learn, in substantial degree, to dominate his environment in order to advance his own purposes and goals, rather than being dominated entirely by that environment.

6. He has more confidence that his world is calculable; that other people and institutions around him can be relied on to fulfill or meet their obligations and responsibilities.

7. He has more awareness of the dignity of others and more disposition to show respect for them.

8. He has more faith in science and technology.

9. He is a great believer in distributive justice, that rewards should be according to contribution and not according to the whim or special properties of a person.

The primary focus of this study is on attitude change as the major factor in the modernization of man. In support for this, Pool (1963b) argued that changes in values and attitudes are far more important than changes in behavior. As an example, he cited that the adoption of an innovation by a farmer does not necessarily mean that he has been modernized. According to Pool:

. . . a far more significant change would be the development of a scientific attitude toward the adoption of new practices.

It is only that kind of internal change in the latent structure of his attitudes that would produce self-sustaining movement toward modernization (p. 249).

Realizing the importance of attitude change in the process of modernization, Weiner (1966, p. 9) said that "although there are differences among social scientists as to how values and attitudes can be changed, it is still possible to speak of one school of thought that believes that attitudinal and value changes are prerequisites to creating a modern society, economy and political system."

Emphasizing further the importance of changes in values and attitudes, Frey (1966) commented:

All the more specific indicators of modernization--increasing per capita income, energy output, industrialization, urbanization etc.--signify little if they can not be taken to mean certain alterations of attitude, behavior and social structure have occurred. . . . There must be change from within. The essential aspect of the development process is that the capacity for durable self-generated change of an appropriate kind be created. And, such a capacity for continuing change seems manifestly to depend upon alterations in the outlook and interrelations of the people of the developing society (p. 1).

Let us now turn our attention to the second theoretical point of view regarding modernization: as a unilinear or multilinear process and/or as a univariate or multivariate phenomenon.

There have emerged two schools of thought regarding the way of looking at the modernization process in societies. One classifies societies as two ends of a continuum: traditional or

modern. This method of classification assumes that the characteristics of modern and traditional societies are known. Social scientists criticize this position because it appears that Western societies are classified as modern and non-Western societies as traditional. Sen (1968) speaks to this point:

This should not cause any surprise because the authors of the ideal types all happen to come from western societies and one gets the impression that the ideal modern type was constructed to fit these countries as they became after the industrial revolution (p. 8).

Lerner (1966), who formulated a Western model of modernization, tried to justify the position that modernization is a process of Westernization. He said:

The model evolved in the West is a historical fact. That the basic model reappears in virtually all modernizing societies on all continents of the world, regardless of variation in race, color, or creed, has been demonstrated to my satisfaction. The point is that the secular process of social change, which brought modernization to the Western world, has more than antiquarian relevance to today's problem of social change. Indeed, the lesson is that contemporary modernization everywhere will do well to study the historical sequence of Western growth (p. 218).

There are however a number of social science researchers who disagree with Lerner's model of modernization. Inayatullah (1967) questioned this model of development saying it has a "unilinear interpretation of history, it measures creativity only with limited standards and it reflects ethnocentrism" (pp. 100-101). Also criticizing the unilinear theory, Gusfield (1967) pointed out that the "all

too common practice of pitting tradition and modernity against each other as paired opposites tends to overlook the mixtures and blends which reality displays . . . it becomes an ideology of antitraditionalism, denying the necessary and usable ways in which the past serves as support . . . to the present and the future" (p. 362). Very fittingly, he referred to tradition and modernity as "misplaced polarities in the study of social change" (p. 351).

There seems to be enough evidence to conclude that modernization cannot be viewed by using a single criterion. This indicates that we have to look at the infinite variations and possibilities instead of a modern-traditional typology in trying to explain the process of social change. Modernization then will be viewed as a multilinear process. As such, it is a process of "synthesis" of traditional and borrowed, i.e., modern traits, whereby the "new traits are absorbed by a social system without disrupting the continuity and the cohesiveness of the system" (Sen, 1968, p. 17).

As a multilinear process, modernization involves numerous dimensions. This was confirmed by Ascroft (1968) in a review of studies on modernization conducted at both micro- and macro-levels of analyses. Some of the most commonly cited dimensions or components of modernization are economic development, creativity, need for achievement, urbanization, education, mass media

exposure, political participation, social participation, empathy, cosmopolitaness, innovativeness, and many others (Rostow, 1961; Hagen, 1962; McClelland, 1961; Rogers, 1965; Lerner, 1958).

Within the framework of the preceding discussion, the following assumptions are formulated about modernization:

1. Modernization can be looked at as a process involving both societal changes and individual changes.
2. Modernization, as a process involving changes in the individual, can be viewed both in terms of changes in attitude and in behavior.
3. Modernization is a multilinear process and/or a multivariate phenomenon.

Generalizations

A primary objective of this study is to look into the role that the mass media play in the process of modernization. There are conflicting views regarding this. McNelly (1968, pp. 1-12) categorized these views as follows: null, enthusiastic or oversold, cautious and pragmatic.

Very simply stated, the null position holds that the mass media have very little, if any, significance in the development of societies. Chief proponents of this position are those who contend

that education, literacy, and the economic variables are the really important factors in development.

Conversely, mass communications are assigned a very formidable role by the adherents of the enthusiastic or oversold position represented by media professionals, government elites, and the academic people.

The cautious position points to the possible limitations of the power of the mass media by invoking the importance of interpersonal communication. Mendelsohn (1964) cautioned that since "mass communication is structured by and functions in relation to a social nexus, it must be viewed as only one of the many factors bearing on individual and social behavior" (p. 33). He stressed further that the "existence of society is based upon interpersonal communication--not upon mass communication" (p. 34).

Recognizing the interrelationship between the mass media and face-to-face communication, Pye (1963) emphasized that modernization hinges upon the "integration of the formal institutions of communications and the social processes of communications to the point that each must respond with sensitivity to the other" (p. 26).

The cautious position however was questioned by Pool (1963b). He said:

The conclusion that the effectiveness of the mass media in the process of modernization depends upon their being

linked to a well-developed organization of face-to-face influence is too simple. It is not wrong but it is partial. It is true for certain of the potential effects of the mass media but not for others (p. 250).

Lastly, the pragmatic position suggests that there is no definite theoretical model that can explain the role of mass media in developing countries. Thus, social scientists are given considerable leeway and flexibility in their search for empirical evidence. Clarifying this position, McNelly (1968) succinctly remarked:

The pragmatic position . . . differs from the null, enthusiastic and cautious positions in that it does not attempt to specify rigidly the role of the mass media across all situations in all cultures. It accommodates diverse kinds of data and hypotheses. It leaves the possibility of no media impact, or a heavy impact, depending upon conditions. It does not reject the possibility of direct effects on the public or indirect effects on the public or indirect effects through influential persons, of immediate and measurable effects or long-range effects through almost imperceptible increments (pp. 11-12).

Thus, there is no conclusive evidence as yet to explain the role of mass media in modernization. McNelly (1968) considers the pragmatic point of view to be the most likely approach of social scientists engaged in national development research. The implication here is that there is no one theory to explain the role of mass media in modernization. However, this is what the present study attempts to do--determine a reasonable way of looking at the role of mass media in the modernization process.

It is difficult to look at the modernization of the individual outside the context of the modernization of societies. This writer

feels that a more precise knowledge on how an individual is modernized or what personality traits are crucial toward the acquisition of a modern style of life is a fruitful approach in the study of the modernization process.

Interest in the individual in the modernization process stems from the notion that the direction that a developing country chooses to go depends ultimately upon its people. (As Schramm (1964) said: "National development is people changing themselves" (p. 37) and "change will not take place smoothly or very efficiently unless people want to change" (p. 44). Millikan and Blackmer (1961) concurred saying: "The paramount requirement for the modernization of any society is that the people themselves must change" (p. 23). Likewise, Frey (1966) said: "Modernization or development, in its deepest meaning implies a change in the people of a society and in the way they interact" (p. 1).

As a result, social scientists suggest that the "starting point of any definition of modernization is not in the character of the society but in the character of the individuals (Weiner, 1966, p. 4). Unfortunately, even in developing countries such as the Philippines where the individual (farmer, peasant or villager) should be the focus of attention, he is very little understood. Thus, there seems to be an urgent need to look into the individual as a variable in the process of modernization.

It appears that the status of research conducted on the role of mass media in the modernization process has already reached the point where certain generalizations may be tentatively formulated. In proposing the generalizations in advance, one objective is to have a theoretical framework that will serve as a point of departure in discussing the empirical studies reviewed. It must be made clear however that in doing this, the purpose is simply to be suggestive rather than assertive. Consequently, the generalizations must not be considered as conclusive.

With this in mind, the following generalizations regarding the role of mass media in the modernization of the individual are tentatively proposed: *Premises*

1. In general, mass media exposure creates in the individual a favorable climate or attitude toward modernization rather than providing specific behavioral skills.
2. In general, mass media exposure is not likely to be inherently one kind of variable, i. e., it can act as an antecedent, an intervening and a consequential variable in the process of modernization.
3. In general, mass media exposure is not the only good predictor of modernization.

CHAPTER III

SYNTHESIS AND ANALYSIS

OF RESEARCH STUDIES

There are two main sections in this chapter. The first section is a synthesis of the research studies on the role of mass media in modernization. Studies reviewed were categorized as to correlational studies and field experiments with the individual, village and nation as units of analyses. The second section is an analysis of the studies according to the theoretical framework discussed in Chapter II.

Correlational Studies

The Individual and Village as Units of Analyses

Of the 17 correlational studies selected to be reviewed in this section, 14 used the individual as unit of analysis (Table 1) and three used the village (Table 2). All 17 studies were conducted in developing countries: 11 in Latin America; three in Asia; two in the Middle East; and the other study included Africa, Asia and Latin America.

Table 1. -- Correlational Studies on the Role of Mass Media in the Modernization Process with the Individual as Unit of Analysis

Researcher(s)	Country	Dependent Variable(s)	Findings
Rogers, 1965-66	Colombia	<p>antecedent variables-- cosmopoliteness, age, education, social status, functional literacy</p> <p>consequent variables-- empathy, agricultural and home innovativeness, political knowledge, achievement motivation, educational and occupa- tional aspirations</p>	<p>1. Cosmopoliteness and functional literacy were most highly related to mass media exposure.</p> <p>2. Education and social status were consistently positively related to mass media exposure.</p> <p>3. Age was consistently negatively related to mass media exposure.</p> <p>4. Empathy, agricultural and home innovativeness, political knowledge, and educational aspirations were most highly related to mass media exposure.</p> <p>5. Achievement motivation and occupational aspirations were consistently positively related but not always significant to mass media exposure.</p> <p>6. Mass media exposure acts as an intervening variable in the relationship between functional literacy and the consequent variables except achievement motivation.</p>

Table 1. -- Continued

Researcher(s)	Country	Dependent Variable(s)	Findings
Keith and others, 1968	Colombia India Kenya	antecedent variables-- Rogers' (1965) antecedent variables plus income, social participation, levels of living, and change agent contact consequent variables-- 1. behavioral dimensions--agricultural and health innovativeness 2. attitudinal dimensions--achievement motivation and educational aspirations	<p>1. There was a consistent pattern of relationships between mass media exposure and the antecedent and consequent variables.</p> <p>2. The antecedent variables correlated more often with the behavioral consequences than with the attitudinal consequences.</p> <p>3. Mass media exposure as an intervening variable had greater and more consistent effects for relationships involving the behavioral consequences than the attitudinal consequences.</p>
Frey, 1966	Turkey	dynamic indices attitudinal-behavioral indices	<p>A much stronger correlation was found between mass media exposure and the attitudinal-behavioral indices than with the dynamic indices.</p> <p>There was a significant tendency for all the specific media to affect an attitude or behavior or else for none of them to affect that attitude or behavior.</p>

Table 1. -- Continued

Researcher(s)	Country	Dependent Variable(s)	Findings
Waisanen and Durlak 1967a	Costa Rica	"modern view of the world" 1. self-perceived innovativeness 2. attitude toward risk-taking 3. commitment to planning 4. perception of national conditions 5. attitude toward family planning	Positive relationships were shown between mass media exposure and the dependent variables. Significant correlations between information source evaluation (another independent variable) and the dependent variables except attitude toward risk- taking were found.
Portocarrero, 1966	Colombia	empathy	There was a direct relationship between mass media exposure and empathy but predictive power of mass media exposure seemed to be a function of social status.

