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COMMUNICATIONS IN ECONOMIC DEVELOPMENT *

By Bryant E. Kearl **

It was only a few days ago that I discovered, with a shock, that a paper was to be part of my responsibility at this conference. This did not allow the time I should have wished to prepare a systematic and well-documented statement. But perhaps that is just as well. Perhaps at this point in our discussions of communication a statement of some impressions may be just as provocative, and therefore just as useful, as a systematic argument.

The past few days have at least given me an opportunity to review some of the important readings in communications and economic development. Such a review gives a vivid awareness of a strange paradox in these writings. Almost without exception, economists writing about economic development make little or no mention of the role of communications. If they take into account the possibility of inadequate communication it is only by stipulating that the actors in their dramas of economic theory are expected to have full information and to use it rationally in decision making. Meanwhile the writings of specialists in communications often have an equally unreal tone. In general, in the past, they have given communications a dramatically central role in economic development. "Alas," they say, "if we could only persuade people to use the technology now available! If only we could get information more quickly from the laboratory to the farm, what progress we could make!" These are writers who, whether they admit it or not, define economic development simply as a situation in which communications are adequate.

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For the latter group, recent statements by Arthur Mosher and Theodore Schultz provide sobering reading. Schultz says, "It will come as a surprise to find that farmers in poor countries are in general not inefficient in using (allocating) the agricultural factors of production they have at their disposal. . .On the basis of a strict allocative test, these farmers are more efficient than farmers in most of modern agriculture because the latter are in a state of disequilibrium, a consequence of their 'too rapid progress'."1/

Mosher takes a similar position. In his Voice of America Forum Lecture in 1963 he declared, "Farmers are more and more knowledgeable with each passing year about the processes they are called upon to direct. Recognition of the importance of . . .new outputs to agricultural development immediately explains why so much of agricultural development depends not on farmers alone but upon what is happening elsewhere in the economy." At the Mexico City symposium a year later he amplified the point. "In most places, in most instances, farmers are already getting as much as they can out of the techniques known to them. It is only by changing the nature of plants, by breeding new varieties, by changing the plant food elements available to the crop through fertilization, by utilizing new techniques for pest control, or by developing new implements to do new tasks or to do old tasks better that agriculture can move forward. New techniques are absolutely essential to agricultural development."2/

1/Schultz, Theodore W. "An Efficient Approach for Modernizing Traditional Agriculture." The University of Chicago Office of Agricultural Economics, Research Paper No. 6306; Dec. 5, 1963 (rev. Dec. 28, 1963).

2/Mosher, Arthur T. "The Requirements for Agricultural Development," in Communications in Agricultural Development (Delbert T. Myren, editor), proceedings of the First Interamerican Research Symposium on the Role of Communications in Agricultural Development, Mexico City, Oct. 5-13, 1964; pp. 7-9.

At the same Mexico City seminar Myren cited a study group in the Near East which asked 482 peasants about their farming techniques and aspirations. "The seminar group reported that almost without exception each farmer could tell what he did, when he did it, how he did it, and why he did it. In fact, they found that the reasons 'why' made considerable sense according to their own criteria." Myren adds, "There can be no doubt that the first step toward change is the desire, after which come the other steps that lead to the adoption of new practices. However, I would hold that this desire is already widely diffused throughout rural Latin America."3/

We are encountering in other settings other reminders that farmer decisions about new technology seldom are restricted simply by lack of information, but are controlled by the whole structure of resources they consider available to them. Marion Brown, describing his studies in Chile, says, "We asked farmers if they knew of remedies for seven separate and common agricultural problems -- insects, frost, weeds, low fertility, low prices, lack of knowledge, and lack of available capital. Most of them readily named the remedies:

Insectos -- polvos o líquidos
Heladas -- fuego, humo, techos y secretos de naturaleza
Fertilidad -- abonos
Malezas -- herbicidas
Precios bajos -- guarde la cosecha
Falta de conocimiento -- pregúntele a alguien que sepa
Falta de plata -- pida un anticipo.

In response to another item they generally gave more weight to work than to luck as a determinant of crop yields."4/

3/Myren, Delbert T. "The Role of Information in Farm Decisions Under Conditions of High Risk and Uncertainty," in Communications in Agricultural Development, pp. 94-100.

4/Brown, Marion, "Sources of Information for New Land Owners," in Communications in Agricultural Development, pp. 101-107.

