Chapter 7

The diffusion and participatory models: a comparative analysis[1 and 2]

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Communication is a key component of many overseas aid programs. Efforts to improve living conditions in the world's poorer areas through social service and infrastructure development are often accompanied by communication campaigns aimed at the general populace. Development communication has been defined as "the strategic application of communication technologies and processes to promote social change" (Wilkins, 2000: 197). The field of development communication is dominated by two conceptual models: diffusion and participation. These models have distinct intellectual roots and differing emphases in terms of program designs and goals. Comparing the objectives and outcomes of projects based on these models and querying the extent of the gap and the overlap between them is the central focus of this chapter. It examines published studies and working papers that report on specific interventions –commonly termed

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"campaigns" or programs[4]. Development projects have many goals, including educational, environmental, and economic improvement. This chapter focuses on –but is not strictly limited to– interventions concerning health, particularly infant health, HIV/AIDS, family planning, and general health promotion. It favors studies published in the last decade, and interventions carried out in what has come to be called the developing world –Africa, Latin America, and the less-industrialized countries of Asia.

The stated aims of these projects fall largely into categories that derive specifically from differences in the diffusion and participatory approaches. The diffusion model –named for Everett M. Rogers' (1962) diffusion of innovations theory– focuses on knowledge transfer leading to behavior change. The participatory model –based on ideas from Paulo Freire's (1970) *Pedagogy of the Oppressed* focuses on community involvement and dialogue as a catalyst for individual and community empowerment. Interventions based on any variety of the diffusion model center on mass media. Participatory campaigns concern interpersonal channels almost exclusively: group meetings, workshops, and sometimes localized "small media" such as community theater (Boeren, 1992: 47; Kalipeni and Kamlongera, 1996) or interactive posters (Laverack et al, 1997). Figure 1 summarizes the two approaches.

Figure 1. Summaries of diffusion and participatory approaches

Diffusion model

Definition of communication: information transfer - vertical
Definition of development communication: information dissemination via mass media

Problem: lack of information
Solution: information transfer: knowledge » attitudes » practice
Goal: outcome oriented: behavior change

Frameworks	*Types of interventions*
Modernization	Social marketing
Diffusion of innovations	Entertainment-education

Participatory model

Definition of communication: information exchange/dialogue - horizontal
Definition of development communication: grassroots participation via group interaction

Problem: structural inequalities/local knowledge ignored
Solution: information exchange/participation
Goal: process-oriented: empowerment, equity, community

Frameworks	*Types of interventions*
Social change/praxis (Freire)	Empowerment education
Social mobilization/activism	Participatory Action Research (PAR) Rapid Participatory Appraisal (RPA) Community Involvement in Health (CIH)

4 Although Eisele et al (2000) argue that there is a distinction between the meanings of "intervention" and "program", the terms will be used interchangeably here.

Although participatory communication is often defined in contrast to the more traditional diffusion model, the two are not polar opposites. The diffusion model has evolved in a participatory direction since its initial formulation, and participatory projects necessarily involve some element of information transfer. Nonetheless, most development communication projects tend to identify themselves quite clearly as belonging in one or the other category.

The studies included in this chapter were selected on the basis of the following criteria: each was an empirical study of one or more communication interventions that included information on the objectives and nature of the intervention, the method of evaluation, and the outcomes. Some studies that do not meet these criteria are referred to, but this review is based on studies for which that information is provided. All of the studies, regardless of their framework, were examined for evidence of outcomes identified with the diffusion model –that is, changes in knowledge, attitudes and practices– and outcomes identified with the participatory model –that is, empowerment, community building, and social equity. Figures 2.1 and 2.2 chart the objectives, methods, and reported outcomes of the same set of studies, grouped according to whether they are categorized as diffusion or participatory interventions. As exercises in data reduction, these figures are necessarily oversimplified and interpretive.

The studies included in this chapter comprise an opportunistic sample of working papers and published studies on development interventions. They were found through keyword searches for such terms as "health communication", "public health", "participatory research", and "community participation" on the ProQuest, First Search Sociological Abstracts, and other databases, as well as by tracing bibliographical and Internet references. Although the 45 projects examined do not constitute an exhaustive collection of relevant material, the inclusion of more studies seems unlikely to produce patterns undetected from this partial review.

While some projects' evaluations were manifestly more rigorous than others, for the most part researchers' assessments of outcomes are accepted at face value. There are several reasons for not delving into issues of research methods, reliability and validity, or justifications for claims about results. These reasons concern the amount of detail reported for each study, the pitfalls of trying to compare different types of outcomes, and the varying requirements of the journals in which these studies appear.