Table 1. -- Continued

Researcher(s)	Country	Dependent Variable(s)	Findings
Ramos, 1966	Colombia	fatalism	An inverse relationship existed between mass media exposure and fatalism but relationship was a function of social status.
Whiting, 1967a	Brazil	empathy	There was a relationship between mass media exposure and high empathic ability. Compared with radio exposure, print media exposure was correlated significantly more with belief in work, political knowledge and attitude toward change.
McNelly and Fonseca, 1964	Costa Rica	political knowledge and participation	Print media exposure was positively related to political awareness and participation.
McNelly and Deutschmann, 1963	Costa Rica	political knowledge	Use of print media was positively related to political knowledge.

Table 1. -- Continued

Researcher(s)	Country	Dependent Variable(s)	Findings
Carter and Sepulveda, 1964	Chile	opinionatedness	No significant relationship existed between willingness to express opinions and mass media exposure.
Roy and others, 1968a	India	agricultural innovativeness	The communication indices were highly related to agricultural innovativeness.
Deutschmann and others, 1965	Guatemala	knowledge and adoption of food and drug products	There was some slight support for the relationship between mass media exposure and knowledge and adoption of food and drug products but the differences were small.
Rogers and Meynen, 1965	Colombia	agricultural innovativeness	Mass media exposure was related to agricultural innovativeness.
Roy and Kivlin, 1968	India	health innovativeness	The communication variables were significantly related to health innovativeness.

Table 2. -- Correlational Studies on the Role of Mass Media in the Modernization Process with the Village as Unit of Analysis

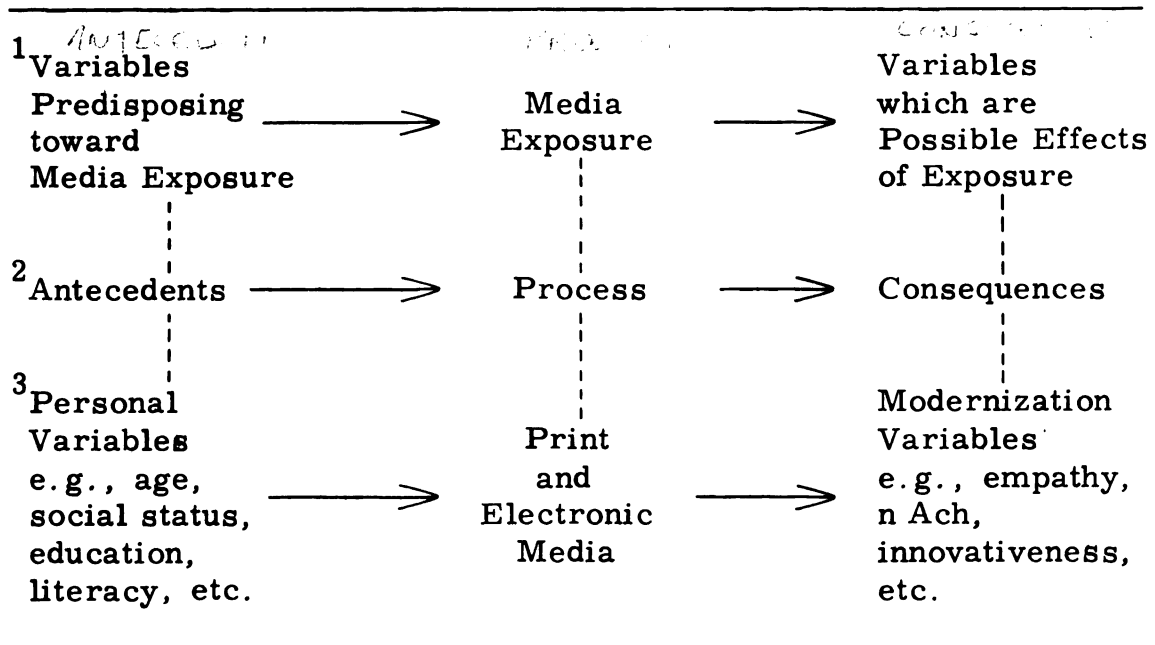
Researcher(s)	Country	Dependent Variable(s)	Findings
Deutschmann, 1963	Colombia	"cause" variables-- include education, farm size, age and family size "effect" variables-- 1. "general effect"-- includes political knowl- edge, occupational aspirations 2. "agricultural effect"	Positive relationships were found between mass media exposure and political knowledge, occupational aspira- tions, and agricultural innovativeness. Negative relationships were found between mass media exposure and family size and farm size. No relationships existed between mass media exposure and education and age.
Hirabayashi and El Khatib, 1958	Egypt	political awareness	There was a strong association between mass media exposure and political awareness although inter- personal communication was the most utilized medium.
Fliegel and others, 1968	India	agricultural innovativeness	The relationship between certain communication variables and agricul- tural adoption was generally positive.

Subject matter areas of the research studies dealt with common problems that confront developing countries, i. e. , agricultural, home and health innovativeness, political socialization, and the attitudinal factors involved in modernization such as achievement motivation, empathy and others. Practically all of the respondents were peasants, farmers or villagers characterized in general by low literacy, little education, low socio-economic status, lack of innovativeness, low aspirational levels, having a fatalistic view of the world, low empathic ability, etc.

There are three major ways by which the dependent variables used in the studies have been approached: (1) according to an antecedent-process-consequent paradigm, (2) according to attitudinal-behavioral indices, and (3) according to subject matter involving agricultural and health innovativeness, and/or political knowledge.

Three studies treated the role of mass media in modernization according to an antecedent-process-consequent paradigm. According to this paradigm, individuals and villages have certain prior characteristics that prepare them to receive messages from the mass media and that changes in knowledge, beliefs, attitudes and behavior occur as a result of this message reception. This paradigm as used in the studies is shown in Figure 1.

Figure 1. -- Paradigm of the Role of Mass Media
in the Process of Modernization



¹Original paradigm by Deutschmann (1963).

²Developed by Rogers (1965-66).

³Modified by present writer.

The initial study that utilized this paradigm was conducted by Deutschmann (1963) in his study of a Colombian village.

The antecedent variables studied were education, farm size, family size and age; and the consequent variables were agricultural innovativeness, political knowledge and occupational aspirations.

Findings revealed a positive relationship between mass media exposure and the consequent variables. Among the antecedent variables, no relationship was found between mass media exposure

and education and age; and a negative relationship was found between family size and farm size.

Rogers (1965-66) added cosmopolitaness and literacy to the antecedent variables studied by Deutschmann. Likewise, empathy and achievement motivation were added to the consequents. In addition to finding relationships between mass media exposure and the antecedent and consequent variables, Rogers hypothesized further that mass media exposure plays an intervening role in the modernization process.

As in the Deutschmann study, positive relationships were found between mass media exposure and the consequent variables. Similarly, mass media exposure correlated highly with all antecedent variables used except age. Moreover, mass media exposure acted as an intervening variable between functional literacy and the four consequent variables (political knowledge, empathy, agricultural innovativeness, and educational aspirations for children).

The most extensive study in terms of variables and nations studied, that utilized the paradigm on the role of mass media in modernization, was conducted by Keith and others (1968). Nations involved were Colombia, India and Kenya. In this study, the consequent variables were categorized into behavioral and attitudinal

dimensions. The behavioral variables included agricultural and health innovativeness whereas the attitudinal variables included achievement motivation and educational aspirations.

As in both the Deutschmann and Rogers studies, positive correlations were found between mass media exposure and the antecedent and consequent variables. However, the antecedent variables correlated more often with the behavioral consequents than with the attitudinal consequents. As an intervening variable, mass media exposure was found to have more consistent effects on relationships involving the behavioral consequents than on those involving the attitudinal consequents.

In addition to the Keith et al. study, there were other studies that utilized attitudinal-behavioral indices as dependent variables. Using a national sample of Turkish peasants, Frey (1966) studied the relationship between mass media exposure and 29 attitudinal-behavioral indices and four dynamic indices. Examples of attitudinal-behavioral indices employed were political empathy, educational and occupational aspirations, use of agricultural and social services, religious knowledge, and voting participation. The four dynamic indices were geographical mobility, interpersonal communication, subjective poverty, and village development.

The correlation analysis run on the data revealed a strong relationship between mass media exposure and 20 of the 29 attitudinal-behavioral indices used. The correlation, however, between mass media exposure and the dynamic indices was not as strong as that of the attitudinal-behavioral indices. There was also a significant tendency for all three media (radio, newspapers and movies) to affect an attitude or behavior or else for none of the media to affect that attitude or behavior.

Waisanen and Durlak (1967a) used five attitudinal variables (self-perceived innovativeness, attitude toward risk-taking, commitment to planning, perception of national conditions, and attitude toward family planning) to determine mass media use and evaluation. They theorized that individuals will assume a "modern" view of the world if they make greater use of mass media channels and have a favorable evaluation of these channels as sources of information.

They found that a positive relationship existed between mass media use and the dependent variables, i.e., the variables that presumably lead to a "modern" view of the world. There was also a significant correlation between information source evaluation and the dependent variables with the exception of attitude toward risk-taking.

Mass media exposure has also been correlated with such attitudinal variables as empathy and fatalism. Portocarrero (1966), in his study of empathy and modernization in three rural communities in Colombia, found mass media exposure to be directly related to empathy. However, although mass media exposure was found to be the best predictor of empathy, its predictive power seemed to be a function of social status. Thus, the question arises as to whether the ability to empathize results from a person's exposure to mass media or his social status.

Similar findings were found by Ramos (1966) in a study that used mass media exposure as a variable to determine the role of fatalism in modernization. She postulated that the degree of fatalism varies inversely with mass media exposure as measured by an index of contact with radio, newspapers, movies, magazines and television. Although the study supported the hypothesis, partial correlation analysis revealed that the relationship between mass media exposure and fatalism was also a function of social status.

Using rural Brazil as the setting, Whiting (1967a) attempted to determine the relationship of empathy with mass media and urban exposure. Data showed that the more empathic individuals either increased the modernity of their attitudes and knowledge more rapidly per unit exposure to the mass media or started higher

on these variables when exposed to the mass communications. The hypothesis that empathy will facilitate attraction to the city due to urban exposure was not confirmed.

In terms of a specific mass medium, print exposure was found to correlate significantly more with belief in work, political knowledge and attitude toward change than was radio exposure.

In studies concerned with the role of mass media in the political socialization of people in developing countries, a common finding revealed a significant relationship between mass media exposure and political knowledge (Rogers, 1965-66; Deutschmann, 1963; McNelly and Deutschmann, 1963; and McNelly and Fonseca, 1964).

