MICHIGAN STATE U N I V E R S I T Y

The African e-Journals Project has digitized full text of articles of eleven social science and humanities journals. This item is from the digital archive maintained by Michigan State University Library. Find more at:

http://digital.lib.msu.edu/projects/africanjournals/

Available through a partnership with





Scroll down to read the article.

Development by Rules: An Ethical Reflection on the High Failure Rate of Development Projects and Implications for Communication*

by Robert Agunga**

Abstract

In this article, the author proposes that one way to minimize the rate of project failures is to establish rules which project managers would be required to follow. It is the view of this author that some of these rules may already exist in the form of project formulation guidelines. These guidelines are, in large part, based upon research in development. They include local participation, integrated development, basic needs, women in development, and appropriate technology. These guidelines, carefully followed, have the potential to lead to project success. The problem is that it is the rare project wherein these guidelines have been observed. Thus, the author contends that the codification of these guidelines and other related concepts into standard development rules followed by the establishment of a mechanism to ensure that these rules are adhered to, are the tools needed to dig out of the development crisis.

^{*}Paper presented at the Third World Studies 13th National Conference, Peter Kiewit Conference Center, Omaha, Nebraska, October 4–6, 1990.

^{**}Dr. Robert Agunga teaches in the Department of Agricultural Education, The Ohio State University in the U.S.A.

Règles de Développement: Une Réflexion sur le Grand Taux d'Echecs dans l'Exécution des Projets des Développement et leurs Implicationds sur la communication

Résumé

Dans cet article, l'auteur suggère que l'un des moyens de minimiser la grande proportion d'échecs dans l'exécution des projets de développement est de formuler des règles auxquelles les directeurs de projets devraient se soumettre.

Il est de l'avis de cet auteur que certaines de ces règles sont déjà existantes sous la forme de conseils de formulation de projets. Parmi celles-ci figurent la participation locale, le développement intégré, les besoins de base et les techonologies appropriées. Si rigoureusement suivies, ces règles peuvent conduire d'aucuns projets au succès. Cependant il est à noter que rares sont les projets dans lequels ces directives sont suivies.

C'est ainsi que l'auteur soutient l'idée de rédiger ces directives et autres concepts y relatifs, en règles permanentes pour projets de développement et instaurer un mécanisme permettant de s'assurer que ces règles sont respectées en tant qu'outils permettant de déraciner la crise de développement.

Introduction

After more than 40 years of organized development assistance, the living conditions of the vast majority of Third World people is still far from adequate. The number of people living in poverty has continued to rise. In 1973, the number of people living in absolute poverty, that is, subsisting on an average per capita income of 50 dollars or less was estimated at 300 million. This figure more than doubled in 1975, rising to 650 million; reached a billion in 1983, and is now close to two billion. The number of countries classified as "least developed" (LDCs) also nearly doubled from 28 in 1968 to 42 today. Says Morna (1990), the 1980s was "a decade of acknowledged failures all around" (p. 1). The World Bank, which has been at the forefront of the development struggle, provided further evidence of the failing promise of Third World development. In its 1989 report, Sub-Saharan Africa: From Crisis to Sustainable Growth, the Bank notes that "Africans are just as poor today as they were 30 years ago." (p. 1).

This lack of development success exists in spite of the fact that the last 30 years have witnessed tremendous support for rural development from Third World leaders as well as international development assistance organizations. Woods (1989) says that: "Development funds have been abundant, so shortcomings in development have not stemmed from lack of money . . . the best known economic and fiscal policies have been advocated and, where possible, applied. Yet solutions to the self-sustaining development needs of the majority of the people in Africa (and elsewhere in the developing world) have remained elusive" (p. 1). If the political and financial support for development exists and if the best policies are being advocated; how then can the high failure rate of development projects be explained?

This paper argues that an over-looked problem is poor management. The thesis of this paper is that the worsening poverty is due to the high failure rate of development projects, which in turn, is caused by poor management. In virtually every project that has failed, one finds that stated guidelines were never followed. For example, a commonly stated development guideline is that the local people must be involved in project planning and implementation. The problem is that it is the rare project wherein this guideline is followed. The solution to the high failure rate of development projects, therefore, lies in identifying a set of guidelines the abidance of which could lead to successful projects and the formation of a communication support system to assist managers to comply with the rules. The paper is organized as follows: First, poor management is identified as the main cause of the high failure rate of development projects. Secondly, the case for development by rules is presented. Thirdly, an attempt is made to identify the rules of development. Fourthly, it is noted that the main skill needed to follow the development rules is communication and that the inclusion of a communication expert to serve as adviser to management will go a long way to ensure that development rules are followed.