Please remember that these are all comments about peasants, traditional farmers who as yet have made only very limited use of new technology. Yet they do not suggest that these peasants feel disinterest in or antagonism to new ideas and new methods. Instead, they suggest a group of farmers who are actually making good use of the technology that is actually within their reach at what they consider a price, both financial and psychological, which they can pay. What this says is that economists and communicators and others interested in social science absolutely must converge in their research approaches, pooling their skills to find out how to make technology really available, instead of only potentially so, and how to make the costs of it coincide with what the traditional farmer is able to pay.

I have been asking myself why economists and communicators have for so long been so far apart in this matter. Part of the paradox may be explained in simple human terms. My friend the economist quite naturally magnifies the relative importance of his specialty. I suppose as a communicator I do the same. In measuring a finite effect (change in agricultural technology) and allocating it between alternative causes (economic determinism and communicative persuasiveness), if each of us exaggerates his own role then each necessarily minimizes that of the other.

But I think the trouble is more fundamental than that. I should like to suggest that it is in large part a result of both groups continuing for too long to apply in non-industrial settings the experience and concepts of a well-developed industrial economy.

There is nothing spectacularly new in this view, but I propose that we examine some of its implications. Let us consider some of the conditions of a modern industrial nation that influence the role of communications in the economy and society. I think we can properly call the industrial nation a "communications-saturated" nation, and we may even discover that communication resources are a direct index of the total level of economic development.

First, the industrially developed nation is a literate nation. Not everyone who can read does read, but the vast majority of people can and do. Written messages and the printed word are potentially accessible to everyone.

Second, it is a nation of relatively high achievement in formal education. Most people have the educational background to piece new bits of information, garnered from the mass media and other routes, into a meaningful mosaic of ideas.

Third, it is a market-oriented society. People buy and sell, save and spend and invest. Consequently, they have accustomed themselves to giving attention to information that will help them make the inescapable economic decisions that a market-oriented society entails.

Fourth, the risks people take are more likely to be financial than physical. Bankruptcy is possible, starvation is not. This difference surely has some consequences for individual decision-making.

Fifth, the media of communications are ubiquitous. For the average person the day is full of messages. Almost every study of American farm homes, for example, shows half a dozen farm magazines received regularly in addition to newspapers and general magazines. Every home has several radio sets; most homes are served by television. Almost every region gives the listener a wide choice of stations.

In these circumstances, the economist has some justification for studying economic behavior with the assumption that communication, like the air we breathe, is an inexhaustible resource not meriting special attention. Changes in cost, price, and technology are communicated without special effort, and can be assumed to have a rapid impact on behavior. If milk can be produced cheaply in Wisconsin and sold at a higher price in New York or Florida, only unusual transportation problems or artificial legal barriers would stop farmers and firms from quickly exploiting the differential. If the wages of a man hired to milk cows by hand rise too high in relation to the cost of a milking machine, the fact will rapidly be reflected in sales of milking machines.

My point here is that in a communications-saturated society the information assumptions of economic theory are much better met than in the less industrial nations. This has, I think, permitted the economist to concentrate on economic factors in his study of human behavior and has not encouraged him to apply his thinking to non-economic factors. At the same time, with so much of the population in an industrial nation accepting rather fully the criteria and conditions of a market economy, whenever economic behavior does not follow predictable lines the communicator is justified in asking, "Where did communication fail?"

The non-industrial nation throws us into a whole different set of circumstances. The millions of persons who are not at all or only partly involved in the market economy can hardly be expected to meet our definition of "economic rationality." But even if they did -- or for those persons who do -- a non-industrial nation lacks the network of communications upon which the experience of the industrial world is based.

The last five years, I believe, have seen much done to bring together -- physically as well as intellectually -- the student of communications and the economist or sociologist or anthropologist interested in economic development. The thinking of such economists as Clifton Wharton, Peter Dorner, and Don Kanel is turning toward the responses of individual farmers and their families to the challenge of development. It is producing such statements as this one from Wharton:

"The largest deficiency in all research on the development problems of early-stage agriculture is the lack of studies on the influence of values, attitudes and motivations of early-stage farmers upon their goals of production, decision-making and receptivity to change and innovation. . .

"Attitude toward change and innovation among farm people are pivotal to the entire agricultural development process. . . Yet, though we all admit the centrality of human factors in economic and agricultural development, we rarely make it central to our research. . .We cross-tabulate farm income against an overwhelming array of independent 'causative' factors --

size of farm, crop combinations, fertilizer use, distance from market, land class, tenure, age and education of operator, etc., -- but we rarely look at the mental or decision-making processes of the persons who are carrying out the farming. . . How much better it would be if we agricultural economists were to join forces with our colleagues in the rural social sciences to find even more meaningful answers together. . ."[5/]

The group of communicators at this meeting also represents a rather progressive new wing of our discipline. You are looking at communications as only one element of a complex developmental process and are beginning to ask questions about the process as a whole, not just about communications techniques and media. How does the habit of information-seeking develop? With what preconditions and under what stimuli? These are exactly the kind of questions Juan Diaz asked in his recent Brazilian study, when he sought to identify the combinations of family and economic circumstances that make a peasant want to seek out information to use in his decision-making. Diaz has escaped the confinement so many communications research workers have felt to the simple question of messages and media.