In the Deutschmann (1963) study, an important finding was that the correlation between mass media exposure and political knowledge was even higher for illiterates than for literates. This was explained by the researcher to be due to the fact that literate members in a family pass the information they received through the media by "reading" to the illiterate members thus raising the knowledge level of all.

The relationship between print media exposure and political knowledge was also investigated with students and urban residents as respondents. Among Costa Rican students (McNelly and Fonseca, 1964), a high correlation was found between exposure

to the print media and political awareness and participation. Moreover, the relationship for both dependent variables was positive when socio-economic status was controlled. Thus, students with high socio-economic status were found to be heavily exposed to the print media and consequently, were more knowledgeable in political affairs.

An earlier study (Deutschmann et al. , 1961) on mass media use by professional and technical people in 11 Latin American countries showed that compared with those of low socio-economic and educational levels, professional and technical people make heavy use of the print media in their daily activities.

Although print media exposure was likewise found to be related to political knowledge among Costa Rican residents (McNelly and Deutschmann, 1963), only some of this relationship could be attributed to socio-economic status. On the other hand, mass media use was related to socio-economic status but not with opinionatedness or willingness to express an opinion in a study involving residents of Santiago de Chile (Carter and Sepulveda, 1964).

IND, COUNTRY ALSO

Using the village as unit of analysis, Hirabayashi and El Khatib (1958) found a strong association between mass media exposure and political awareness among Egyptian villages. Mass media use was supplemented, however, by interpersonal communication. It was also found that a relationship existed between

literacy and political sophistication. Thus, the researchers concluded that political awareness will increase with increased literacy and increased availability and effectiveness of the mass media.

The relationship between mass media exposure and innovativeness--agricultural and health--has been one of the most widely researched areas in developing countries. In general, the studies in this area revealed a close relationship between mass media exposure and agricultural and health innovativeness.

In India, Roy et al. (1968a) studied the factors which affect agricultural innovativeness among 680 Indian farmers. One of the factors was accessibility and exposure to communication. Correlation analysis showed that the communication indices--extension contact, urban contact and mass media contact--were highly related to agricultural innovativeness. Although the mass media index was strongly related to adoption of agricultural practices, it was found that the Indian farmers relied most on agricultural demonstrations and least on radio informational broadcasts.

In addition to accessibility and exposure to mass media, other communication factors hypothesized to be contributing to agricultural innovativeness in a study involving 108 Indian villages were: (1) geographic and mental isolation, (2) urban contact, and (3) agricultural agency access and contact (Fliegel et al., 1968).

Data revealed that for both individual items and summary indexes, the relationship between the communication variables, with the exception of geographic isolation, and agricultural adoption was generally positive.

In their study on adoption of new foods and drugs in five Guatemalan communities, Deutschmann and others (1965) hypothesized that individuals who have a tendency to use mass communication channels which are far removed from self, i. e. , the mass media, will have a greater tendency to innovate. Thus, mass media users will have a higher knowledge and adoption score of the new foods and drugs that were introduced. There was only some slight support for the hypothesis although the differences were small and the patterns by channel of the adoption scores were irregular.

A study (Rogers and Meynen, 1965) on the role that the mass media play in the adoption of a weed spray among Colombian peasants showed mass media exposure to be related to farm innovativeness even though no mass media sources were specifically mentioned at any stage in the adoption process. There remained the question however as to whether this relationship would hold if some intervening variables are controlled.

Roy and Kivlin (1968) studied health innovativeness and found the communication variables--more specifically the composite

mass media index composed of radio listening, film-going and newspaper reading--to be the best predictors of health innovativeness.

One aspect of health innovativeness that was studied involved family planning. It was found that although mass media exposure was positively related to knowledge and adoption of two family planning methods, the mass media served only as source of information or as creator of favorable attitudes toward family planning. Interpersonal sources of information such as friends, neighbors and change agents were more likely to have convinced people to adopt family planning methods.

The Nation as Unit of Analysis

Research investigations discussed in this section are often termed "aggregate" or "macro-level" studies because they yielded data that reflect characteristics representative of large socio-geographical entities like the nation. The unit of analysis, therefore, of these studies is the nation.

Of the six studies reviewed, two used correlational analysis while the rest utilized factor analysis which is a statistical method employed to find the common element or elements that underlie a set of measures in a study. The factor analytic studies were based on secondary data. Sources of these data generally include

the country census, registration materials and other public documents that normally provide information about a nation. Use of secondary data is one criticism against aggregate studies since researchers do not have control over the way in which the data were initially compiled, thus making the data subject to possible errors.

One of the first aggregate studies concerned with the relationship of mass communication to national development was conducted by Lerner (1958). He posited a four-step process of modernization involving the variables of urbanization, literacy, mass media exposure and political participation. According to him, when urbanization reaches a sufficient level, teaching literacy on a wider scale becomes feasible. A literate population has greater mass media participation which eventually leads to greater interest and participation in political affairs.

Data showed positive correlations between the variables. By examining the correlates of mass media facilities in the nations studied, seventy per cent of the variation in mass media development was explained on the basis of urbanization, literacy and political participation. It must be realized however that although the data are suggestive, the correlations do not necessarily lead to any causal interpretation of the effects of mass media.

In a study on the correlates of political development in 77 countries, Cutright (1963) hypothesized that political institutions

are interdependent with education, economic development, communication systems, urbanization and labor force distribution.

Findings similar to those of Lerner were revealed in this study. That is, the more politically complex a country is, the more urban it is, the greater the educational level of its people, and the fewer of its actively employed labor force engage in agriculture, the greater the mass media development the country is likely to have.

Like correlational analysis, factor analysis as a statistical technique has been commonly employed in aggregate studies linking mass media development with modernization (Table 3).

Deutschmann and McNelly (1964) used factor analytic procedures to analyze data gathered on 16 indices from 20 Latin American countries, reflecting population, land area, literacy, ruralness, newspaper circulation, exports and press freedom.

Three clusters were found in the correlation matrix: (1) Size, which includes the land area and population; (2) National Development, including education, literacy, urbanization and communication indices; and (3) Export cluster, which includes the export indices.

Table 3. -- Factor Analytic Investigation of Macro-Level Studies on National Development

Researcher(s)	Number of Nations Involved	Main Variable of Interest	Number and Nature of Variables Studied	Number and Nature of Factors Extracted
Deutschmann and McNelly, 1964	20 Latin American nations	national development	Sixteen indices of national development including population, land area, literacy, ruralness, newspaper circulation, exports and press freedom	Three factors extracted: 1. Size--population size, land area, size of capital city 2. Development--urbanization, education, literacy, communication indices 3. Export--export of goods to the United States
Schnore, 1961	75 nations	modernization	Twelve measures of modernization including energy consumption, newspaper circulation, per capita income, literacy, population size and urbanization	One factor extracted: "modernization" or national development--economic and communication

Table 3. -- Continued

Researcher(s)	Number of Nations Involved	Main Variable of Interest	Number and Nature of Variables Studied	Number and Nature of Factors Extracted
Farace, 1966a	109 nations	mass communication and national development	Fifty-four indices of national development including political system, health and nourishment, agricultural productivity, climate, population and cultural characteristics, economic factors, mass media development	One factor extracted: National development--economic and mass media
Farace, 1966b	109 nations	typologies of national development	One hundred nine nations including the most and the least modern countries	Six factors extracted: 1. North America/Western Europe--less press restraint, high life expectancy, dense population, industrialization, high media use

Table 3. -- Continued

Researcher(s)	Number of Nations Involved	Main Variable of Interest	Number and Nature of Variables Studied	Number and Nature of Factors Extracted
				2. Communist East Europe--high mass media, industrialization, one party, press restraints
				3. Latin America--one party, high press restraints, Catholic, low literacy
				4. Asia--low mass media, one party, press restraint, dense population
				5. North Africa/Middle East--low development, one party, low literacy, Moslem, considerable waste land
				6. Central/South Africa--low literacy, one party, press restraints, animistic

Farace (1966a) studied 54 variables including 12 mass media indices representing different aspects of 109 nations. The variables were classified into eight general sectors: (1) political system, (2) health and nourishment, (3) agricultural productivity, (4) population characteristics, (5) climate, (6) cultural factors, (7) economic factors, and (8) mass media.

According to this research study, most of the 54 variables can be explained very well by one underlying dimension--national development. The economic indices had high positive loadings on this factor and the mass media indices were nearly as highly loaded. This study indicated that mass media development is very closely associated to the different aspects of the development of a country in other sectors.

Similar findings were found by Schnore (1961) in a study involving 12 measures of urbanization and modernization. A unidimensional variable labelled "modernization," which included such factors as energy consumption, newspaper circulation, per capita income, literacy, population size, and urbanization, was extracted.

A re-analysis of the 54 variables involving 109 nations in the Farace study (Farace, 1966b) was conducted to find out the clusters of countries which shared a common development pattern across the variables. Six clusters or "national systems" emerged:

(1) North America/Western Europe, (2) Communist East Europe, (3) Latin America, (4) Asia, (5) North Africa/Middle East, and (6) Central/South Africa.

When the 54 variables used were ordered to create more specific development profiles, it was found that in the three most developed national systems--North America/Western Europe, Communist East Europe, and Latin America--the mass media indices ranked relatively high among the 54 measures. On the other hand, in the three least developed national systems--Asia, North Africa/Middle East, and Central/South Africa--the mass media indices ranked relatively low.

In addition to aggregate or macro-level studies, factor analysis had been applied also in studies interested in determining the factors underlying the modernization of the individual. Although the unit of analysis of these studies is the individual instead of the nation, they are included in this section for ease of comparison since both kinds of studies utilized factor analysis as statistical method.

All studies (Table 4) were conducted in less-developed nations with one exception. This exception was the study of two Appalachian poverty communities in the United States which resembled the villages in developing countries (Donohew, 1967). Also, the variables that were subjected to factor analysis were crucial determinants in the modernization process.

Table 4. -- Factor Analytic Investigation of Micro-Level Studies on Individual Modernization

Researcher(s)	Number of Respondents	Main Variable of Interest	Number and Nature of Variables Studied	Number and Nature of Factors Extracted
Deutschmann and Fals Borda, 1962	71 Andean villages in Saucio, Colombia	innovativeness	Twenty-three variables including sex, age, farm size, communication channels, education, literacy, and innovativeness	<p>Nine factors extracted:</p> <ol style="list-style-type: none"> 1. Economic ability to innovate (farm size) 2. Awareness of innovations (information index) 3. Ability to understand communication (education and literacy) 4. Orientation to local/distant communication channels 5. Extra-community near channel orientation 6. Egocentric channel orientation 7. Adoption leadership 8. Mobility 9. Confidence in adoption

Table 4. -- Continued

Researcher(s)	Number of Respondents	Main Variable of Interest	Number and Nature of Variables Studied	Number and Nature of Factors Extracted
Rahim, 1966	66 Pakistani peasants in Comilla, East Pakistan	opinion leadership	Twenty variables including mass media exposure, formal leadership, sociometric opinion leadership, age, social status, literacy, and land ownership	<p>Three factors extracted:</p> <ol style="list-style-type: none"> 1. Ability to understand communication (literacy, education, and print media exposure) 2. Opinion leadership (popularity and formal participation) 3. Cosmopoliteness (electronic media exposure and visit to cities)
Donohew, 1967	238 Knox County, Kentucky household heads	modernization	Twenty-seven variables including mass media exposure, receptiveness to change, social participation, physical mobility, age, education, sex, and income	<p>Four factors extracted:</p> <ol style="list-style-type: none"> 1. Projectiveness (print media exposure, communication index, age, and education) 2. Social participation (cosmopoliteness, interpersonal contacts and social participation)