Poor Management: The Main Reason for the High Failure Rate of Development Projects

Poor management, more than anything else, is the main reason for the high failure rate of development projects today. To be sure, the management problem has been noted for quite some time now. Yudelman (1974, p. 26), in a study of World Bank projects and programs underway in 1973, observed poor management to be the "most widespread" problem. He noted that over 75 percent of the projects studied had managerial problems, compared to 20 percent that labored under financial constraints, and 14 percent that had to deal with political difficulties. Other scholars have taken the management problem further. Honadle, Morss, VanSant and Gow (1980), who evaluated integrated rural development programs in Thailand, Honduras, Nepal, Liberia, Cameroon, Tanzania, the Philippines and Jamaica, concluded that development project managers lack training in managerial skills, particularly supervision:

People are usually promoted to positions as managers because they have done good jobs with their skills. Thus, technicians, such as engineers, agronomists, or extensionists, become managers. Consequently, they must learn supervisory skills on the job. This can compound implementation difficulties by producing defensive, arrogant or even secretive behavior from those who fear that their lack of management expertise will be discovered. (p. 13).

Chambers (1983) cites the absence of professional development managers, saying that the management of rural development remains a "blind spot," in the sense that there is no specialized program of training for those who serve in this position. Morgan (1984) further supports this position adding that many managers are graduates with engineering or agriculture degrees with "virtually no management training of any kind" (p. 6). McDermott (1981) observes that although agricultural development management is a social science undertaking, the vast majority of agricultural project managers are natural scientists. Ascroft (1985) contends that agricultural development in many developing countries is vested primarily in extension agents who are trained first and foremost in technical agriculture and hardly at all in development theory and in communication. As agriculturalists, Ascroft wrote, extension agents may be skilled in planting and nurturing hybrid corn seeds to bountiful fruition, but they lack the corresponding communication skills to plant and nurture adoption of the new ideas and allied production techniques in the minds of the small-scale farmers. MacKenzie (1969) decried the lack of professional communicators in development projects, given that communication constitutes the bulk of all management activity.

To this day, communication experts capable of assisting project managers in addressing communication shortcomings, such as the mobilization, organization and training of local people for participatory decision making; the design and conduct of the development campaign; and the facilitation of coordination and linkages among participating institutions are hardly included in project implementation teams. Perhaps, the main reason for this is that these communication functions were only recently identified by the Food and Agriculture Organization (1987). Furthermore, only recently

have universities began producing the communication experts to perform these tasks under the rubric of "development support communication."

Acts of Omission or Commission?

The early 1970s witnessed the fall of the dominant development paradigm with its emphasis on industrialization. The new meaning of development, which began in the mid-1970s, emphasized meeting the basic needs of poor people by ensuring that development resources reached them directly. New development policies, such as "popular participation," "integrated rural development," "women in development," and "appropriate technology," to mention just a few, were introduced as measures that would ensure that the gains of growth benefit the poor. The World Bank, the United States Agency for International Development (USAID) and other international development organizations adopted these policies in 1973 (Mickelwait, Sweet and Morss, 1979; World Bank, 1975). These policy statements were endorsed by the developing countries as well and virtually all rural development projects sponsored by external organizations contained these policy guidelines. The integrated rural development programs are a case in point. These programs are designed to aid the poor through their own participation in decision making. Yet in all the IRD programs that have been completed, none of them has had community involvement in the real sense of the term. And, to no surprise, virtually all of the completed programs have failed (Hurni, 1980; Honadle, Morss, VanSant and Gow, 1980).

A basic question to ask is why are stated project guidelines not being followed by project managers? One way to explain the failure of project managers to abide by project formulation guidelines or current development theories is to view their performance in terms of acts of omission or commission. An act of commission implies that the failure of these experts to follow established development guidelines is deliberately committed. In other words, these experts act with malice aforethought in order to distort the development process, perhaps in the hope that frequent project failures would mean a continued demand for technical assistance (Goulet and Hudson, 1971; Hayter, 1971). If this is the case, then a serious ethical concern is raised.