Myren, too, has been turning more and more to questions of how people use information, seeking to learn how risk and uncertainty affect a farmer's information-seeking habits and decision processes.

Others are similarly talking about communications as an aspect of individual decision processes, rather than seeking to study communications as an isolated process or system.

I'd like to try to use an analogy to clarify the ideas I have been discussing. It deals with the development of agricultural irrigation in the United States. You can apply

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[5/] Wharton, Clifton R., Jr. Research on Agricultural Development in Southeast Asia (Agricultural Development Council, New York: 1965), p. 7, 21-22.

it -- or test it -- if you substitute "communication of information" for "distribution of water," and think of the humid regions I describe as being analogous to communications-saturated lands and the arid regions as analagous to regions where information and the media to dispense it are scarce.

A century ago in the humid areas in the U.S. we took a very generous view about water. Except in unusual times of drought, we assumed that Nature would provide all the water that plants needed. We simply did not bring questions of water supply into our consideration. Leaving drought aside, the availability of water (like the availability of information in a communications-saturated society) was not in any sense considered a limiting factor in production.

When American farmers began to operate in the arid regions by means of irrigation, they transferred the concepts of a water-rich area. Irrigation consisted of trying to simulate the water-abundant conditions of the humid lands. Our goal was simply to make sure we applied enough water, and we did it by making sure that if we irrigated at all we did it generously.

Lately two discoveries have been unfolding. One is that in arid regions we must pay much more attention to individual crop requirements if we are to use water wisely. A whole new science of strategic use of water is emerging, based on precise study of plants and their needs. The ideas that were brought to the arid regions from the water-rich humid areas were much too wasteful of a scarce resource (and may in fact be too crude even where water is abundant). For that was the second discovery: that even in a humid region which seems to have plenty of natural water, judicious supplementary irrigation -- adding just the right amount of water at just the right time -- can bring astonishing gains in productivity.

This new approach to water use has demanded that we learn much more about plant metabolism. Exactly why do plants need water, how do they use it, what elements of timing and methods of distribution will multiply its effectiveness? We have had to be inventive and will have to be still more so in creating new water distribution methods. There will need to be continual

feedback from the plant to the irrigator, with the changing needs of the crop reflected in the changing amounts and methods of irrigation.

Now, how do we connect this analogy up with our discussions of communication?

First, by pointing out that, like the irrigation engineer, the communicator is at last beginning to recognize that the differences between areas of abundance and areas of shortage may be differences in kind, not simply in amount. In an industrial nation, with communications media well developed and widely distributed, it may be all right for the communicator to concentrate simply on "placing" his messages in existing media. His studies can deal with the message and the media to the exclusion of other considerations. He can work within the communications institutions and networks already available to him without ever having to ask how they might be supplemented, reorganized, or used selectively.

In a non-industrial nation our first question may well be whether we should be creating some entirely new kinds of communications networks. Marion Brown is asking such a question in his current studies in Chile: to what extent can direct mail be a strategic new channel for agricultural information in a non-industrial nation? In an industrial nation we tend to describe the audience for agricultural information as "all the farmers." In Chile, Brown is asking us to think of a priority audience consisting of local agricultural specialists. Extension workers, credit agency people, managers of agricultural processing plants, teachers, and other technicians may well offer special opportunities to carry messages into traditional rural areas. If the names and addresses of these specialists are available, perhaps direct circular letters making use of the regular postal service offer unusual opportunities to reach these people. (This view is supported by data from the study by Aragon, Diaz

and Martínez, which shows that direct mail was the primary source of information bringing Mexican farmers out to agricultural field days.)[5/]

Perhaps we need to be thinking, too, of some very substantial changes in our approaches to existing communication channels. For example, a lot of truisms (or cliches) have emerged about radio from the experience in the industrial nations. But how true are these for other parts of the world? As closely tied as printed media are to the general level of economic development, it may be years before a genuine popular press penetrates deeply into rural areas of Latin America. In fact, I suspect that by the time any nation has a widely circulated popular press it has already reached the mythical "take-off point" in economic development. But the spread of the transistor radio in less than five years in astonishingly remote areas suggests that here is a medium which can jump the economic shackles which have so often made communication follow, rather than precede, economic development.