Table 4. -- Continued

Researcher(s)	Number of Respondents	Main Variable of Interest	Number and Nature of Variables Studied	Number and Nature of Factors Extracted
Ascroft, 1966	624 peasants in three Kenya villages	modernization	Forty-three variables including communication behavior, family structure, agricultural productivity, health and economic activity, education, and demographic characteristics	<p>3. Housewife (sex and electronic media)</p> <p>4. Isolation (age, education, income and cosmopolitaness)</p> <p>Five variables extracted:</p> <p>1. Ability to understand communication (literacy, education and print media)</p> <p>2. Family structure (age, sex, and family complexity)</p> <p>3. Receptiveness to change (change agent contact and innovativeness)</p> <p>4. Aspirations (education, aspirations for children, achievement motivation and opinionatedness)</p>

Table 4. -- Continued

Researcher(s)	Number of Respondents	Main Variable of Interest	Number and Nature of Variables Studied	Number and Nature of Factors Extracted
Whiting, 1967b	71 villages in Brazil (although units of analysis are villages, the units of response are village leaders and change agents)	modernization	Forty-two variables including mass media exposure, age, education, empathy, and attitude toward change	<p>5. Agricultural productivity (crop indices, commercialization and intensification of the village)</p> <p>Four factors extracted:</p> <ol style="list-style-type: none"> 1. Modernization skills (education and most mass media exposure) 2. Interpersonal skills (trust, empathy and radio exposure) 3. Scale of operations (farm size) 4. Extra-community experience (trips to city)

Table 4. -- Continued

Researcher(s)	Number of Respondents	Main Variable of Interest	Number and Nature of Variables Studied	Number and Nature of Factors Extracted
Farace and others, 1967	172 Puerto Rican peasants	modernization	Ninety variables including economic behavior, modernization characteristics, and communication behavior	<p>Seven factors extracted:</p> <ol style="list-style-type: none"> 1. General development (education and mass media exposure) 2. Marginal non-innovativeness 3. Interpersonal traditionalism 4. General innovativeness 5. Progressive marketing orientation 6. Traditional negativism 7. Mixed traditionalism

Table 4. -- Continued

Researcher(s)	Number of Respondents	Main Variable of Interest	Number and Nature of Variables Studied	Number and Nature of Factors Extracted
Rogers, 1968	160 modern and 95 traditional peasants in Colombia	modernization	Seventy-two variables (in modern villages) and sixty variables (in traditional villages)	<p>Three factors extracted:</p> <ol style="list-style-type: none"> 1. Mass communication ability (mass media exposure and education) 2. Youth orientation to change (empathy and age) 3. Innovative leadership orientation (opinion leadership)

An examination of Table 4 will reveal one common finding: all the studies yielded multiple factors. This is in contrast with aggregate or macro-level studies which generally yielded a single national development factor.

Thus, Deutschmann and Fals Borda (1962) extracted nine factors out of 23 variables involving 71 villages in Saucio, Colombia; Rahim (1966) extracted three factors out of 20 variables in a Pakistani study; Donohew (1967) extracted four factors out of 27 variables in two U. S. poverty communities; Ascroft (1966) extracted five factors out of 43 variables in a Kenya study; Whiting (1967b) extracted four factors out of 42 variables in a Brazilian study; Farace and others (1967) extracted seven factors out of 90 variables in a Puerto Rican study; and finally, Rogers (1968) extracted three factors out of 132 variables in a Colombian study.

Field Experiments

Field experiments, as contrasted with laboratory experiments, are conducted in a "natural setting" in which certain variables can be manipulated so that it can be ascertained whether or not changes in those variables generate differences in a social phenomenon.

Two kinds of field experiments are discussed in this section: (1) those that employed mass media as the only treatment,

and (2) those that combined mass media with interpersonal communication.

Field Experiments on Mass Media

Of the six studies reviewed (Table 5), three used the individual and three used the village as the unit of analysis. The experimental treatments involved the use of electronic media such as radio or television, and print media such as pamphlets or newsletters. The dependent variables were agricultural and health innovativeness including adoption of family planning methods, and political knowledge.

The use of mass media is the popular method utilized in experiments conducted in developing countries to present information on family planning. Back et al. (1957) made use of pamphlets and group meetings to determine readiness for family planning and adoption of family planning methods among Puerto Rican residents. The meetings were announced through posters and personal invitation and pamphlets were distributed by individual messengers. Post interviews were conducted for two months after the presentation of experimental programs.

Table 5. -- Field Experiments on Mass Media

Researcher(s)	Country	Unit of Analysis	Experimental Treatments	Dependent Variable(s)	Findings
Back and others, 1957	Puerto Rico	individual	pamphlets group meetings	readiness for and adoption of family planning methods	Pamphlets were more effective in creating readiness for contraception; group meetings for its adoption and continued use.
Berelson and Freedman, 1964	Taiwan	individual	direct mail; mail plus wives; mail plus husbands and wives; control	acceptance of family planning methods	Sixty per cent of acceptance of family planning methods were attributed to mail plus efforts centered on wives and mail plus efforts centered on husbands and wives. Control and direct mail campaign each received 20 per cent of the acceptances.

Table 5. -- Continued

Researcher(s)	Country	Unit of Analysis	Experimental Treatments	Dependent Variable(s)	Findings
Takeshita, 1966	Korea	individual	mass media mail group meetings home visits	acceptance of family planning methods	Rate of acceptance of family planning methods was highest in group meetings and home visit treatments; mass media treatment was next and mail treatment was lowest.
Spector and others, 1963, 1964	Ecuador	village (6) 3 experimental; 3 control	radio audio-visuals radio plus audio-visuals	motivation to participate in community activities	All treatments were effective in motivating people to participate in community development projects.
Chu, 1966	Taiwan	village (2) 2 experimental	television	cultural change	Television viewing led to significant changes in the peripheral areas but not in the core values of the culture of Taiwanese respondents.

Table 5. -- Continued

Researcher(s)	Country	Unit of Analysis	Experimental Treatments	Dependent Variable(s)	Findings
Menefee and Menefee, 1967	India	village (4) 3 experi- mental; 1 control	newsletter	gain in political knowledge	Newsletter resulted in increase in political knowl- edge.

Although the same content was presented in the two methods--pamphlets and group meetings--their success differed in emphasis. The pamphlets appeared to be more effective in transmitting information or in creating readiness for family limitation. But on the other hand, the group meetings were successful in promoting adoption and continued use of family planning methods. In addition, pamphlets proved to be better in presenting a few values whereas group meetings were important in disseminating various ideas or complex facts.

In their family planning study in Taiwan, Berelson and Freedman (1964) employed three experimental treatments: (1) direct mail, (2) mail plus home visits to wives, and (3) mail plus home visits to wives and husbands. There was also a control group which learned about family planning information through posters and meetings with community leaders.

Interviews conducted at the conclusion of the experiment revealed an over-all decline of pregnancy among the women respondents. Approximately 60 per cent of the acceptances of the contraceptive methods were made by respondents exposed to the following treatments: (1) mail plus home visits to wives, and (2) mail plus home visits to wives and husbands. The control group and the group subjected to the direct mail treatment each evidenced approximately 20 per cent acceptances.

A similar experiment was conducted in Seoul, Korea, (Takeshita, 1966) using four different treatments, namely, mass media only, mailings, group meetings, and home visits. Unlike in the Taiwan study, the mass media were used extensively to advertise the family planning program.

Findings revealed that rates of acceptance vary by treatment, indicating that the group meetings and home visits had added influence above and beyond the mass media. Mailings, however, had very little influence.

Three field experiments using the village as unit of analysis were considered. Spector and others (1963, 1964) conducted a study in Ecuador to find out the relative efficacy of three experimental treatments, radio, audio-visuals, and radio plus audio-visuals, in introducing community development projects.

Three experimental villages with one village assigned to each of the three treatments, and three control villages were studied. An information and motivation campaign was conducted for two months and follow-up studies were done three and nine months after the termination of the campaign. The four innovations introduced were: (1) the building of latrines, (2) building of stoves, (3) small pox vaccination and, (4) preservation of marmalades.

Data revealed that all three experimental treatments were effective in motivating people to participate in community

development activities. However, they differed in the types of action and the amount of effort they elicited. The audio-visual treatment was more effective than radio or audio-visual plus radio in motivating people to engage in the largest and most expensive project, i. e., building of latrines. On the other hand, the radio treatment was more effective than the audio-visual treatment in the adoption of smaller and least costly practices, i. e., building of stoves and preservation of marmalades. The effect of radio plus audio-visual treatment fell between the other two: its efforts on certain practices tended to be more like the radio treatment and on other practices more like the audio-visual treatment.

In general, radio was found to be effective as a source for information and as a motivator for decision-making but less effective in teaching skills or techniques.

Findings in regard to social and demographic characteristics showed that literacy, education, membership in voluntary organizations, and greater interest in mass media were positively related to participation in self-help projects.

A less complicated experimental treatment was used in a Taiwan study (Chu, 1966) whereby television was employed as a mass medium. A television set was placed in the home of the village chief in each of the two experimental villages. Respondents who

viewed television in groups were interviewed before and after television was introduced in the villages.

Results of the study revealed that television was capable of producing cultural changes in a traditional society. The impact however was more pronounced in the peripheral areas of the culture, e.g., knowledge about foreign events, mobility, social participation, agricultural innovations, family planning techniques as well as attitudes and beliefs about the female, foreigners, education and marriage. Television did not seem to have much effect on the core values of a culture, such as obedience, dependence on tradition, general conservatism and ancestor worship which were all related in some way to religious beliefs.

Menefee and Menefee (1967) used a newsletter to measure political knowledge in four Indian villages. The newsletter was distributed among the villages for a period of thirteen weeks. Interviews were conducted before and after the experiment to measure information gain.

Results showed high information gain in the three experimental villages, with the largest amount of improvement occurring among men, persons over 40 years of age, literates and members of higher castes.

Field Experiments on
Mass Media and
Interpersonal Communication

A communication strategy that has received considerable attention from social scientists interested in modernization is the combined use of mass media and interpersonal communication. Although this strategy cannot be considered novel, it is comparatively recent that empirical investigations have been conducted to measure its effectiveness.

The notion of discussion groups after radio listening probably dates as far back as 1928 when radio was first introduced in Great Britain (Cassirer, 1959). It was experimented in Canada in 1941 (Nicol et al., 1954) where the forums were reported to have contributed to better community living and to education.

The purpose of this section of the paper is to review empirical investigations which tested the efficacy of radio farm forums* as a tool for community development and change in developing countries. Seven experimental studies are considered for review

*A radio farm forum is defined as a "club of about 15 to 20 villagers who wish to listen in an organized way to selected radio programs, to use such programs as a starting point for discussion among themselves, to increase their knowledge and information through such programs, and if possible, to put into practice some of the things that they have learned through this process" (Bhatt and Krisnamoorthy, 1965, p. 14).

and analysis; three of these studies were conducted in India, two in Latin America and two in Africa. All of the field experiments had a before-after design with the village as the unit of analysis. In addition to radio farm forums, the experimental treatments included literacy reading, animation training, progress committees and community newspapers. In general, the dependent variables pertained to knowledge, attitude, evaluation and adoption of innovations (Table 6).

The earliest reported research to test the effectiveness of radio farm forums was conducted in India (Neurath, 1962). It was an evaluation of the experimental project on the use of radio farm forums in 150 villages in five Marathi speaking districts of the state of Bombay (now Maharashtra).