An alternative line of argument, and the one this author subscribes to, is to see the failure of development experts to abide by established project or program guidelines as the result of an act of omission; that is, these experts lack the know-how to ensure project success. This seems more likely to be the case. Indeed, William and Elizabeth Paddock (1973) proved this to be the case in their book, We Don't Know How. William and Elizabeth Paddock studied United States development assistance projects in Latin America and found that virtually all the projects had failed due to wrong decisions both at the policy and project levels. If the high rate of failure of development projects is the result of acts of omission, then the solution, it would seem, lies in identifying suitable guidelines and codifying them into rules capable of ensuring success. Turning these guidelines into rules has the advantage that managers will be required to follow them. The next step after the formulation of these rules is to help managers follow them.

Development by Rules: A Proposed Concept

Webster's New World Dictionary (1989) defines a rule as "a fixed principle that determines conduct." This is the sense in which the word is used in this article. Development by rules implies that there is a standard code of professional ethics which project managers should follow. If they are not following them, they should be reminded to do so.

We could think of a nation without laws, a society without norms, a religion without commandments, an organization without regulations, an individual without habits, or a game without rules and imagine the chaos that would result. Rules differ only marginally from such allied concepts as laws, orders, principles, habits, mores, procedures, regulations, guidelines, and the like. Rules distinguish order and organization from chaos and anarchy (Hall and Fagen, 1968; Wiener, 1968). Rules define and proscribe behavior; they establish limits and offer guidelines as to what is acceptable versus unacceptable practice.

Ganz (1971) distinguishes rules from what are ordinarily called "directions." According to Ganz, directions prescribe the recommended strategies for how to proceed toward a given destination. Rules, on the other hand, constrain-strategy alternatives to those that are acceptable under prescribed conditions. Thus, one is free to proceed to a given destination using any strategy under the sun so long as one abides by predetermined rules to arrive at that destination. The development of strategies in pursuit of established goals is limited not only by one's creative ingenuity but also by the "rules of the game."

For example, one can equate "efficacy" (having the power to produce a desired effect) with directions or strategies and "efficiency" (producing that effect with minimum time, cost, and effort). An efficacious course of action gets the job done, gets one to where one wants to be regardless of how one got there. An efficient course of action, on the other hand, is concerned with getting the job done in a particular way, getting the best result for the least effort, cost, and time.

Efficiency, therefore, is the rule imposed on efficacy in order to forestall profligacy. Consequently, it restricts the number of ways of arriving at any given goal to a relative few. However, Ganz cautions, rules do not always limit strategy alternatives to the most efficient options. Rather, they stress that how goals are reached is as important as reaching them. For instance, a rule riding rough-shod over local customs and traditions may actually add to the inefficiency of goal attainment and impede the achievement of development goals. Rules require monitoring and surveillance by an independent authority that is versed in the rules and has the power to enforce them.

A Preliminary Effort Towards a Standard Codification of Development Rules

The question then is: are there any rules governing the development game, any strictures placed upon the pursuit of development goals to forestall mismanagement,

misdirection, and unethical or inequitable distribution of development benefits? At the present time, it seems that no such rules have been carefully articulated or have been generally accepted and respected by development practitioners of every stripe.

Individual multilateral or bilateral agencies, voluntary and non-governmental organizations, and Third World governments themselves have a set of rules that they call project formulation guidelines. For the most part, as the name implies, these rules govern project formulation, not project activity. To put it in another way, these organizations commit the fallacy of evaluating intended rather than actual behavior. Thus, in development today, what is down on paper appears to be more important than what is unfolding in actuality.

Nonetheless, it seems there are a number of rule-like generalizations which have emerged over the past two or three decades, which the author herewith proposes as useful rules to govern development "strategization": namely, popular participation in decision making, integrated programming, the use of appropriate techniques and technologies, women in development, and the encouragement of internal change. These rules are presented below as a preliminary step toward a standardized codification, in the hope that they will at least spark constructive discussion and debate. They were chosen because they appear to meet Ganz' criterion of a rule; that is, that they are not directions recommending strategies of how to pursue a given goal, but rather the limitations that must be observed in pursuit of the goals.

The Rule of Popular Participation

The current value expression dominating the literature and practice of development is "popular participation." Rarely does one come across an article or document on development that does not invoke the phrase in one way or the other. Oakley and Marsden (1984), in their overview of the literature on participation, suggest two broad yet distinct views of participatory behavior. The first, an essentially passive, government-controlled form, broadly equates participation with "mobilizing" and "informing" people to implement development activities that, generally, have been determined by outsiders. Since this perspective more directly addresses the pursuit of goals through the mobilization and influencing of people to "participate" in government plans, it is more appropriately a direction than a rule.

