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Communication for Extension: Developing Country Experience

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Abstract

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Communication has always been an integral part of agricultural extension. It is impossible to think of transferring technology or obtaining farmer feedback to adapt technology without communication. This paper will characterize several major approaches to the use of communication in support of agricultural extension and suggest directions for change in prevalent practice. These characterizations depend, in part, on more extensive literature reviews, particularly those by Ray (1984), Parraton and others (1983), and Hornik (1982). The approaches discussed here include:

- Direct farmer contact;
- Farmer forums;
- Open broadcasting;
- Advertising and social marketing;
- Print media;
- Campaigns and distance teaching;
- Comprehensive communications systems.

Direct Farmer Contact

Traditional extension, still the dominant model in developing countries, relies predominantly on direct contact

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of an extension worker with the farmer to communicate information related broadly to research innovations and to obtain farmer feedback. To accelerate technology transfer, extension workers have often narrowed their audience to select farmers considered to be innovators, with the expectation that they will adopt new technologies rapidly and that other farmers will follow their lead. Demonstration days and group discussion meetings typically support this farmer-contact system. Media such as like flip charts and promotional films are used as aids to enhance face-to-face instruction.

The outcome of traditional extension has been a source of much disillusionment. The number of farmers per extension agent is typically between 500 and 1,000. It is invariably found that only a minority in the farming community has had effective contacts with the agents and that those covered have been contacted less frequently than would be necessary to ensure the assimilation of all the new farming practices to be introduced (Orivel, 1983: p. 16 ff.). Estimates of farmers covered range from 3 to 21 percent, without considering whether or not the coverage has been effective in achieving the adoption of technology or increased productivity. It has also been a common finding that farmers reached directly by extension services tend to be among the better-off members of the farming community and in least need (Rogers and Shoemaker, 1971).

Daniel Benor has tried to improve traditional extension through a "training and visit" (T & V) system designed to emphasize the organizational and training components of extension:

> Most people are aware of the importance of good extension work, the close linkages needed between research and extension, and the two-way flow of information to and from the farmers. Yet good extension and proper linkages do not exist in many countries . . . . Why? The main element missing is an organization that is capable of translating the good intentions into practice in the field. This is what the training and visit system of agricultural extension is trying to do: to ensure that extension agents receive adequate training so that they are qualified to meet and advise farmers in a regular, continous manner, and to bring farmers' problems back to research for solutions" (Benor, 1984: pp. 1-2).

While not denying the importance of these training and organizational features, others have tried to increase the coverage and impact of extension through mass media. In considering extension as a vehicle for communicating with large numbers of farmers, without significant prejudice for their education, income, or social status, these approaches have important lessons to offer. The most noteworthy of the strategies using mass media will be discussed here.

Farmer Forums

One of the earliest attempts to use media in extension was the farmer radio forum. The basic strategy for the farmer forum was developed in Canada before World War II, adopted in India and Columbia during the late '40s and '50s, and subsequently tried in numerous countries (McAnany, 1973). A weekly radio program presents a discussion, dramatization, or lecture which groups of villagers listen to and discuss. A group leader maintains order and encourages discussion. When possible, some action decision is taken by the group.

Farmer forums appear to do well in the short run, then to lose their impetus. The weekly broadcast schedule seems to have set too relentless a pace for the generation of new, actionable topics by the extension service or for local farmers to respond. Lack of integration of the forum with other elements of the extension system, such as follow-up contact and the provision of technical and material inputs, has outweighed its positive qualities.

But the experience with forums leads to positive lessons as well. Rapid diffusion of a standard message can be achieved. Radio forums can take advantage of creative group dynamic methods, mobilize interest, motivate community action and generate feedback for technology adaptation. Their selective use in a broader communication strategy can be powerful. In some cases, as in the Basic Village Education project discussed below, success with farmer discussion groups has been maintained. Success appears to be in direct relation to varied pacing of programs and integration of the discussion group into the broader technology development and transfer effort.

It is estimated that there are over 15,400 radio stations in the developing world broadcasting to over 3.5 billion people with 239,200,000 radio receivers—one for about every 14 people (Frost, 1983). It is no wonder that open broadcasting of radio programs directed to the farmer population is fairly common.

The prevalent format is a daily or weekly 15- to 30-minute didactic program. Colin Fraser, chief of the Development Support Communication Branch of FAO, characterizes such programming in relatively negative terms: ''Programmes are uninspiring, if not outright boring, in most places . . . Rural broadcasts too often consist of studio talks by agricultural technicians, and little else, except perhaps repeats of the previous years' programmes, linked to the agricultural calendar'' (Fraser, 1983: p.2).

On the other hand, good production quality is sometimes achieved and maintained. One worldwide example of this is the programs produced and disseminated by The Developing Countries Farm Radio Network sponsored by the Canadian International Development Agency, Massey-Ferguson Ltd., and the University of Guelph. The network collects information on simple, practical methods of increasing food supplies and improving nutrition and health at the subsistence farmer level. This information is put in the form of radio broadcast items and distributed among agricultural communicators of all kinds in developing countries. The programs use a dialog, talk-show format. Listenership is estimated to be over a hundred million people in more than 100 countries.