Evaluation was in the form of a survey which consisted of an experimental group of 20 villages and a control group of 20 villages. Of the 20 villages in the control group, 10 had a community radio set but no organized farm forum, while 10 had neither radio nor forum. Four experimental and four control villages were located in each of the five districts included in the study. Twenty respondents were selected in each of the 40 villages.

Each of the 20 forum members was interviewed six times in the 20 experimental villages: once before, four times during, and once after the experiment.

Table 6. -- Field Experiments on Mass Media and Interpersonal Communication

Researcher(s)	Country	Unit of Analysis	Experimental Treatments	Dependent Variable(s)	Findings
Neurath, 1962	India	village (40) 20 experi- mental; 20 control	radio forums control	knowledge gain function of forums impact of forums	Radio forums resulted in impressive knowledge gain. They also functioned efficiently and produced an impact as indicated by list of actions taken by partici- pants.
Abell, 1965	Ghana	village (80) 40 experi- mental; 40 control	radio forums control	compre- hension and knowledge gain	Radio forum programs were effective in produc- ing comprehension of agricultural innovations and community develop- ment activities.

Table 6. -- Continued

Researcher(s)	Country	Unit of Analysis	Experimental Treatments	Dependent Variable(s)	Findings
Waisanen and Durlak, 1967b	Costa Rica	village (14) 3 control villages and 2 villages for each of 2 treatments, in both modern and traditional villages	radio forums reading forums control	knowledge, evaluation and adoption of innovations	Radio farm forum was more effective than the literacy treatment although the evidence was not conclusive.
Roy and others, 1968b	India	village (8) 2 villages for each of 3 treatments and control	radio forums animation training literacy reading control	knowledge and adoption of innovations	Radio farm forum was superior over other treatments regarding knowledge and adoption of agricultural and health practices for both forum participants and non-participants.

Table 6. -- Continued

Researcher(s)	Country	Unit of Analysis	Experimental Treatments	Dependent Variable(s)	Findings
Kivlin and others, 1968	India	village (6) 2 villages for each of 2 treat- ments and control	radio forums literacy reading control	knowledge and adoption of innovations	Radio farm forum was considerably more effective than literacy treatment and control on both knowledge and adoption of agricultural and health innovations.
Hursh and others, 1968	Nigeria	village (10) 2 villages for each of 2 treat- ments and control; 2 villages receiving both treat- ments	radio devel- opment forums agricultural progress committees	knowledge, attitude, and adoption of innovations	Experiment was termi- nated before "after- measure" was taken but there were some indica- tions that the treatments were successful.

Table 6. -- Continued

Researcher(s)	Country	Unit of Analysis	Experimental Treatments	Dependent Variable(s)	Findings
Stanfield and others, 1968	Brazil	villages (18) 2 villages for each treatment and control; 2 for each combination of treat- ments	radio forums animation literacy training community newspapers	knowledge, attitude, and adoption of innova- tions	Radio farm forum was very effective as dis- seminator of information, as creator of favorable attitudes toward change programs, and as per- suaders to trial and adop- tion of new innovations.

The purpose of the before-after interview was to establish a change in knowledge levels regarding the topics discussed during the broadcasts. The "four times during" interview was aimed at evaluating the functioning of the forums and the people's reactions to the individual programs.

Findings in the study were summarized in terms of:

(1) the amount of knowledge gained by the listeners; (2) the function of the farm forums; and (3) the impact of the forum on the villages. In general, it was noted that the radio farm forum groups exhibited an impressive gain in knowledge; that the farm forums functioned very efficiently; and that they made an impact as evidenced by the list of actions taken by the villages exposed to the farm forum treatment.

A similar experiment was conducted in Ghana (Abell, 1965) through the joint cooperation of UNESCO and Canada. Likewise, the main objective of this study was to determine the effectiveness of radio farm forums as a method of adult education and community development.

A total of 80 villages stratified on the basis of small, medium and large population were involved in the experiment. They were divided as follows: 40 experimental villages, 20 of which had one forum per village and 20 of which had two; 40 control villages,

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20 of which had radios but no listening groups organized, and 20 had neither radios nor listening groups. Twenty programs were broadcast to the villages.

Data revealed that comprehension was greater for villages which had two farm forums per village as compared with those with only one farm forum. In general, comprehension was better in the experimental villages than in the control villages.

Two other field experiments on radio farm forums were conducted in Costa Rica and India. These experiments were sponsored by UNESCO with the cooperation principally of Michigan State University, the National Institute of Community Development (NICD) of India and the Programa Inter-americano de Informacion Popular (PIIP) of Costa Rica.

In these studies, other experimental treatments in addition to radio farm forums were employed. Literacy treatment was used in the Costa Rican project; and animation training and literacy treatment* were used in the Indian study. Both experiments were interested in determining the effectiveness of the different

*Literacy treatment involves the reading aloud by a village leader of pamphlets pertaining to recommended practices in agriculture, health and general education with the group of participants following the reading in their own pamphlets. Discussion of the topic subsequently follows. Animation training refers to a method of developing local leadership through an intensified oral communication on rural development.

communication strategies in their ability to effect change in levels of knowledge, evaluation and adoption of agricultural and health innovations.

The Costa Rican study (Waisanen and Durlak, 1967b) was conducted in 14 villages. The radio farm forum treatment involved 52 one-half hour broadcasts which were heard and discussed by volunteer groups in four villages. The literacy treatment was conducted in four villages also where 52 pamphlets were distributed to households in these villages and group discussions held after each reading forum. Six villages served as control group. Subject matter for the forums and the pamphlets included 23 recommended practices in agriculture, health and education.

The experimental villages were also classified according to a modern-traditional* typology. Thus, there were two villages involved for each treatment in the modern village category and two for each treatment in the traditional village category. There were three control villages for each classification.

Tests were run to determine the impact of treatments by participation, villages, and village level of modernity. When

*Villages were classified as traditional or modern based on computed mean scores on knowledge, evaluation and adoption of innovations; and educational attainment and functional literacy levels of household heads.

forum participation was compared with non-participation, participants in both radio forum and literacy villages showed an increase in educational knowledge, agricultural, health and educational adoption, and in total adoption.

Analysis by village indicated that very little change in attitude and behavior in the "total village" could be attributed to the treatments. Likewise, findings did not support the hypothesis that the impact of treatments will be greater in the more modern villages than in the more traditional villages.

Although the findings were not very striking, it appeared that the radio forum technique was more effective than the literacy treatment.

The Indian experiment (Roy et al. , 1968b) sought to find out the relative effectiveness of three treatments--radio forums, literacy class with reading forums, and animation treatment--on knowledge and adoption of agriculture, health and social education innovations. The radio forums involved a daily, one-hour rural program with a forum held twice weekly. In the literacy reading treatment, a class was conducted in a village and pamphlets were read in the forum. The animation treatment involved a leadership training program for village leaders regarding health and agricultural practices.

The study was conducted in eight villages: two villages for each of three treatments and two villages served as the control group. The innovations studied included 10 modern agricultural practices and 10 health innovations.

Data showed an over-all superiority of the radio forums over the other treatments regarding knowledge and adoption of agricultural and health innovations for both forum participants and non-forum participants. In general, the animation treatment failed to produce changes in knowledge and adoption of agricultural or health innovative practices. In the literacy reading villages, participants' knowledge and adoption of agricultural and health innovations did not change as much as the non-participants. This was attributed partly to the low social status and relatively less modern attitudes of the members of the literacy classes.

The final three field experiments on radio farm forums were all part of a series of studies on Diffusion of Innovations in Rural Societies, a research project funded by the United States Agency for International Development. The studies were conducted in India, Nigeria and Brazil.

The India study (Kivlin et al., 1968) was a follow-up of the Roy and others (1968b) experiment, a part of a two-nation comparative study in India and Costa Rica initiated by UNESCO. Only

the communication treatments of literacy classes and radio farm forums were employed. The animation treatment was dropped because of its failure to produce desired changes as shown in the previous study. Consequently, only six villages were used for analysis.

In general, radio farm forums were shown to be more effective than the literacy classes in producing changes in knowledge and in adoption of agricultural and health innovations. Villages exposed to both sets of treatments tended to show more change than the control villages where only the usual community development activities were undertaken. However, no evidence was found to show that radio farm forums were effective in creating favorable attitudes toward change programs.

The second of the series of field experiments in the Diffusion Project was conducted in 10 villages in Eastern Nigeria (Hursh et al., 1968). The experiment was designed to assess the effects of two communication treatments (agricultural progress committees, which are village discussion groups using specially printed information, and radio farm forums) on farmers' knowledge, attitude and adoption of specific agricultural and health innovations. Both treatments involved a combination of a mass medium and interpersonal communication.

Unfortunately, the experiments had to be discontinued due to the outbreak of the Biafran-Nigerian War. As a result, no conclusive evidence could be ascertained about the effects of the two communication treatments.

However, on the basis of records and other materials kept by the researchers, there seemed to be some indications that both treatments were in the process of becoming effective. Participants in the agricultural progress committees and/or radio development forums had made decisions to adopt one or more innovations and had taken the necessary steps to implement their decisions.

Of the three field experiments, the one conducted in Brazil (Stanfield et al., 1968) had the most complex design. Four communication strategies were employed: (1) animation training, (2) literacy training, (3) radio farm forums, and (4) community newspapers. Animation and literacy training were administered to each of six villages before the radio farm forum and newspaper treatments; hence, they were referred to as pre-treatments. Eight agricultural and health practices were used in the experiment. Eighteen villages were involved. As in the two previous studies, the main objective was to determine the effectiveness of the four communication treatments in increasing knowledge, changing attitudes, and adopting specific agricultural, health and community development innovations.

Analysis of results seemed to indicate that the radio farm forums were more effective in producing changes in knowledge, in creating favorable attitudes toward change programs, and in increasing extension agent contact than the other communication treatments.

Discussion

The first portion of this chapter dealt with a synthesis of the empirical studies conducted on the role of mass media in the modernization process. In this section, an interpretation of the findings will be discussed based on the theoretical framework presented in Chapter II. By way of recapitulation, the three generalizations proposed regarding the role that mass media play in the modernization of the individual are as follows:

1. In general, mass media exposure creates in the individual a favorable climate or attitude toward modernization rather than providing specific behavioral skills.

2. In general, mass media exposure is not likely to be inherently one kind of variable, i. e., it can act as an antecedent, an intervening and a consequential variable in the process of modernization.

3. In general, mass media exposure is not the only good predictor of modernization.

Mass Media Exposure--A Creator
of Favorable Attitude or
Provider of Behavioral Skills

The literature on national development suggests two ways of looking at the modernization of the individual: (1) in terms of behavior such as adoption of agricultural and health innovations; and (2) in terms of attitudes or psychological states such as readiness to change, empathy, need for achievement. The mass media, as one of the important vehicles of modernization, have been cited to perform these functions--creator of favorable attitudes and provider of behavioral skills--but the evidence researched thus far has not proven conclusive.

Available research evidenced in this study does suggest a positive relationship between mass media exposure and innovativeness--a behavioral variable. However, there is also evidence of the relative lack of importance of the mass media of communication in agricultural innovativeness such that adoption of innovations may also result even with low use of mass media sources.

It appears that although mass media exposure has a strong correlation with innovativeness, people in developing countries look at mass media mainly as a source of information or a provider of knowledge. In other words, the mass media merely predispose the villagers to the information so that they will have a favorable attitude

toward a particular innovation. Hence, it may very well be that the role of mass media in modernization may be that of setting a favorable climate or attitude toward modernization rather than providing the necessary behavioral skills for adoption.