The second perspective looks upon participation as a process of people empowerment — a democratic way of involving local organizations and individuals in decision making. Inasmuch as it more directly addresses the restrictions placed on, say, strategization (i.e. that you are free to design any imaginable strategy to pursue given development goals, so long as intended beneficiaries have decision-making participation in designing them) the empowerment form of participation is an appropriate rule.

Thus, the underlying rationale of popular participation is to afford both men and women in Third World communities the democratic right — an equal chance — of engaging in the development decision making process with development planners

and extension workers in effective, decentralized decision making about issues affecting their destinies. The rule of popular participation says that nothing should be done in the community without involving those who will be affected by the outcomes of those decisions.

The Rule of Integrated Development Programming

Hall and Fagen (1968) contend that systems can be placed on a continuum ranging from wholeness to independence. A system behaves as a whole when every constituent part of that system is so related to every other part that a change in any one part causes a change in all other parts and in the system as a whole. At the other extreme, if parts are completely unrelated to each other so that a change in one part affects that part alone, then those parts are said to behave with independence (Hall and Fagen, 1968; Wiener, 1968). For anything to be a system it must have some wholeness, for when parts are mutually independent of each other, then (by definition) they do not constitute a system, but a "heap."

A relevant problem peculiar to many developing countries is that government sectorial components involved in rural development (e.g., health and family planning, water and sanitation, infra-structural development and institution building, food and agriculture) are supposed to act like a system with wholeness, since they are all in service to a common client (i.e., the small farmer). Actually, they more closely resemble a heap of independent, uncoordinated activities piled high before that client. The rule of integrated development programming is intended to forestall the tendency of government subsystems to engage in development activity as discrete entities (Waterston, 1974; World Bank, 1975). The rule of integrated development enjoins all sectors to cooperate and coordinate their efforts so as to maximize the delivery of services to the rural community.

The Rule of Appropriate Technology

It was fashionable at one time to sing the praises of appropriate technology. Its proponents questioned the appropriateness of the technologies selected for transfer for the Third World (Schumacker, 1973). They saw something fundamentally ill-conceived about the notion of transferring "industrial strength" scientific technologies to meet the simple needs of subsistence economies. They argued that such technologies were too capital intensive and too dependent on back-up service and spare-part facilities which, in turn, depended on the vagaries of import quotas and overly-sophisticated user knowledge and skills. In addition, they came with hidden social costs — they consumed scarce foreign money, they displaced labor, and they increased unemployment (Schumacker, 1973). Favored instead was technological simplicity: the bullock plough over the tractor, organic manure over chemical fertilizer. Simplicity was not intended to mean inferiority. Simplicity had the value of being more easily communicated and more affordable (Rogers and Svenning, 1969).

Many Third World governments were queasy, however, about appropriate technology. Some saw it as a ploy to dump obsolete technology upon them. Others resented the implication that Third World people are too simple-minded to master advanced technical skills. Nonetheless, there is agreement that new ideas and practices must be feasible, cost-effective, culturally acceptable to the intended beneficiaries, not just in the view of the change agents who serve them.

Ironically, one area of appropriate technology that is beginning to be taken seriously is that of the traditional technologies of the peasants themselves (Warren, 1986). For instance, over 80 agricultural researchers met in 1978 at the University of Dar es Salaam, Tanzania, to review inter-cropping systems traditionally practised in many African countries. They concluded that these systems should not be rejected wholesale. They found sufficient evidence to suggest new research initiatives based on the traditional wisdom of crop interaction, soil management, pest and disease control, and plant breeding (Agunga, 1989). The rule of appropriate technology, simply stated, is that the technological innovations to be transferred, such as farm machinery, must suit the soil and other conditions in the region, be compatible with the cultural norms of the people, and be affordable to the population the technology is designed to help.

The Rule of Women in Development

The rule of women in development appears to be a special subset of the broader rule of popular participation in decision making. The concern is "women's participation," mainly because unless singled out for special mention, there is a decided tendency for those who use the term "popular participation" to mentally exclude women. The United Nations declaration of 1975 as the International Year for Women signified the important contributions of Third World women to the development of their societies. In short, women in development means that women are so important to the development process that they could not be excluded from decision making (Boserup, 1970; Elliot, 1977).

The Rule of Immanent Change

Rogers and Svenning (1969) suggest that it is useful to classify social change on the basis of whether it is "immanent" or "contact" change. "Immanent change occurs when invention takes place within a given social system with little or no external influence being exerted... (whereas)... contact change is introduced from sources external to the social system under analysis" (p. 5). The rule of immanent change enjoins development practitioners to exhaust the possibility of local solutions before resorting to foreign importations.