First, many of the studies reviewed here contain insufficient detail about how the evidence was gathered to gauge the quality of their conclusions. Some quantitative studies specify how their samples may or may not represent the population of interest, but not all of the articles include this information. Most of the survey-based studies do not include copies of the questionnaires used or verbatim transcriptions of key questions. The absence of explicit information on sampling procedures and questionnaire content impedes assessment of survey validity. Likewise, the studies based on qualitative methods –the prevailing

approach for evaluating participatory projects– generally provide few details of their procedures. Evidence for claims of community empowerment comes in the form of brief excerpts from interviews or meetings, or descriptions of interactions. At times no evidence is provided; the researchers simply assert that empowerment has occurred. These problems are exemplified by the author of a participatory study who flatly rejects standard evaluation norms, and then makes a claim about results:

> This presentation of findings neither evaluates the project nor establishes cause-and-effect relationships between specific project activities and certain participatory outcomes. Notwithstanding, some relationships are evident… The data show that, over time, the [subjects] thrived as individuals and as a group and became known and respected in the community (Dickson, 2000: 195).

Without extensive descriptions of contexts, interactions and other bases for researchers' interpretations of events, it is difficult to assess claims based on ethnographic methods such as participant observation.

A lack of methodological exposition is not unique to this body of material. A team of researchers reviewing write-ups of community action health programs found that none of the 17 articles they looked at provided sufficient information on "sampling and control procedures, reliability and validity of instruments, analysis techniques, and specification of details of the intervention" to allow "rigorous scientific evaluation" of the studies (Hancock et al, 1997: 229). A review of nutrition education projects similarly found that "[d]etailed descriptive information about the program setting or context and the communication or education strategy are commonly lacking" (Cerqueira and Olson, 1995: 57), and a review of 41 articles about HIV/AIDS prevention campaigns concluded that "conceptual and methodological rigor in reporting fundamental communication components can be improved" (Myhre and Flora, 2000: 41).

The second reason that this chapter does not deeply scrutinize methods is that there is a question of comparable measurability. Participatory outcomes of empowerment and equity do not have agreed-upon conceptual or operational definitions, and consequently are less amenable to measurement than such outcomes as the percent change in vaccinations before and after a campaign or even slippery hypotheticals such as the intention to use contraception in the future. As Eng Briscoe and Cunningham say, "Participation is not an objective that exists in specific quantities or that can be measured in particular units to be compared over time", nor is it "simply a yes-no variable that is either present or absent" (1990: 1350). Laverack et al (1997: 26) put this more starkly: "it is not very clear what measures of outcome can be used for demonstrating that an individual or group has become 'empowered'".

Finally, although most published articles have been subject to peer review, studies written up in different types of journals focus on different aspects

of the research process and supply varying depth of detail. To compare the participatory and diffusion frameworks, the studies must be taken seriously, not rejected out-of-hand for providing insufficient evidence to support their claims. For all of these reasons, the studies discussed here are for the most part examined and evaluated on their own terms[5].

Outcomes - diffusion framework

Many development interventions are in effect advertising campaigns for such "products" as contraception or immunizations. The use of established advertising techniques to promote development goals via media such as TV, radio, newspapers and billboards is termed social marketing (Kotler and Roberto, 1989: 24). Social marketing has adopted not only the forms of marketing, but also its tools: consumer research, pretesting, and audience segmentation (Backer, Rogers and Sopory, 1992: 32). Most media-based development projects can be placed into the social marketing category.

Social marketing campaigns have produced varying degrees of success. At one end of the range of outcomes are studies that found little or no effect for mass media interventions. For example, a childhood immunization campaign in Zaire that included print and radio material and the training of health workers found that while radio listening did lead to increased knowledge about immunization among poorer, less-educated people, this knowledge was not extended into practice: "no evidence was found that radio spots or programs about immunization influenced people to have their children immunized" (Yoder, Zheng and Zhou, 1991: 38). A study of a campaign to distribute Vitamin A to children in Central Java found increased use of the vitamin, but statistical analysis of survey data showed that this was not attributable to the media campaign (McDivitt and McDowell, 1991). A study of a Nigerian media campaign promoting immunizations found a limited correlation between radio exposure and knowledge about whooping cough (Ogundimu, 1994: 236).

Other studies found some effects traceable to mass media. Results of a Bolivian family planning campaign featuring 11 TV and radio spots showed campaign exposure associated with increased knowledge, positive attitudes, and, to a lesser extent, increased adoption of contraception (Valente and Saba, 1998).

Two family planning campaigns –one in The Gambia and the other in Mali– combined social marketing and entertainment-education techniques, with interestingly contrasting results. The campaign in The Gambia resulted in improved knowledge, attitudes and practices in people with no education who heard the campaign's radio drama (Valente et al, 1994: 98). This association was reversed in Mali. Evaluators of a multimedia campaign found that uneducated

5 For critiques of development communication research see Yoder, Hornik and Chirwa (1996); Sherry (1997); McKillip (1989); Servaes (1999: 95-117). Freedman's (1997) critique discusses selection bias; Westoff and Rodríguez (1995) discuss problems of inferring causal direction.

respondents were not affected by campaign exposure, while those with some schooling were (Kane et al, 1998: 320).