One implication here relates to the importance of interpersonal communication. It seems that face-to-face communication, especially with respected associates, is more effective in producing specific changes in action than mass media exposure. The evidence is sufficiently strong concerning two crucial subject-matter areas: adoption of family planning techniques and the adoption of expensive and time-consuming projects.

Both correlational studies and field experiments on family planning seem to be able to draw some line regarding the function of mass media and interpersonal communication. Mass media channels, more specifically print media and radio, are more effective in creating readiness and interest toward family planning, whereas interpersonal communication is more effective for the adoption of family planning. This being the case, the assumption that the mass media serve as agents of reinforcement rather than agents of change is supported in studies on family planning.

The role that interpersonal communication plays in the adoption of family planning methods and expensive and time-consuming

projects also suggests the importance of source credibility as a communication variable. For people of developing countries especially, family planning is a very complex and delicate matter because it involves their cultural mores, moral values and even their religious beliefs. Hence, any discussion that is to be made regarding family planning is so important that additional information is needed which usually comes from credible or trusted sources of communication, i. e. , neighbors, friends, extension agents, etc. The mass media do not seem to be very effective where it concerns people's values. It would appear that although they can produce some effects on the peripheral values of a culture, they do not have much effect on the core values, especially when they are closely tied with religion (Chu, 1966).

Moreover, since whether or not to adopt family planning methods is an important decision to make, people seek reinforcement or reassurance from trusted associates in order to avoid a feeling of dissonance which is especially great when the alternatives are very important.

Similarly, for activities that involve a certain amount of expense and time, people tend to rely most on interpersonal channels of communication from whom they can get reassurance as to the worthiness of the activity they are engaged in. To cite just one

example, Indian farmers (Roy et al., 1968a) relied most on agricultural demonstrations conducted by extension agents and least on radio. This seemed to be due to the fact that radio as a secondary source of information is not easily verifiable. Radio is of a transient character that farmers cannot refer back to for reassurance or additional information.

In summary, there appears to be sufficient support for the generalization that the mass media are effective as a source for information and as a creator of awareness or interest but they are less effective in teaching skills and techniques, especially on matters involving the traditional values, cultural mores or religious beliefs of the people. It could be said that the role that the mass media play is to act as an agent of reinforcement rather than of change.

Mass Media Exposure--An Antecedent, an Intervening and a Consequential Variable

According to the second generalization, mass media exposure may be looked at as an antecedent, an intervening and a consequential variable. As an antecedent variable, exposure to mass media leads to modernization regardless of any prior characteristics of the recipients of the mass media message. As an intervening variable, certain factors such as literacy, education, social status and cosmopolitanism determine an individual's exposure to the mass

media. In turn, mass media exposure leads to modernization, i.e., agricultural and home innovativeness, political knowledge, empathy, educational and occupational aspirations and others. As a consequential variable, mass media exposure results from modernization. In other words, an individual who is innovative, politically knowledgeable, has high empathic ability and/or has high educational and occupational aspirations will more likely expose himself to mass media.

Studies reviewed tend to support the notion that mass media exposure is an antecedent and intervening variable but not a consequential variable. A majority of the studies supported the premise that exposure to mass media led to modernization--agricultural and home innovativeness, political knowledge, empathy, etc. It was also found that mass media exposure intervened in the relationship between certain antecedent and consequent variables. For example, it was shown that mass media exposure intervened between functional literacy and consequent variables like political knowledge, empathy, agricultural innovativeness and educational aspirations (Rogers, 1965).

A more extensive investigation (Keith et al., 1968) on the intervening effect of mass media exposure yielded similar results. However, it appeared that mass media exposure had more

consistent effects upon relationships involving the behavioral consequents than those involving the attitudinal consequents. It had been suggested that these differences may be due, in part, to the difficulty of obtaining reliable measures of the attitudinal variables. The strong relationships for the behavioral consequents (agricultural and home innovativeness) might also be due to the fact that the mass media are disseminators of information. Thus, if the information is specific, detailed, and not otherwise readily available, the intervening effects of mass media exposure will be greater.

On the other hand, there appears to be a more direct relationship between the antecedent variables and the attitudinal consequents (educational aspirations for children and achievement motivation). This could be explained by the fact that education is valued so very highly in developing societies that there is a lesser need for the mass media to disseminate this information to emphasize its importance. Similarly, first hand observation rather than exposure to mass media on the achievement of others is of greater importance in encouraging one to be motivated to achieve.

The preceding discussion was based solely on correlational data. Since correlational analysis does not establish causality, "intervening" as used in this study does not mean an intermediate stage in a causal process. For instance, it cannot be said that

literacy causes mass media exposure and mass media exposure causes modernization.

Within the framework of this discussion then, it appears that mass media exposure acts as an antecedent and an intervening variable in the process of modernization.

Mass Media Exposure Is
Not the Only Good
Predictor of Modernization

Available evidence pointed out that modernization may be examined either as a unidimensional or a multidimensional variable. It is unidimensional at the aggregate level and multidimensional at the individual level of analysis.

Aggregate or macro-level studies using the nation as unit of analysis generally yielded one general development factor. Usually, the economic and the communication indices were loaded most highly, suggesting that national development is dependent upon two variables--the economic level and the mass media development of a nation. On the other hand, micro-level studies showed that modernization is multidimensional with its main dimensions grouped as: external communication, orientation to change, and innovative leadership orientation (Ascroft, 1968).

In both macro-level and micro-level studies, the mass media seem to play a very prominent role. It must be realized,

however, that to be able to communicate, the people receiving the mass media messages must possess the necessary skills to absorb information. This suggests that other factors such as literacy and education are also crucial determinants in national development.

Harbison (1963) expressed this idea succinctly when he said:

The progress of a nation depends first and foremost on the progress of its people. Unless it develops their spirit and human potentialities--it cannot develop much else--materially, economically, politically or culturally. The basic problem of most of the underdeveloped countries is not a poverty of natural resources but the underdevelopment of their human resources. Hence, their first task must be to build up their human capital. To put it in more human terms, that means improving the education [underscoring mine], skills, and hopefulness, and thus the mental and physical health of their men, women and children (p. 140).

Waisanen and Durlak (1967a), in their study on mass media use and evaluation, indicated that education rather than mass media exposure might be a more meaningful determinant of modernism. According to them, education serves as a "take-off point" leading to a break with tradition and a move toward modernity.

Likewise, the importance of literacy in individual modernization in developing societies cannot be underestimated. A relationship of interdependence between literacy and modernization had been established. Thus, literacy is a critical variable in modernization, and modernization is likewise important to the development of literacy (Rogers and Herzog, 1966).

Lerner (Pye, 1963), in describing his theory of modernization, said:

Literacy is indeed the basic personal skill that underlies the whole modernizing sequence. . . . The very act of achieving distance and control over a formal language gives people access to a world of vicarious experience (p. 341).

In addition to education and literacy, social status may be another variable to examine in relation to the modernization process. Portocarrero (1966) indicated that the ability to empathize might be a function of social status rather than mass media exposure. Also, Ramos' (1966) prediction about the relationship between mass media exposure and fatalism seemed to be a function of social status.

Present findings appear to suggest that the ability to empathize is more a function of social status than mass media exposure. This may be because people of high socio-economic status have more opportunities to obtain information from first-hand sources through travels to the city rather than through secondary sources like the mass media. As a result, these people are likely to be able to put themselves in the other person's position. Through frequent contacts with people of the outside world, they become more perceptive and understanding of other people.

A somewhat similar explanation can be given to the inverse relationship between fatalism and modernization whereby fatalism seemed to be a function of social status. In general,

fatalism appears to be associated more with people of relatively less education, since for the most part, only people of high socio-economic status can afford education in developing countries.

Available evidence points out that although mass media exposure has been a relatively good predictor of modernization, it does not follow that it is the only good predictor. Present findings suggest that education, literacy and social status may also serve as good predictors in the modernization process. Mass media tend to facilitate and accelerate the process of modernization. However, modernization can occur without the mass media but it will be a slower process.

The preceding analysis was made within the limits of the different empirical studies reviewed. Consequently, the interpretation cannot be taken as conclusive. Consideration must be given to the adequacy of the research designs and methods utilized in the studies.

CHAPTER IV

CONCLUSIONS

Summary

This investigation grew out of the desire to shed some light on the role of mass media in the modernization process. Although there is general consensus that the mass media are important in developing countries, there is no unanimity as to the actual role they really play. The present formulative or exploratory study was conducted to provide some insights on this matter. Pertinent research literature was reviewed with the purpose of formulating generalizations concerning the role of mass media in modernization--particularly of the individual--that may lead to further investigations.

The theoretical scheme for the study centered around two major concepts: mass media and modernization. Assumptions made about the mass media were: (1) that the philosophy, role, functions and potentialities of mass media are determined by the nature of the social system; and (2) that they serve as agents of reinforcement rather than agents of change. On the other hand,

assumptions made about modernization were as follows: (1) it can be looked at as a process involving both societal and individual changes; (2) as a process involving changes in the individual, it can be viewed both in terms of changes in attitude and in behavior; and (3) it is a multilinear process and/or a multivariate phenomenon.

Studies were selected for review according to a specific set of criteria: (1) they must be of an empirical nature, and (2) they must deal with the relationship between some aspects of mass media and the modernization of the individual or the social system. They were categorized as to correlational studies and field experiments with the individual, village and nation as unit(s) of analysis. The studies were analyzed according to the following generalizations:

1. In general, mass media exposure creates in the individual a favorable climate or attitude toward modernization rather than providing specific behavioral skills.
2. In general, mass media exposure is not likely to be inherently one kind of variable, i. e., it can act as an antecedent, an intervening and a consequential variable in the process of modernization.
3. In general, mass media exposure is not the only good predictor of modernization.

The empirical studies reviewed tend to support the generalizations. Mass media appear to be effective in creating

awareness, interest and favorable attitudes but are less effective in teaching specific behavioral skills. For the most part, mass media exposure acts as an antecedent and intervening variable but not as a consequential variable in the process of modernization. Lastly, although mass media exposure is a good predictor of modernization, other variables such as education, literacy and social status may serve as equally good predictors.

The results of the study have provided a framework in which the roles of mass media in modernization can be viewed. But this is only one step forward. It is hoped that the implications for mass media discerned in the studies reviewed will open avenues for further research which will eventually lead to more viable generalizations. These implications are discussed in the following section.

Implications for Research

The available evidence presented in this study support the notion that the mass media do play important roles in the process of modernization. However, there is evidenced a need to conduct more extensive investigations before more conclusive statements can be made about the actual role that they play.

The difficulty of pinpointing the exact effects of mass media seems to be attributable to its complexity as a variable. On this McNelly (1966) commented:

Any attempt to pinpoint media effects on specified cognitions, attitudes or behaviors can at best tell only part of the story. Media messages do not necessarily perform their functions in strict accordance with neat theoretical models. A particular message may indeed change a particular attitude as predicted, but it may also affect other attitudes which impinge on that attitude (p. 352).

Results of the different studies synthesized give some insights regarding possible areas pertinent to the role of mass media in the modernization process that might be explored--particularly as it concerns the individual.

One of these areas relates to the use of other aspects of the mass media in addition to exposure as independent variables. For example, studies on comprehension of mass media content rather than mere exposure to mass media might yield more fruitful results. It was suggested earlier that variables like empathy and fatalism should be compared with comprehension of media information instead of mass media exposure, since the latter--exposure--does not require empathic ability nor does it necessarily lead to an assumption of a fatalistic attitude.

Moreover, studies of content rather than length of exposure will yield some information regarding which medium (broadcast

or print) can really contribute to receptiveness to change, an aspect of modernization.