The principle is to encourage the initiative for change and its management to emanate (or be induced to emanate) from within the beneficiary social system rather than from foreign change agents.

Bortei-Doku (1978) complained, for instance, that little attempt was made to adapt imported technology to prevailing traditional practice in Africa because the very nature of mixed-cropping precluded easy application of scientific recommendations concerning planting distances, crop protection, and the application of insecticides and herbicides. So instead of seeking ways to improve yields utilizing existing patterns of farming, the whole effort was turned to training a new cadre of farmers through farm institutes and agricultural schools, in the new scientific agricultural methodology. The problem was that this education was more appropriate for largescale farming than for small-scale farming, and small-scale farms are all that most Third World farmers can reasonably hope to acquire.

The preceding are a few of potential principles or rules that could be synthesized and made binding on development projects and development organizations. Indeed, it appears that many sponsoring agencies would have no difficulty recommending their enforcement. So why are these rule-like concepts not being accepted and adhered to in development projects?

Needed: A Referee in the Development Game

Ascroft (1976) states that what distinguishes one sport from another is the way "sportsmanship" is put into operation. In other words, there is a specific set of guiding principles known as "the rules of the game" that define not only the nature of the game but also what constitutes "unsportsmanlike" behavior. To enforce the rules of a sport, there is an ever-present monitoring evaluator, the referee. Referees must know the rules well because if they do not, the game cannot be adequately controlled. They must be objective, for if they are not they will cheat in favor of their bias. Similarly, even though a referee may be present, if the players are ignorant of the rules, the result will be chaos and anarchy.

Applying this metaphor to development programming raises a number of questions. For example, what are, or ought to be, the rules of development? Who should referee the development game? To what extent are the Third World masses who constitute a team in the development game aware of the rules? If they are not, how can they be made to comprehend these rules?

Who Will be the Referee?

The purpose of this paper has been to introduce an idea for discussion. On the agenda are two things: Is development by rules a clarion call? And secondly, who would be the referee or "ruleskeeper" in the development game? While readers must debate these issues, the author wishes to raise certain concerns which must be taken into account in the discussion.

The first is the deplorable performance of project managers which, to be sure, raises some ethical concerns. If they lack professionalism in what they do, how can they be best helped? While rural development projects are no doubt complex, it is far from being true that project managers simply do not understand the complex nature of the development process and do not have the communication skills to function effectively in such situations.

Second, unlike a policeman, policewoman, or the referee in a soccer match, whose primary objective is to see that rule breakers are punished, the referee in the development game must serve largely in an advisory, or pro-player, capacity. In other words, the task of the ruleskeeper is to aid practitioners to abide by established rules, not to punish them for failing to do so; that is, if one agrees that projects fail due to acts of omission and not commission.

Third, the ruleskeeper must, of course, be well-versed in the rules. This means a thorough knowledge of the development process as well as knowledge of the actors in the development process and their socio-cultural environments. Development support communication (DSC) training is useful for this referee role. Nepal and Pakistan are two countries experimenting with the use of DSC experts in projects. The Food and Agriculture Organization (FAO, 1987) also promotes the DSC concept.

Fourth, the ruleskeeper must operate in the capacity of an ombudsman. In other words, he or she must not be controlled by the project or donor agency, or else his or her effectiveness would be compromised.

Finally, the referee must function mainly as a facilitator. Project managers will request his or her services only if they find such help beneficial to them.

Implications for Communication

The analysis presented above on why projects fail suggests one thing — the need for a communication professional to be actively involved in the day-to-day activities to help realize predetermined objectives, such as those relating to local participation and integration. The main communication shortcomings in development projects include: (1) lack of insight and understanding by development planners and implementors of the needs of their clients; (2) lack of participatory involvement of local people during the planning and implementation phases; (3) poor selection and design of communication messages; (4) poor selection of communication channels vis-a-vis the audience to be reached; and (5) top-down organizational communication between and among participating agencies (Food and Agriculture Organization, 1987; Rodrigo, 1989).