Other projects have claimed broad success with social marketing techniques. A media campaign in the Philippines had clearly positive effects: "The evidence suggests that the mass media information campaign was largely responsible for the improvement in vaccination coverage" (McDivitt, Zimicki and Hornik, 1997: 111). Also in the Philippines, an evaluation of a TV-based social marketing campaign to decrease fertility found an increase in modern contraceptive use, judged to be a significant direct effect of the communication intervention (Kincaid, 2000). Data from a project in Nigeria "suggest very strongly that mass media interventions can play a major role in promoting family planning use in certain situations" (Piotrow et al, 1990: 272). An analysis of Demographic and Health Survey data in Kenya found that "mass media can have an important effect on reproductive behavior" (Westoff and Rodríguez, 1995: 31). A study of a family planning campaign in Tanzania asked whether a message gained effectiveness by being carried in a variety of media. The researchers concluded that multiple exposure to a message via different media "had an incremental effect on contraceptive use". That is, the more media sources a woman was exposed to, the more likely she was to adopt contraception (Jato et al, 1999: 65-6.)

A subset of social marketing is entertainment-education, which has been defined by leading U.S. proponents in classic diffusion terms as "the process of purposely designing and implementing a media message to both entertain and educate, in order to increase audience knowledge about an educational issue, create favorable attitudes, and change overt behavior" (Singhal and Rogers, 1999: xii). Entertainment education messages may be carried by, for example, a soap opera or popular song specifically written for that purpose, or in vignettes inserted into variety shows. The key characteristic is that the media fare is not presented in an overtly didactic way; it is presented and meant to be consumed as entertainment.

Big claims have been made about the power of the entertainment-education strategy. For instance, "[e]ntertainment –through television, radio and music– is one of the most effective communication strategies for reaching the public to promote family planning and other public health issues" (Singhal and Rogers, 1989: 39). Yet an examination of empirical studies reveals that not all interventions have achieved the desired effect. Researchers in India, for example, found that while exposure to a prosocial soap opera did elicit viewer involvement with the characters, it did not achieve its central aim: "a single TV series did not significantly affect viewers' awareness of beliefs that promote womens' status" (Brown and Cody, 1991: 135). An examination of a radio soap opera in Zambia designed to disseminate information about AIDS found changes over time in some behaviors, but "little credible evidence… that exposure [to the radio drama] produced effects on risky behavior related to AIDS or on knowledge or other outcomes" (Yoder, Hornik and Chirwa, 1996: 200). A meticulous review of the reported outcomes of 20 entertainment-education soap operas led John Sherry

to conclude that "the best-designed research using powerful statistical controls suggests no significant effects on knowledge, attitudes or behaviour which can be attributed to the soap operas" (Sherry, 1997: 93).

Nonetheless, many entertainment-education projects have been judged to be successful. A group of researchers studied radio soap operas promoting family planning in four African countries. They found it difficult to separate out the effects of radio drama from other factors but concluded that "the evidence strongly suggests that the soap operas do motivate many listeners to adopt modern contraceptive methods" in Ghana (Lettenmaier et al, 1993: 9). Another finding of positive effects comes from Piotrow et al, who state that entertainment-education material inserted into popular TV programs "influenced knowledge about clinic services and contributed to increased clinic attendance" in a family planning campaign in Nigeria (Piotrow et al, 1990: 269). Everett Rogers and his collaborators conducted a field experiment to examine the effects of an entertainment-education radio soap opera meant to encourage family planning in Tanzania. One area of the country received radio broadcasts; another did not. Using a variety of measures, they found that the soap opera had "strong behavioral effects on family planning adoption" (Rogers et al, 1999: 193). Douglas Storey et al (1999) attribute a direct effect on Nepali family planning attitudes and use of contraception to a radio drama.

Entertainment-education has been enthusiastically embraced by many development communication practitioners (Singhal and Rogers, 1999; Lettenmaier et al, 1993; Piotrow et al, 1990). Entertainment-education television and radio programs tend to be highly popular with audiences (Singhal and Rogers, 1989; Brown, 1991: 118; Lettenmaier, 1993: 7; Ume-Nwagbo, 1986: 161). Their generally high production values may be a factor in their popularity, but, crucially, the programs are produced in local languages, and feature local settings and situations. It is increasingly recognized in media studies that audiences favor local content when it is available (Hoskins, McFadyen and Finn, 1997: 32-5; Straubhaar 1991). Perhaps some of the enthusiasm among practitioners for entertainment-education interventions is due to the indubitable popularity of the shows, which would be evident to researchers in the field. But popularity is not equal to efficacy. Their popularity indicates that these shows entertain; the mixed results of these studies suggest that they do not always educate.