Also, most of the research conducted on mass media dealt only with relatively short-term effects. The long-range effect and the indirect impact have hardly been studied. Thus, more longitudinal studies like the studies by Roy, Waisanen, Rogers and others should be conducted which will permit making generalizations that will attribute to the mass media changes in individual attitudes or behavior.

Still in connection with effects, it appears that the major concern of the studies reviewed was on the desirable effects of the mass media. It may be that mass media exposure can also lead to some unwholesome or undesirable consequences. Frey (1966), for instance, had indicated that the mass media may be used by people in developing countries not as a source of information but as a means of "escape," a retreat from reality. Thus, it may be worthwhile looking into the possible undesirable effects of mass media in the research involving developing countries. This may help guide future efforts of national development planners.

The present study also suggests that further investigations be made to determine the most effective medium of communication--electronic or print media--to use in developing countries.

A common research finding has been that the more educated person uses the print media more and the broadcast media less than the less educated person. This implies that in developing countries where the people are relatively less literate, the broadcast media might be more effective.

In this connection, a study (Anast, 1966) on personality determinants of mass media preferences showed that sensation-oriented persons prefer the well-structured media of television and movies whereas intuitive persons prefer the more ambiguous stimuli of the printed media. It might be inferred that less-educated persons tend to be sensation-oriented such that they prefer the mass media, i. e., television and movies, that are purposely designed to appeal to their emotions. On the other hand, more educated people who tend to be intuitive prefer the mass media, i. e., newspapers and magazines, that appeal relatively more to the intellect.

Another common finding revealed that print media exposure correlated significantly more with such variables as belief in work, political knowledge and attitude toward change. On the other hand, radio coupled with group discussion seems to be more effective with behavioral variables like agricultural and home innovativeness. Perhaps, education might also explain the high correlation between print media exposure and the attitudinal variables. These variables

generally require a certain amount of sophistication which can be acquired through education. Research showed strong relationships between print media exposure and political awareness and participation among students and urban residents in Costa Rica (McNelly and Fonseca, 1964; McNelly and Deutschmann, 1963).

Conversely, it might be that the acquisition of skills and techniques does not require as much education as that of the attitudinal variables. Again, research indicated that radio farm forums seemed to be more effective in the adoption of family planning methods and agricultural and health innovations by farmers and housewives. It is implied here that the print media might be effective for attitudinal variables and the electronic media for the behavioral variables.

Results of this study also suggest the need for more field experimentation. Correlational studies merely establish relationships and not causality. For example, although literacy is an antecedent variable to mass media exposure, mass media exposure is not necessarily an antecedent to political knowledge. Field experiments, on the other hand, establish a time-order nature of the relationships between variables.

Furthermore, correlational studies reviewed in this particular study showed that mass media exposure seemed to be effective in creating an awareness or as a source of information,

whereas field experiments showed that interpersonal communication through radio farm forums seemed to be effective in the adoption of innovations. This implies the need for more experimentation in order to establish the actual role of mass media in modernization. It may be that mass media alone or combined with interpersonal communication should be used in developing countries.

One important research area that seems to be neglected by social scientists concerns the receiver of the communication message. The influence that the mass media might exact may also be a function of the receptiveness of message recipients to communication in general. Receptiveness to the communication depends upon whether or not the recipients have a favorable disposition to the message presented to them. Thus, it is important that they be properly motivated. Receptiveness depends also on whether the gratifications they are seeking from exposure to the mass media are fulfilled. All these concerns imply that the mass media must likewise be viewed in terms of what the people use media for in addition to what media do to the people.

Further, a knowledge of the factors that motivate the people to seek information from the mass media deserves some consideration from future researchers. Information seeking behavior is a process whereby an individual willingly exposes himself to sources

of information and then selecting from these sources the content to which he wishes to attend. One research study (Buss, 1967) found that motivation for information seeking seemed to vary with the source of information. Curiosity impels exposure to some media whereas need for cognition induces use of others. Thus, people will seek information from the mass media or from personal sources of information depending on what motivates them to seek the information.

Furthermore, other factors that must be considered in determining whether a person will change from a traditional to a modern outlook include such variables as time put into a system, rank, and involvement in the system.* The greater the amount of time an individual puts into a system, the less likely he is to change. The probability of change is far less for an older person and/or one who has resided long in a particular place than it is for a younger person and/or one who is a relatively new resident of a place. Also, the higher a person's rank in a social system, the less likely he will lose his identity and become interested in another social system. Finally, the more involved--physically and psychically--a person is in the social system, the less the probability that he will look outside of

*Lecture, Dr. F. B. Waisanen, Department of Sociology, Michigan State University, 1967.

his own social system. Consequently, the more satisfied a person is in his social system, the less likely he will be to expose himself to the mass media.

The aforementioned points pertaining to the receiver of the communication imply that researchers concerned with national development must have a sufficient knowledge of their audience. This becomes doubly imperative for Western social scientists whose beliefs, traditions, mores and cultural values differ greatly from those of the people in developing countries.

In summary, it is suggested that more empirical research be conducted taking into consideration the aforementioned points. Only then can there be more enlightenment as to the actual role that the mass media play in modernization, particularly of the individual.

A word of caution is in order here. It must be recognized that there are many facets of modernization that are likely to be overlooked by focusing exclusive attention on mass media. There are other modernization variables--social, psychological, economic, etc.--that must be looked into in order to arrive at a full scale analysis of the subject.

Practical Implications

The results of this study may be of help to planners and practitioners of social change in developing countries. The study

tends to show that, in general, the mass media are effective in creating favorable attitudes whereas interpersonal communication through the radio farm forums are influential in teaching behavioral skills such as the adoption of innovations. Perhaps, there is a need to strike a balance between the two methods of communication. There is sufficient indication that employing one method only cannot meet the enormous demands for modernization in developing countries.

People in emerging countries today have begun looking towards scientific and technological improvements as a means of improving their standard of living. More and more, they turn to the government for technical assistance. As a result, the government needs to devise some means to meet the needs of a demanding clientele.

Interpersonal communication is no longer sufficient to reach large masses of people who are seeking technical help. Moreover, even if there are available government technicians to help the people, the costs of employing them would be prohibitive. The need, then, to find practical substitutes for face-to-face communication is imperative.

One substitute that has attracted considerable attention from national development planners is the mass media of communication. That the mass media can make some contributions to developing countries seems to be no longer challengeable. However, the

impact of the mass media in modernization is limited by numerous factors. It was already indicated in an earlier chapter that, generally, developing countries allocate very little of their financial resources in mass media development. Thus, unless communication facilities become universally accessible in these countries, their impact cannot be effectively evaluated.

Lack of time and facility for media use are also major barriers to an effective utilization of the mass media. People's non-exposure to the mediated means of communication may not be a result of their unwillingness to expose themselves to sources of information but lack of understanding (literacy) and/or time to engage in this kind of activity. Furthermore, the people may not have the facility, i. e., equipment, power, etc., necessary to some forms of communication.

An alternative that governments of developing countries should pursue is to foster modernization by intensifying their efforts on literacy improvement and education. Formal education is one of the most efficacious strategies in changing value orientations, i. e., in effecting an attitudinal configuration of modernity, among people of developing countries. However, even though literacy and education are important factors in modernization, they are costly in terms

of time and money and are usually considered slow in product and return.

It seems then that a good communication strategy for modernization is the use of mass media combined with interpersonal communication. The present study alludes to its effectiveness, but further investigations are necessary before conclusive statements can be made.

In sum, the search for the one effective communication method in the process of modernization may be a futile and endless venture. The problem is complicated and the variables involved are so interrelated that it is difficult to determine a single method that can be considered as generally better than other methods.

The results of this study are further substantiated by the conclusions stated by McNelly (1966):

Mass communication phenomena must be investigated . . . in all their endless complexity, with multiple effects from many possible kinds of cognitions, attitudes and behaviors in one, two or more stages and even in different directions through social structures. Mass communication may best be conceived neither as a simple "injection" operation on an entire population nor as a neat two-step flow from media to opinion leader to general public--but rather as a multi-stage, multi-directional process with possibilities for both direct and indirect effects (p. 357).

REFERENCES

REFERENCES

- Abell, Helen C. Farm radio forum project--Ghana (1964-65).
University of Waterloo, Waterloo, Ontario, Canada,
1965.
- Anast, Philip. Personality determinants of mass media preferences.
Journalism Quarterly, 1966, 43, 729-732.
- Ascroft, Joseph R. A factor analytic investigation of modernization
among Kenya villagers. Unpublished M.A. thesis.
Michigan State University, 1966.
- Ascroft, Joseph R. The web of modernization: interrelationships
among conceptual variables. Chapter 15 in E. M. Rogers
with F. Shoemaker, Diffusion of innovations: a cross-
cultural and communication approach. New York: Free
Press of Glencoe, 1968.
- Back, K. W., Hill, R., and Stycos, J. M. The Puerto Rican field
experiment in population control. Human Relations,
1957, 10, 315-334.
- Berelson, B., and Freedman, R. A study in birth control.
Scientific American, 1964, 210, 29-37.
- Bhatt, B. P., and Krisnamoorthy, P. V. Radio rural forums
spread throughout India. Rural broadcasting serves
rural development. Paris: Unesco, 1965.
- Black, Cyril E. The dynamics of modernization. New York:
Harper and Row, Publishers, 1966.
- Blumer, Herbert. Collective behavior. In Lee, A. (ed.), Princi-
ples of sociology. New York: Barnes and Noble, Inc.,
1946. Pp. 167-222.

- Breed, Warren. Social control in the newsroom. In Schramm, W. (ed.), Mass communications. Urbana: University of Illinois Press, 1960. Pp. 178-194.
- Buss, Linda J. Motivational variables and information seeking in the mass media. Journalism Quarterly, 1967, 44, 130-133.
- Cantril, Hadley. Pattern of human concerns. New Brunswick: Rutgers University Press, 1965.
- Carter, R. E., and Sepulveda, O. Some patterns of mass media use in Santiago de Chile. Journalism Quarterly, 1964, 41, 216-224.
- Cassirer, Henry R. Audience participation, new style. Public Opinion Quarterly, 1959, 23, 529-536.
- Chu, Godwin. When television comes to a traditional village. Paper presented at the Pacific chapter of the American Association for Public Opinion Research, Los Angeles, California, 1966.
- Cutright, Philip. National political development: measurement and analysis. American Sociological Review, 1963, 28, 153-164.
- Deutschmann, Paul. The mass media in an underdeveloped village. Journalism Quarterly, 1963, 40, 27-35.
- Deutschmann, P., and Fals Borda, O. Communication and adoption patterns in an Andean village. Programa Inter-americano de Informacion Popular, San Jose, Costa Rica, 1962. (Mimeographed.)
- Deutschmann, P., and McNelly, J. T. Characteristics of Latin American countries. American Behavioral Scientist, 1964, 8, 25-29.
- Deutschmann, P., and McNelly, J. T., and Ellingsworth, H. Mass media use by sub-elites in eleven Latin American countries. Journalism Quarterly, 1961, 38, 460-472.