The cliches tell us, of course, that radio can never perform certain essential communications function. It is thought to be ineffective in furnishing precise or complex information. But who has really tested its limits in this regard? How far have we exploited, or even explored, the use of radio in entirely new and unconventional ways? (One judgment from the industrial nations which I should like to see tested is that fictionalized form is not appropriate for factual messages. Isn't it time to see if this is really so? What might we gain in increased attention for agricultural information through a dramatic or even a "soap opera" approach? What would we need to lose in accuracy and balance?)

[5/] Aragon V., Omar, Heliodoro Diaz C., and J. de Jesus Martínez C. "The Effectivity of Different Information Media in Promoting Field Days Attendance at Five Regional Experimental Centers During 1963," in Communications in Agricultural Development, pp. 112-121.

One of the most important areas of research coming out of newer thinking on communications in economic development will deal with feedback. To return to our irrigation analogy, one essential for rational use of water is a continuing report on how much moisture a crop requires, gets, and uses at each stage of its growth cycle. How many governmental agricultural information offices, whether in the U.S. or in Latin America, operate from such a continuing audience inventory? What mechanism can we devise that will keep the governmental communicator (or for that matter the research man) in close and continuing touch with the problems and needs of rural people? Don't we need to ask, every time we write a news story or present an agricultural broadcast, just how and where we expect the information it contains to be put to use? But if we were to ask, where could we get the answer?

(One form of feedback, of course, consists of staffing agricultural information agencies with people who themselves come from a rural setting.) A corn breeder or entomologist can perhaps work equally well no matter what his social or economic or family background. An agricultural communicator may well have an advantage and have special value to his agency if he has, even if only from his childhood or youth, a first-hand acquaintanceship with his audience. If this is really a useful approach, isn't it part of our agricultural information program to look to our staffing needs by trying to recruit into agricultural higher education, and then into agricultural communications, a larger number of people from rural areas?

In utilizing communications resources for economic development, certain other issues also seem to me worthy of study. One is the special issue of using communications programs to support legislative-judicial approaches to the task of development. I think it likely that a number of problems of development in Latin America will be approached by means of governmental "action programs." Some or many of these will have a sizeable element of compulsion in them. We have had considerable experience using informational media in voluntary educational endeavors, but not nearly so much in finding out how compulsory legislative or judicial programs can be supported and made more effective.

Another area of importance, I think, will be integrating public agricultural information programs with those of commercial enterprises. In a developing economy there will be special interest in new technology on the part of new or developing agricultural industries, both those that supply farmers with the necessities for production and those that process or market what the farmer produces. As a subsistence agriculture turns into a commercial agriculture, these business firms and industries will become increasingly important information channels. They may well offer the quickest and most direct way of reaching farmers with new technology. They may, in addition, be in the best position to offer the farmer meaningful incentives to change his practices. Are we prepared to use fully such firms in an agricultural information partnership -- in a way for which the industrial nations do not yet provide an easy model or pattern?

To summarize, I would point out that in the industrial nations the use of communications in agricultural development is largely an unplanned activity. In the United States we have several million independent farm operators, each with his own peculiar combination of resources. We place before them a rich cafeteria of agricultural information and assume that each will choose the bits that fit into his own development program.

In regions of traditional agriculture, this approach simply cannot succeed. Much more than in the U.S. the goals of agricultural development are going to have to be foreseen and planned. You simply cannot be the kind of haphazard communications planners so many of us in the modernized agricultural countries are. You have no alternative but to be better technicians than your counterparts in countries like the U.S. -- not necessarily better newswriters and radio broadcasters and bulletin editors, but certainly better in applying a strategy of communications, better in acquiring knowledge of audience, better in working out the timing and content of information programs that will make communication a full partner in economic development.

RESEARCH PAPERS

No. 1 "Coffee: A Background Study With Primary Emphasis in Guatemala," by Russell H. Brannon. April 1964.

No. 2 "The Role of the National Institute of Tobacco in Increasing Tobacco Production in Colombia," by Ronald L. Tinnermeier. November 1964.

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No. 5 "Social Factors in Economic Development," by A. Eugene Havens. May 1965.

No. 6 "Market-Enforced Self-Assessment for Real Estate Taxes," by John Strasma. August 1965.

No. 7 "Communications in Economic Development," by Bryant E. Kearl. September 1965.

These papers are primarily for preliminary review and comment. Generally they will be revised and submitted for publication, after which the number will no longer be maintained in this form.