The projects discussed above relied on mass media as the agent of message diffusion. But an aspect of development campaigns that shows up in study after study is the contribution of interpersonal communication to behavior change. The link between media messages and interpersonal communication has been highlighted by communications researchers dating back as far as Lazarsfeld, Berelson and Gaudet's classic formulation of the two-step flow process (1944) and Everett Rogers' *Diffusion of Innovations* (1962).

Kathleen K. Reardon and Everett M. Rogers stated in 1988 that "almost every diffusion study finds that peer networks play an especially crucial role in deci-

sions to adopt a new idea" (1988: 295). This observation led them to term the academic divide between interpersonal and mass communication a "false dichotomy". Substantiating this claim, many studies reviewed here noted the role of media in sparking interpersonal communication, which in turn leads to changes in behavior. While some campaign planners deliberately sought to encourage interpersonal communication, others were surprised to discover that post-campaign evaluations revealed a significant role for interpersonal communication.

One channel of interpersonal communication is the health system. When health promotion campaigns attempt to stimulate demand –for contraceptives, immunizations or other health services– contact with health system personnel becomes a source of information. Evaluations of several development communication interventions explicitly examined interpersonal communication through the formal channel of the health system.

As with other types of interventions, these have had mixed results. Some showed media to be more influential than interpersonal communication. A family planning campaign in Zimbabwe used an entertainment-education soap opera, print material and "motivational talks" to encourage men to take a more active role in family planning. In this case, the interpersonal channel was not judged effective; researchers found that "[b]ecause of radio's extensive reach, the soap opera was responsible for changing the behaviour of more than four times as many men as the pamphlets and motivational talks combined" (Lettenmaier et al, 1993: 9). Similarly, an evaluation of an immunization campaign in the Philippines found that exposure to campaign messages through mass media, not through contact with health workers, resulted in increased knowledge, which led to increased practice. The researchers do not mention the role of informal interpersonal channels, but focusing on the Philippine health care system, they establish that "contact with or information from organized interpersonal channels did not contribute to the change in vaccination knowledge" (McDivitt, Zimicki, and Hornik, 1997: 111).

Some campaigns have shown the converse, with formal interpersonal communication proving the key to behavior change. A study of a media-based immunization campaign in Nigeria found the vast majority of respondents naming the clinic or health personnel as the most important source of vaccination information with a far smaller percentage of respondents citing radio messages as their information source (Ogundimu, 1994: 233). In Zaire, formal interpersonal communication channels in a child health campaign accounted for an improvement in practice. Radio messages had scant coverage, and some print materials were not distributed. Thus the bulk of this campaign was interpersonal. Researchers attributed improved health behaviors to the training of health workers and volunteers and suggest that "intense interpersonal training may produce changes in behavior among a small number of people in a short amount of time" (Yoder, Zheng and Zhou, 1991: 13).

Clearly, interaction with health service workers can be significant in development campaigns. But, as much research has indicated, a salient factor in

many people's decision-making is informal interpersonal communication with friends, family, peers, and other potential opinion leaders, innovators, or early adopters. Mass communication can trigger such interpersonal communication.

A study of a family planning campaign in The Gambia found that exposure to an entertainment-education radio drama "was associated with interpersonal communication about contraceptives with partners or friends" and that these discussions, rather than the radio programs directly, led to increased clinic visits (Valente et al, 1994: 99). A family planning campaign in Ghana (Hindin et al, 1994), and family planning and AIDS campaigns in Tanzania (Rogers et al, 1999; Vaughan et al, 2000) report similar findings.

Patil and Kincaid (2000) examined an AIDS education social marketing campaign in the Philippines. They found that the campaign did not affect knowledge about AIDS, which was already at a high level in the country. Practice –condom use– did improve, however. Statistical analysis of survey data uncovered an unanticipated relationship. Campaign messages and either the intention to use condoms or current use of condoms were not, as the researchers had expected, directly related. Rather,

> [t]hese analyses reveal that there are myriad indirect paths for information to process from a campaign to behavior change and condom use through interpersonal communication and perception of peer use of condoms. In fact, it is the indirect exposure not direct exposure that creates the path from the campaign to the desired behavior (Patil and Kincaid, 2000: 17).

The researchers' collapsing of responses indicating intention to use condoms and current use of condoms together into the "behavior" category might be questioned, but that does not affect the issue under examination here: the distinction between direct campaign exposure and indirect exposure through interpersonal channels.

While Patil and Kincaid reported an unforeseen finding of the importance of interpersonal communication, some communications interventions rely on this channel. Family planning campaigns are often designed to encourage spousal communication about contraception, which has been shown to be associated with contraceptive adoption (Rogers et al, 1999). Storey et al evaluated a campaign that used entertainment-education, health worker education and other tools to promote family planning in Nepal. Among the explicit means of doing so was promoting husband-wife discussions of contraception. The researchers found significant effects of the campaign "primarily through its effects on interpersonal communication about family planning" with health personnel and spouses (1999: 290).