- Deutschmann, P., Mendez, A., and Herzog, W. Adoption of new foods and drugs in five Guatemalan communities. Sponsored by Instituto de Nutrition de Centro America y Panama and by Programa Inter-americano de Informacion Popular, San Jose, Costa Rica, July, 1965.
- Donohew, Lewis. Communication and readiness for change in Appalachia. Journalism Quarterly, 1967, 44, 679-687.
- Farace, Richard V. A study of mass communication and national development. Journalism Quarterly, 1966a, 43, 305-313.
- Farace, Richard V. Identifying regional "systems" in national development research. Journalism Quarterly, 1966b, 43, 753-760.
- Farace, R. V., Lindley, D., and Volard, S. An exploration of factors underlying the economic, modernization, and communication characteristics of Puerto Rican farmers. East Lansing: Michigan State University, Department of Communication Research Report 4, 1967.
- Feldman, A. S., and Hurn, C. The experience of modernization. Sociometry, 1966, 29, 378-395.
- Fliegel, F. C., Roy, P., Sen, L., and Kivlin, J. E. Agricultural innovations in Indian villages. Hyderabad, India: National Institute of Community Development, 1968.
- Frey, Frederick W. The mass media and rural development in Turkey. Cambridge: Massachusetts Institute of Technology, Center for International Studies, Rural Development Research Report No. 3, 1966.
- Gill, Richard T. Economic development: past and present. Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1963.
- Gusfield, Joseph. Tradition and modernity: misplaced polarities in the study of social change. American Journal of Sociology, 1967, 72, 351-362.
- Hagan, Everett E. On the theory of social change: how economic growth begins. Homewood, Illinois: Dorsey Press, 1962.

- Harbison, Frederick. Education for development. Scientific American, 1963, 209, 140.
- Hirabayashi, G. K., and El Khatib, M. F. Communication and political awareness in the villages of Egypt. Public Opinion Quarterly, 1958, 22, 357-363.
- Hursh, G. D., Hershfield, A., Kerr, G. B., and Roling, N. G. Communication in Eastern Nigeria: an experiment in introducing change. East Lansing: Michigan State University, Diffusion of Innovations Research Report 14, 1968.
- Hyman, Herbert. Mass media and political socialization. In Pye, L. (ed.), Communication and political development. Princeton, New Jersey: Princeton University Press, 1963. Pp. 128-148.
- Inayatullah. Toward a non-western model of development. In Lerner, D., and Schramm, W. (eds.), Communication and change in developing countries. Honolulu: East-West Center Press, 1967. Pp. 98-102.
- Inkeles, Alex. The modernization of man. In Weiner, M. (ed.), Modernization: the dynamics of growth. New York: Basic Books, Inc., 1966. Pp. 138-150.
- Keith, R. F., Yadav, D. P., and Ascroft, J. R. Mass media exposure and modernization among villagers in three developing countries: towards cross-national generalizations. In Berlo, D. K. (ed.), Mass communication and the development of nations. East Lansing: Michigan State University, International Communication Institute, 1968. Pp. IV, 1-18.
- Kivlin, J. E., Roy, P., Fliegel, F. C., and Sen, L. Communication in India: experiments in introducing change. Hyderabad, India: National Institute of Community Development, Diffusion of Innovations Report 15, 1968.
- Klapper, Joseph T. The effects of mass communication. New York: The Free Press, 1960.

- Larsen, Otto N. Social effects of mass communication. In Faris, R. E. L. (ed.), Handbook of modern sociology. Chicago: Rand McNally and Company, 1964. Pp. 348-381.
- Lasswell, Harold. The structure and function of communication in society. In Schramm, W. (ed.), Mass communications. Urbana: University of Illinois Press, 1960. Pp. 117-130.
- Lazarsfeld, P., and Menzel, H. Mass media and personal influence. In Schramm, W. (ed.), The science of human communication. New York: Basic Books, Inc., 1963. Pp. 94-115.
- Lazarsfeld, P., and Merton, R. Mass communication, popular taste and organized social action. In Schramm, W. (ed.), Mass communications. Urbana: University of Illinois Press, 1960. Pp. 492-512.
- Lazarsfeld, P., Berelson, B., and Gaudet, H. The people's choice. New York: Columbia University Press, 1948.
- Lerner, Daniel. The passing of traditional society: modernizing the Middle East. New York: Free Press of Glencoe, 1958.
- Lerner, Daniel. Toward a communication theory of modernization. In Pye, L. (ed.), Communication and political development. Princeton, New Jersey: Princeton University Press, 1963. Pp. 327-350.
- Lerner, Daniel. Enlightenment and communication. In Peter, H. (ed.), Comparative theories of social change. Ann Arbor, Michigan: Foundation for Research on Human Behavior, 1966. Pp. 212-242.
- McClelland, David. The achieving society. New York: The Free Press, 1961.
- McClelland, David. The impulse to modernization. In Weiner, M. (ed.), Modernization: the dynamics of growth. New York: Basic Books, Inc., 1966. Pp. 28-39.

- McNelly, John T. Mass communication and the climate for modernization in Latin America. Journal of Inter-American Studies, 1966, 8, 345-357.
- McNelly, John T. Perspectives on the role of mass communication in the development process. In Berlo, D. K. (ed.), Mass communication and the development of nations. East Lansing: Michigan State University, International Communication Institute, 1968. Pp. I, 1-12.
- McNelly, J. T., and Deutschmann, P. Media use and socioeconomic status in a Latin American capital. Gazette, 1963, 9, 1-15.
- McNelly, J. T., and Fonseca, E. Media use and political interest at the University of Costa Rica. Journalism Quarterly, 1964, 41, 225-231.
- Mendelsohn, Harold. Sociological perspectives on the study of mass communication. In Dexter, L. A., and White, D. M. (eds.), People, society, and mass communications. New York: The Free Press of Glencoe, 1964. Pp. 29-36.
- Menefee, S., and Menefee, A. A country weekly proves itself in India. Journalism Quarterly, 1967, 44, 114-117.
- Merton, Robert K. Social theory and social structure. New York: The Free Press, 1957.
- Millikan, M. F., and Blackmer, D. L. M. (eds.). The emerging nations. Boston: Little, Brown and Co., 1961.
- Neurath, Paul M. Radio farm forum as a tool of change in Indian villages. Economic Development and Cultural Change, 1962, 10, 271-283.
- Nicol, J., Shea, A. A., Simmins, G. J. P., and Sim, R. A. Canada's farm radio forum. Paris: Unesco, 1954.
- Pool, Ithiel de Sola. The role of communication in the process of modernization and technological change. In Hoselitz, B., and Moore, W. (eds.), Industrialization and society. New York: Unesco Press, 1963a. Pp. 279-295.

- Pool, Ithiel de Sola. The mass media and politics in the modernization process. In Pye, L. (ed.), Communication and political development. Princeton, New Jersey: Princeton University Press, 1963b. Pp. 234-253.
- Portocarrero, Cesar A. Empathy and modernization in Colombia. Unpublished M.A. thesis. Michigan State University, 1966.
- Pye, Lucian W. (ed.). Communication and political development. Princeton, New Jersey: Princeton University Press, 1963.
- Pye, Lucian W. Models of traditional, transitional and modern communications systems. In Pye, L. (ed.), Communication and political development. Princeton, New Jersey: Princeton University Press, 1963. Pp. 24-29.
- Pye, Lucian W. The international gap. In Weiner, M. (ed.), Modernization: the dynamics of growth. New York: Basic Books, Inc., 1966. Pp. 337-347.
- Rahim, Syed A. Innovation adoption in the cooperatives at Comilla. Unpublished material. Comilla, Pakistan: Pakistan Academy for Rural Development, 1966.
- Ramos, Elssy B. Fatalism and modernization in Colombia. Unpublished M.A. thesis. Michigan State University, 1966.
- Rao, Y. V. Lakshmana. Communication and development: a study of two Indian villages. Minneapolis: University of Minnesota Press, 1966.
- Rogers, Everett M. Mass media exposure and modernization among Colombian peasants. Public Opinion Quarterly, 1965-66, 29, 614-625.
- Rogers, Everett M. Modernization among peasants: the impact of communication. New York: Free Press of Glencoe, 1968.

- Rogers, E. M., and Herzog, W. A. Functional literacy among Colombian peasants. Economic and Cultural Change, 1966, 14, 190-203.
- Rogers, E. M., and Meynen, W. Communication sources for 2, 4-D weed spray among Colombian peasants. Rural Sociology, 1965, 30, 213-219.
- Rostow, Walter W. The stages of economic growth. New York: Cambridge University Press, 1961.
- Roy, P., and Kivlin, J. Health innovation and family planning: a study in eight Indian villages. Hyderabad, India: National Institute of Community Development, 1968.
- Roy, P., Fliegel, F. C., Kivlin, J., and Sen, L. Agricultural innovation among Indian farmers. Hyderabad, India: National Institute of Community Development, 1968a.
- Roy, P., Waisanen, F. B., Rogers, E. M., and Verluys, J. D. N. The impact of communication on rural development: an investigation in India and Costa Rica. Hyderabad, India: National Institute of Community Development, 1968b.
- Schnore, Leo F. The statistical measurement of urbanization and economic development. Land Economics, 1961, 37, 229-245.
- Schramm, Wilbur. Mass media and national development. Stanford, California: Stanford University Press, 1964.
- Selltiz, C., Jahoda, M., Deutsch, M., and Cook, S. W. Research methods in social relations. New York: Holt, Rinehart and Winston, Inc., 1951.
- Sen, Lalit K. The concepts of tradition and modernity: a re-evaluation. Paper prepared for the Second World Congress of Rural Sociology, Drienerlo, Enschede, Netherlands, August, 1968.
- Siebert, F. S., Peterson, T., and Schramm, W. Four theories of the press. Urbana: University of Illinois Press, 1956.

- Smith, D., and Inkeles, A. The OM scale: a comparative socio-psychological measure of individual modernity. Sociometry, 1966, 29, 353-377.
- Spector, P., Torres, A., Lichtenstein, S., and Preston, H. O. Communication and motivation in community development: an experiment. Washington, D.C.: Institute for International Services, 1963.
- Spector, P., Torres, A., Lichtenstein, S., and Preston, H. O. The role of mass communication media in the adoption of innovation. Paper presented at the IXth Congress of the Inter-american Society of Psychology, Miami Beach, Florida, 1964.
- Stanfield, J. D., Herzog, W. A., Whiting, G. C., and Svenning, L. Communication in Brazil: experiments in introducing change. East Lansing: Michigan State University, Diffusion of Innovations Research Report 13, 1968.
- Takeshita, John Y. Lessons learned from family planning studies in Taiwan and Korea. In Berelson, B., and others, Family planning and population programs. Chicago: The University of Chicago Press, 1966. Pp. 691-710.
- Waisanen, F. B., and Durlak, J. Mass media use, information source evaluation, and perceptions of self and nation. Public Opinion Quarterly, 1967a, 31, 399-406.
- Waisanen, F. B., and Durlak, J. The impact of communication on rural development: an investigation in Costa Rica. A Unesco final report, December, 1967b.
- Weiner, Myron (ed.). Modernization: the dynamics of growth. New York: Basic Books, Inc., 1966.
- Westley, B. H., and MacLean, M. S., Jr. A conceptual model for communication research. Audio-Visual Communication Review, 1955, 3, 3-12.
- Whiting, Gordon C. Empathy and modernization: a study in Rural Brazil. Unpublished Ph.D. dissertation, Michigan State University, 1967a.

- Whiting, Gordon C. Innovation in Brazil: success and failure of agricultural programs in 76 communities. East Lansing: Michigan State University, Diffusion of Innovations Research Report 7, 1967b.
- Wirth, Louis. Consensus and mass communication. In Schramm, W. (ed.), Mass communications. Urbana: University of Illinois Press, 1960. Pp. 561-582.
- Wright, Charles R. Mass communication. New York: Random House, Inc., 1959.
- Unesco. Mass media in the developing countries. Paris: Unesco, 1961.

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