The main drawback of this kind of well-produced series would appear to be its lack of integration with the specific events, objectives, and character of particular country programs. Such programs are useful but stop far short of offering comprehensive communication support for extension, particularly in the adaptation of technology to highly specific local conditions.

Open broadcasting can be done poorly or well. It is a versatile instrument, its quality depending on broadcaster training, resources, production skills, and the adequacy of a larger communication strategy. When used well and in coordination with other inputs, we know that open broadcasting can get information out to farmers quickly; reinforce

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extension worker instruction; mobilize for action; and satisfy recurrent information needs tied to the agricultural calendar.

Advertising and Social Marketing

It is tempting to want to use open broadcasting to sell new agricultural practices as if they were products like soda and dish soap. Indeed, early attempts to use media in the health sector in developing countries to introduce a variety of nutritional practices followed an advertising model using "reach and frequency" techniques—the use of a small number of highly focused radio or television spots repeated thousands of times (Zeitlin and Formacion, 1981: p. 135 ff.). In advertising as such, however, the objective is usually simple product choice behavior (Tide vs. Cheer), not the introduction of complex innovations.

Other programs have more recently emerged that have combined more sophisticated marketing strategies with the techniques of advertising to increase contraceptive use and introduce oral rehydration therapy to prevent infant deaths from diarrhea in developing countries. These have been described as social marketing programs.

Philip Kotler and Gerald Zaltman first described social marketing as the "design, implementation and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communications and marketing research" (Kotler and Zaltman, 1971). Today, U.S. social marketing firms mount campaigns for a variety of socially beneficial causes that range from seatbelt use to smoking cessation (Fox and Kotler, 1980; Kotler, 1982).

AID's Contraceptive Retail Sales program (CRS) aims "at promoting, distributing and selling a contraceptive product to consumers through an existing sales outlet at a relatively low, subsidized price to achieve a recognized social goal—expanding contraceptive use" (Population Information Program, 1980: p. J393).

AID's experience in applying social marketing to the promotion of Oral Rehydration Therapy (ORT) has emphasized changes in user behavior in conjunction with product promotion. In Honduras, the promotion of Litrosol—locally packaged ORT salts—provides a useful example. Product packaging, logo, and accompanying materials were

developed with careful product testing and materials pretesting. Indigenous packaging and distribution systems were used. The product was introduced to the target audience through an intensive promotional campaign using radio, posters, and flyers in addition to the training of health system workers (Meyer, Block and Ferguson, 1983; Smith, 1983).

Three features of this ORT program gave it an enhanced orientation toward user behavior compared with other social marketing programs:

- Product testing trials and the development of messages aimed at correct use of ORT were based on unusually detailed village-level investigation.
- Principles of instructional design drawn from behavioral psychology guide the investigation and message development process.
- Promotional advertising was used in closer coordination than usual with training and face-to-face client contact over an extended period of time.

After one year of broadcasting, 48 percent of women in a 750 random sample household survey in Health Region I of Honduras reported having used Litrosol, and over 90 percent of these could mix it properly. Death from any cause involving diarrhea in children under age two in the region dropped by 40 percent within 18 months (Foote and others, 1983).

These social marketing methods are discussed in fuller detail elsewhere (Meyer and Boni, 1984; Smith, 1984). They have not yet been applied so comprehensively to technology transfer in agriculture.

Print Media

Print media such as posters, flyers, manuals, photonovel-type booklets, and newspapers have been an integral part of the use of media as instructional aid, in farm forums and in advertising and social marketing strategies (Parlato, Parlato and Cain, 1980). Campesino newspapers have come to have an important life of their own in many countries (White, 1983: p. 122). The use of print media in agricultural extension has followed the same evolution as radio, from simple support for face-to-face discussion to more sophisticated incorporation into complex communication strategies.

When used well, print media can provide a graphic reminder of how or when to do something. They can provide access to instruction long after the extension agent has left. Print media can have a multiplier effect as materials are passed from hand to hand. By themselves, however, they cannot be expected to transform practices or replace the motivational potential of interpersonal contact. Like open broadcasting, printing media are best used as components in a more comprehensive communication system.

Multiple Channel Systems: Campaigns and Distance Teaching

None of the above strategies for using media, with the exception of some open broadcasting programming, intend to rely on media alone for their full effect. Media are best thought about as a complement to other inputs (Hornik, 1980). They are part of a more comprehensive communication system in which their predominant impact comes from their interaction with each other and with face-to-face communication. Decades of communications research have been devoted to understanding these interactions (Cartwright, 1949; Katz and Lazarsfeld, 1955; Troldahl and Van Dam, 1965; Arndt, 1968; Meyer, Maccoby and Farquhar, 1977).