Several studies posed research questions about the relative merits of interpersonal and mass media channels in achieving behavior change. Valente and Saba (1998) explicitly sought to compare the influence of mass media and interpersonal communication in a family planning campaign in Bolivia. They

found that media exposure led to increased knowledge and attitude change, and to interpersonal communication itself, which was more strongly associated with behavior change. They also found that media could, in effect, substitute for personal contact by providing information to those respondents who did not have contact with contraceptive users (1998: 114-16). A media and interpersonal communication campaign to improve children's nutrition in Bangladesh signaled the importance of interpersonal communication aspects of the campaign, particularly in lower SES households (Hussain, Aarø and Kvåle, 1997: 108). Employing multiple research methods to evaluate an entertainment-education and health worker training family planning campaign in Nepal, Storey et al found that interpersonal and mass communication interacted in significant ways to promote behavior change (Storey et al, 1999; Boulay, Storey and Sood, 2000).

Outcomes - participatory framework

The evaluation of participatory campaigns has a dual focus, because these campaigns have two sets of goals. They seek to achieve some specific development end –referred to as an outcome and evaluated by "outcome indicators"– and also to empower communities via participation –referred to as process and evaluated by "process indicators". Evaluation of outcomes can be undertaken by observation of results such as clinic records. Evaluation of processes, empirically a less straightforward undertaking, was often a greater focus in the studies reviewed here. This is complex territory, in great part because the lack of agreed-upon definitions of community, empowerment, or participation (Manderson, 1992: 9; Gumucio-Dagron, 2001: 8).

This "conceptual fuzziness" (Huesca, 2000: 75) notwithstanding, researchers involved in participatory projects found evidence of success in their case studies. Dickson examined a Canadian health promotion project for older Aboriginal women. The women participated in meetings, planning committees, workshops, and consultations with government organizations concerning health education and services. Dickson's case study focused on process indicators. Citing as evidence brief excerpts from gatherings, she found: "many examples of the [subjects] reaching out and establishing external community connections, relationships, and partnerships; learning more about and critically analyzing community issues that are important to them; becoming activists, speaking out on issues and being involved in decision-making; and being recognized and honored by the community at large" (Dickson, 2000: 207).

Purdey et al report on participatory projects in Nepal that were part of a Canadian initiative to support community-based participatory development. The participatory aspect of this project began with community members choosing the projects to be supported. One project concerned irrigation. Villagers' attempts to build a reservoir had not succeeded, and the outside facilitator worked with them "to enhance the reservoir group's interaction skills and confidence", to encourage "everyone, regardless of caste or gender to participate and

have their say", and to promote liaison with government agencies. As outcomes, the researchers report that reservoir was near completion when the article was written, and the group "gained confidence in their ability to work together and influence agencies… [and] overcome not only physical, bureaucratic and interpersonal difficulties but also the dependency attitude unwittingly created by outside development agencies" (Purdey et al, 1994: 334).

A write-up of another project supported by the same agency similarly concluded with a list of "empowerment outcomes" noted by the researchers: "a strong sense of community identity, an open decision-making structure, many people with recognized leadership skills… increased sensitivity toward gender and social equality, heightened self confidence in dealing with local issues, better two-way awareness of/interaction with resource agencies" (Purdey et al, 1994: 342).

Wallerstein, Sanchez-Merki and Dow describe a project to reduce morbidity and mortality among high-risk adolescents in New Mexico. This high school-based intervention was meant to facilitate community activism through "empowerment education". The program consisted of 7-week intensive workshops with at-risk youth. In this case, the participatory aspect of the project consisted of group discussions of possible "action strategies to make healthier choices for themselves and their communities" followed by work in a peer-education program or a community action project. To evaluate the program, in addition to observation and interviews, the researchers administered a questionnaire to participating students and control students. They found that youths who participated in the intervention showed a statistically-significant increase in "socially responsible efficacies" compared to the control population (Wallerstein, Sanchez-Merki and Dow, 1997: 196-7, 206).

Another type of participatory project was a "healthy lifestyle" project in Australia. The intervention was designed to encourage health behavior to prevent obesity, diabetes and cardiovascular disease in an Aboriginal population susceptible to these conditions. This program was participatory because community members worked with a nurse-educator to identify factors contributing to the high level of diabetes in the community and then designed a program of diet and activity changes. Aboriginal health workers were employed by the project, which included education and exercise sessions.

Program outcomes were evaluated through interviews and the analysis of clinical data. In terms of outcome measures, tracking four years after the start of the program showed a significantly reduced percentage of sedentary people and a significantly greater proportion of people reporting attempts to lower their fat and sugar consumption, but no decrease in diabetes prevalence in the community. Program participants showed some improvement in some clinical measures. In terms of process measures, six years after its inception the program was still in operation, had community support, and was run by community members. This, state the reseachers, is "in our opinion, a measure of success in itself" (Rowley et al, 2000).