If the high rate of development failures is to be prevented, there is an urgent need to examine the role of communication in development. To be sure, the role of communication in development has been recognized for decades. So much emphasis has been placed on the role of the mass media in development. Little examined is the role of the professional communicator in development. Beltran (1976, p. 23) has noted, "communication is indeed vital to the development of a nation. But it is only an instrument. It may be mighty but it is not magical; it cannot generate development by itself." Communication, like every other development input, is only a means to an end—not an end in itself. In recent years, there has been a high degree of political

support for rural development, backed by financial and technical support (economists, agronomists, and so forth). But one hardly sees the professional communicator who

References

- Agunga, Robert A. (1989). The Communication Professional and Participatory Development in Third World Countries. Ph. D. Dissertation, The University of Iowa.
- Ascroft, Joseph. (1985). Report on the Workshop on Development Communication and the Workshop for Health Education. Held at The University of Punjab, Lahore, July, 1985.
- Ascroft, Joseph (1976). "The Overall Evaluation of the Special Rural Development Program'. Occasional Paper 8, Institute for Development Studies, Nairobi, Kenya: University of Nairobi.
- Beltran, L. R. (1976). Rural Development and Social Communication: Relationship and Strategies in Communication Strategies for Rural Development. Ithaca, New York: Cornell University Press, pp. 11-17.
- Boserup, Esther (1970). Women's Role in Economic Development. London: Allen & Unwin. Bryant, Caroline and Louise G. White (1980). Managing Rural Development. Peasant Participation in Rural Development. West Hartford, Conn.: Kumarian Press.
- Chambers, Robert (1983). Rural Development: Putting the Last First. New York: Longman. Elliott, C. M. (1977). 'Theories of Development: An Assessment.' Signs, Vol. 3, No. 1, pp. 1–8
- Food and Agriculture Organization (1987). Development Support Communication: FAO Expert Consultation. Rome.
- Ganz, Joan Safram (1971). Rules: A Systematic Study. The Hague: Mouton.
- Goulet, Denis and Michael Hudson (1971). The Myth of Aid: The Hidden Agenda of the Development Reports. Orbis Books.
- Hall, A.D. and R.E. Fagen (1968). 'Definition of System.' In Buckley, Walter (Ed.) Modern Systems Research for the Behavioral Sciences. Aldine Publishing, pp. 81–88.
- Hayter, Teresa (1971). Aid As Imperialism. Penguin.
- Honadle, George, Elliott R. Morss, Jerry VanSant and David D. Gow (1980). Integrated Rural Development: Making It Work? Washington, D. C.: Development Alternatives Inc.
- Hurni, Bertina S. (1980). The Lending Policy of the World Bank in the 1970s. Boulder, Colo.: Westview Press.
- MacKenzie, R.A. (1969). 'The Management Process in 3-D'. Harvard Business Review. pp. 80-87.
- McDermott, J.K. (1981). 'Social Science Perspectives on Agricultural Development.' Paper Read at the Conference on Knowledge and Utilization: Theory and Practice. East-West Center, Honolulu.
- Mickelwait, Donal; Charles F. Sweet and Elizabeth R. Morss (1979). New Directions in Development. Boulder, Colo: Westview Press.
- Morna, Colleen Lowe (1990). 'Least Developed Brace for 1990s.' Development Forum, Sept-Oct., Volume XVIII, No. 5, pp. 1, 14.
- Morgan E. Philip (1984). 'Development Management and Management Development in Africa.' Rural Africana. No. 18, Winter.
- Oakley, Peter and David Marsden (1984). Approaches to Participation in Rural Development. International Labor Organization.

Paddock, William and Elizabeth (1973). We Don't Know How: an Independent Audit of What They Call Success in Foreign Assistance. Ames, Iowa: Iowa State University Press.

Rodrigo, Milan L. (1989). 'Communication and Development: Obstacles in Implementing Development Programmes.' In Media Asia, Vol. 16, No. 4.

Rogers, Everett M. with Lyne Svenning (1969). Modernization Among Peasants: The Impact of Communication: Rinehart and Wilson.

Schumacker, E.F. (1973). Small is Beautiful: Economics as if People Mattered. New York: Harper and Row.

Warren, D.M. (1986). 'Linking Scientific and Indigenous Agricultural Systems.' In Compton, J. Lin (ed.). The Transformation of International Agricultural Research and Development. Boulder, Colo.: Lynne Rienner Publishers.

Waterston, Albert (1974). 'A Viable Model for Rural Development.' Finance & Development. Vol. 11, No. 4, December.

Wiener, Nobert (1968). 'The Human Use of Human Beings: Cybernetics and Society.' In Modern Systems Research for the Behavioral Sciences.

World Bank (1975). Rural Development: Sector Policy Paper. Washington, D.C.: February.