Some programs have tried to take advantage of multiple channel impact more consciously than others. Social marketing programs are clearly in this category. Among these, highly visible, intensely energetic national campaigns stand out as special examples. There have been breastfeeding campaigns (Restrepo, 1981), health and nutrition campaigns (Hall, 1978), family planning campaigns (Freedmand and Takeshita, 1969), literacy campaigns (*PROSPECTS*, 1982) and campaigns to promote agricultural technology. Perhaps the most famous of those in agriculture has been the "Masagana 99" rice promotion campaign in the Philippines that energized the national rice-growing program (Merrick, 1981).

"Masagana" means bountiful harvest. The "99" refers to the campaign's goal—99 sacks or 4.3 tons of unmilled rice per hectare. The rice-growing program consisted of three elements:

- New rice-growing technology including a high-yield

variety and cultivation techniques simplified to a 16-step process.

- Credit without collateral through a nationwide credit scheme supervised by the Central Bank of the Philippines.
- A mass communication campaign using radio and print materials in combination with intensive training of extension agents.

In the first year of the program (1974), 643,000 farmers received $81 million in loans. By 1976, the "Masagana 99" program had transformed the Philippines from a rice-importing to rice-exporting nation.

Like other major national campaigns that have produced dramatic results, the key role for media in "Masagana 99" was the mobilization of large numbers of people to participate in a national project. Tremendous governmental resources were also spent on other inputs such as the recruitment and training of rural credit representatives. A visibly successful rice variety was able to reinforce the momentum of the campaign.

Few programs can afford the intense energy or political capital that national campaigns like "Masagana 99" require. But all programs should be able to use media in interaction with training and the coordination of other inputs as part of the normal conduct of agricultural communication activites. Such institutionalization of the major successful elements of a campaign approach has not taken place systematically in extension programs.

Distance teaching associated with more formal instructional systems is a calm contrast to national campaigns in its use of multiple channels. There is a long history of such programs (Spain, Jamison and McAnany, 1977). They tend to achieve significant results when compared to traditional instructional programs. AID has reported tremendous success in the use of radio for primary education in mathematics (Searle, Friend and Suppes, 1976) and language arts (Cutler, 1982). Radio has also been used to conduct inservice training for school teachers (Kinyanjui, 1977) and agricultural extension agents (Merrick, 1981).

One of the longest lasting programs in distance teaching in agriculture has been the correspondence program sponsored by the INADES-FORMATION organization founded by the Jesuits in West Africa, presently operating in 10 countries (Jenkins and Parraton, 1983). In 1962 INADES

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launched correspondence courses for extension agents in economics, sociology, planning, and development. Today INADES, headquartered in Abidjan, provides correspondence courses on agriculture for peasant farmers and agricultural extension agents, publishes a magazine on agriculture (*Agripromo*) and conducts seminars. Over the years, radio support programming has had an increasing role in the INADES program. National offices are located in Burundi, Cameroon, Chad, Ethiopia, Ivory Coast, Kenya, Rwanda, Togo, Upper Volta, and Zaire. Since its inception in 1962, over 43,000 rural people have completed INADES courses.

Distance teaching methodology represents a rich tradition of understanding how to use media in coordination with other system imputs and face-to-face communication; the application of principals of instructional design to radio curriculum development; and the application of formative evaluation processes to the development of instructional materials. These lessons have not been widely applied in support of extension.

Comprehensive Communication Systems

In the attempt to use communication media to increase the coverage and impact of extension systems in developing countries, many methods and techniques have been used successfully. There are also staff, often not well trained, in extension systems, information units, radio stations, and newspapers assigned the task of using their communication skills to reach farmers for specific limited objectives. But there are few examples where multiple methods have been brought together under the aegis of a comprehensive communication strategy and institutionalized as part of an ongoing extension system.

AID has been involved with at least one major effort to create this kind of system: the Basic Village Education (BVE) project in Guatemala (Ray, 1978). The BVE project experimented with various ways of using radio with face-to-face communication, particularly with variations of traditional farmer forums. In the process of doing this, the project trained permanent Ministry staff in communication skills and established materials development procedures to insure that integrated packages of relevant messages were delivered in the proper sequence at the right time through

appropriate media. The project served as a comprehensive communications support system for extension, although it stopped short of applying many of the social marketing and distance teaching techniques still evolving at that time.

Conclusion

The applications characterized here have shown many strengths. At their best, and particularly in combination, they have shown that communications can provide significant support for extension. But they have seldom been applied comprehensively, as a single ongoing communication support system, in extension. Lessons from social marketing in other sectors have not been exploited. Lessons from distance teaching have been underutilized. The networking and feedback functions of communication in extension have not been systematically studied, and methods to improve these functions have not been given adequate attention. Most importantly, few extension systems have gone far in institutionalizing comprehensive systems of communication support.

The potential for significantly increasing the coverage and impact of extension through the more sensitive and comprehensive use of communications is great. The history of past communication applications needs only to mature in the directions already started.

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