In some cases, researchers noted that participatory goals may have been overambitious. Laverack et al evaluated a child health education campaign in Ghana. The participatory aspect of the campaign took the form of community workshops to develop health education materials for use in schools and clinics. The materials included such things as interactive posters and other materials designed to contribute to participatory learning. The outcome variable analyzed was simply whether the materials were used –that is, whether people in the target audiences had been exposed to and liked the materials. The researchers found that for various reasons, the materials were not being used as extensively as the campaign planners had envisioned. Looking at the process, the researchers comment, "situational factors posed genuine problems to the wider use of empowerment approaches and we often had to resort to a 'semi-participatory' approach" (Laverack et al,1997: 25).

The planners of a Navajo breastfeeding project in New Mexico also found that the reach of their empowerment goal exceeded their grasp: "the initial goal of community empowerment with reference to infant feeding and health was clearly beyond the scope and time frame of this project, and required skills and connections beyond those already present… it was necessary to scale down this goal" (Wright et al, 1997: 637).

Sarri and Sarri point out that "work and daily survival requirements constrained participation" in participatory projects they were involved with (1992: 118). Rifkin has suggested that participatory interventions, whether rooted in target or empowerment frames, have set "unrealistic expectations". Reviewing several community health worker projects, she concludes that community participation is an elusive concept and that health and social service professionals have been unable "to manipulate social change in the direction of their own preconceived notions of progress and development" (1996: 84-9).

A different sort of criticism of the empowerment model comes from Brunt, Lindsey and Hopkinson who ponder "the dilemma posed when the worldviews of one culture are juxtaposed with those of another" (1997: 19). Getting away from such top-down imposition was part of the initial impetus for the participatory model. Yet, working with the rural ethnic Hutterites –a traditional religious sect in Canada– the researchers found themselves

> challenged by the prospect of working with a culture in which an emancipatory, grassroots approach runs counter to community norms, expectations, and desires. For example, the approach of holding forums open to all members of a community is consistent with the process of empowerment… However,… [the Hutterite] deference to hierarchy rendered the grassroots approach, which is ideally predicated on widespread community participation, largely ineffective (1997: 25).

Criticizing "the ethnocentricity of empowerment", Brunt, Lindsey and Hopkinson conclude that the imposition of this model "may unwittingly undermine Hutterite cultural and spiritual values" (1997: 25-6).

Ends/means

Diffusion and participatory interventions tend to define their objectives in terms of diffusion and participatory ends. Few studies mention outcomes related to the other framework. Part of this disjuncture derives from the different methods of data-gathering favored by each approach. Certain sorts of results are amenable to certain sorts of measurement. Researchers are unlikely to find what they are not looking for and unlikely to look for what they do not believe they can measure. Nevertheless, there is some overlap not only in the aims but also in the outcomes of projects based on each of these frameworks.

Participatory communication interventions necessarily have goals beyond the primary Freirian ones of empowerment, equity, and community-building. Each project has a specific focus. While most participatory studies examined here claim at least some success in achieving participatory goals, some, though not all, also discuss the behavior changes that are the underlying rationale for the interventions. Some studies include little information on these. For example, Dickson (2000) concentrates her discussion on the empowerment outcomes of a health program for Aboriginal Canadian elderly women, mentioning but not detailing "knowledge and skills developed in some areas" (2000: 212). Hildebrant (1994) outlines a scale of "process criteria" for judging interventions but does not detail either process or outcome results.

Studies that do note outcomes as indicated by ethnographic measures include Purdey (1994), Sarri and Sarri (1992), and Wallerstein, Sanchez-Merki and Dow (1997), all of which claim that community members became increasingly empowered over the course of the projects. Other participatory studies measured outcome indicators with clinic statistics. Rowley (2000) found some health behavior change in an Aboriginal Australian community, Wright (1997) found improved breastfeeding practices in Navajo mothers. These types of outcomes are typical of those sought in projects based on the diffusion model. Notably, both of these outcomes are demonstrated by statistical analysis of clinic data, which allows findings characteristic of diffusion studies.

Few diffusion studies explicitly mention the types of outcomes typically sought in participatory projects. Nonetheless, diffusion campaigns may well reduce social inequality, an outcome consistent with goals of participatory interventions, by extending health care to all levels of society. Just such a finding was made in Ecuador's broad-based child immunization campaign. Asking whether the campaign's effects were "equitably distributed across the socioeconomic spectrum", evaluators found that compared to previous immunization efforts, which had resulted in much greater immunization coverage in higher socioeconomic strata, the increases in immunization coverage "were shared at least equally among social groups and possibly were relatively larger among the worse-off groups" (Hornik et al, 1991: 4).

Other diffusion studies that mention participatory ends include a radio-based family planning campaign in The Gambia that was felt to have "an

empowering influence" on uneducated respondents because "other forms of education rarely reach these women directly" (Valente et al, 1994: 100), and an entertainment-education soap opera in Tanzania, which was found to produce the empowering outcome of increasing "listeners' sense of self-efficacy with respect to family-size determination" (Rogers, 1999: 205).

Combinations of participatory and diffusion approaches

The studies described so far are clearly self-identified as diffusion or participatory in approach. Several studies straddle the approaches in interesting ways.

A literature search produced only one study that explicitly tested participatory and diffusion approaches to health communication against one another. Krishnatray and Melkote (1998) designed an experiment to compare condensed versions of two existing programs in India that sought to further the treatment of leprosy by destigmatizing the disease. Subjects from three villages were assigned to either a diffusion group, a participatory group or a control group, with approximately 90 subjects per group. Each subject attended a one-day health education camp. The diffusion group was exposed to clinical information via video and slides; the participatory group engaged in dialogue with leprosy patients and health workers. Statistical analysis of pretest and posttest surveys showed that the participatory treatment was more effective than the diffusion treatment in effecting destigmatization. While they acknowledge the limitations of the laboratory setting, the researchers do not address other methodological matters such as how subjects were recruited or the comparability of the three villages. Moreover, this study might be better categorized as a comparison of teaching methods than of participatory and diffusion approaches. It does not meet the participatory criterion of some sort of community input into an intervention[6].

Two other studies merit examination for the ways they link participatory and diffusion approaches and for their insightful analyses. Both of these studies describe process indicators related to the participatory aspects of the projects, and use quantitative measures as evidence for their conclusions about the outcome indicators –health behaviors.

A campaign to promote breastfeeding on the Navajo reservation in Arizona used techniques drawn from both social marketing and participatory frameworks. It began with an ethnographic study of Navajo perceptions about breastfeeding, carried out by Navajo researchers. Using the findings from this formative research, the intervention was designed to address barriers to breastfeeding. At the level of the health system, the program educated health care workers. At the community level, the intervention took the form of a social marketing campaign. At the individual level, education materials were produced for new mothers. A layer of interpersonal communication was built in to the project:

6 As has been noted, some other interventions that bill themselves as participatory projects are similarly lacking in grassroots input (e.g. Antunes, 1997; Díaz, 1999; Pribadi, 1986).

an elderly volunteer visited the maternity ward of the Indian health service hospital to talk with mothers about the benefits and procedures of breastfeeding. The participatory aspects of the program consisted of the collaboration with community members in the initial research and the preparation of materials, and "numerous attempts… to facilitate local discussion of the issues involved in infant feeding" (Wright et al, 1997: 631).

The program was evaluated through examination of medical records for all babies born the year before and the year after the intervention. These data showed statistically significant improvement in breastfeeding practices, including initiation, duration, and age at which formula was introduced, following the intervention.

This program doubtless owes its success to its carefully targeted intervention, its multiple message channels, and the cultural awareness embodied in its design and execution. Its clean evaluation is due in part to unusual characteristics that made it possible to study the entire community: most Navajos use free Indian health service facilities, and standardized medical forms include information about infant feeding practices (Wright et al, 1997: 636). These factors allowed the straightforward assessment of the intervention's success in achieving its outcome goals. Its process goals, however, were judged to have been less successfully met and were scaled down during the course of the project (Wright et al, 1997: 637).

A second study linking participatory and diffusion frameworks employed quite a different research method. Eng, Briscoe and Cunningham set out to discover whether there existed a relationship between community participation in water supply projects and participation in other primary health care activities. To answer this question they compared villages in two countries that had community-based water supply projects funded by the U.S. Agency for International Development. Togo and Indonesia were selected as having the best-matched sets of communities. For each country the researchers collected data from 30 villages: 10 with participatory water supply projects, 10 with non-participatory water supply projects, and 10 with no water supply projects.

As a gauge of community participation in other primary health care activities, the researchers selected participation in an immunization program –an activity that is not directly influenced by water supply, and for which detailed data are available. Analyzing immunization records, they found that villages with participatory water supply projects had consistently higher immunization rates on the immunization series selected as a measure than had the other two sets of villages. The researchers convincingly ruled out the possible alternative explanation that the findings were due to pre-existing differences between the types of villages that were chosen for participatory water projects. They thus demonstrated that immunization –a goal typically addressed by diffusion programs– can be achieved as a spillover effect of community participation in another social realm (Eng, Briscoe and Cunningham, 1990).

Problems of measurement

The examples discussed so far suggest that the difficulties of assessing what works and of comparing the two frameworks are exacerbated by measurement issues, particularly the gulf between the types of measurement typically used in diffusion and participatory research. In some sense comparing these two models is a question of apples and oranges. Participation and diffusion approaches have differing underlying frameworks. Although both approaches share the objective of improving health or other social conditions, participatory studies tend to focus more on the goals related to the empowerment ends than the behavior change ends. Program strategies differ: interventions in diffusion studies are centered on mass media; in participatory studies they are centered on interpersonal interaction.

Measurement tools also differ. Most diffusion studies are based on quantitative survey data; most participatory studies are based on participant-observation and other qualitative ethnographic methods. It is difficult to compare results obtained by such disparate means. This, too, has been found to be the case in other research reviews. Researchers evaluating literature on AIDS/HIV prevention campaigns encountered "many conceptual and measurement inconsistencies across studies" that hampered comparisons (Myhre and Flora, 2000: 41). A group of specialists assessing the evaluation of malaria intervention projects in Africa found it difficult to compare study results because the studies did not have a common set of "standardized outcome indicators" for gauging outcomes (Eisele et al, 2000: 3). It might be too much to ask diffusion and participatory studies to share "standardized outcome indicators" but even within the category of participatory studies, "there is little consistency in how community participation is conceptualized and subsequently measured" (Eng, Briscoe and Cunningham, 1990: 1350).

For these reasons it seems pointless to try to compare these studies as if they were apples and apples. What can be said is that many studies claim some success and that few studies claim complete success for the projects they evaluate. It should further be noted that this review of research may be overstating the achievements of development communication interventions; as research analysts have pointed out, published studies are biased towards successful campaigns (Hornik, 1997: 53; Bauman, 1997: 667).

Crossover

The sometimes-vast philosophical differences between diffusion and participatory practitioners, added to the differences in campaign strategies and measurement methods, may exaggerate the apparent gap between the approaches. Comments from studies lodged in each of these frameworks acknowledge the need for elements of the other framework.

Many diffusion studies conclude that community participation is important in development interventions. While it has been noted that these days

development projects must at least give lip-service to the notion of participation (White, 1994: 16), some diffusion evaluations evince thoughtful reflection about the value of community participation. Evaluators of a project to encourage child spacing in Jordan acknowledged that the resources put into creating the campaign were wasted because the topic was considered too sensitive to be promoted in that country. Evaluators concluded with a hallmark of the participatory approach: "one lesson to be learned form this experience is the importance of local participation in the choice of topics to be addressed" (McDivitt, 1991: 3).

Correspondingly, a researcher criticized some family planning efforts in India, not, in this case, because of the nature of the topic, but again because outsiders' standards were imposed; campaign materials were based on United Nations-defined motives for adopting family planning that were shown to be irrelevant to the intended audience. "The reliance on international motives to reach local minds invites distortion and rejection of messages", commented William J. Starosta, who appealed for participatory communication: "The client must be given greater voice in defining his own needs… communication materials should reflect the input of… groups of villagers" (Starosta, 1994: 257-9).

Similarly, a critique of an immunization campaign in Nigeria criticized its top down approach and failure to conduct adequate research into the local context (Ogundimu, 1994). The success of a family planning intervention in Nigeria was attributed precisely to such research: "involving health workers and members of the intended audience in the process of message development proved invaluable", remark the evaluators, continuing with a statement straight out of the participatory communication canon:

> This process not only resulted in improved materials but also generated a sense of involvement in the process among health workers. Such involvement should be standard procedure in all communication projects, which need to emphasize that communication is a process, not a product (Piotrow et al, 1990: 266, 272).

While many diffusion researchers recognize the value of community participation, there also exists crossover in the other direction. Although participatory communication is often defined against the traditional diffusion model (Rockefeller Foundation, 1991; Cornwall and Jewkes, 1995; Laverack et al, 1997; Huesca, 2000: 74), evaluators of some participatory studies call for activities that fit clearly within the diffusion model of knowledge transfer.

One example of this is a Rockefeller Foundation report on communication for social change. Communication for social change is defined in participatory terms as "a process of public and private dialogue through which people define who they are, what they want and how they can get it… [it] empowers individuals and communities, it engages people in making decisions that enhance their lives…" (Rockefeller Foundation, 1999: 8, 18). Yet the report poses questions couched clearly in diffusion terms:

> can we create a 'transfer of knowledge' or type of curriculum that can be exported worldwide easily and economically? What's in such a curriculum? Who are the trainers?… How do we reach people in those areas of the world most in need of this knowledge but who have the smallest number of resources to access such training? (Rockefeller Foundation, 1999: 24).

Hildebrant explained the expansion of community participation and the consequent reduction in involvement of researchers and other outsiders in a South African health project in terms that suggest the diffusion model: "The amount and level of activity of the two groups varied inversely as expertise and organizational abilities of the outside people were transferred to the community people" (Hildebrant, 1994: 284).

Another evocation of diffusion principles appears in a summary of community-based participatory efforts at malaria control: "Health education plays an important role in predisposing a community to intervention", says the researcher. Communities whose understanding of the causes and prevention of disease is not "in concordance with biomedical understanding" need "new information about disease transmission and vector control prior to the introduction of an intervention" (Manderson, 1992: 13).

These comments illustrate, if such an illustration is needed, the folly of trying to rigidly isolate these approaches from one another. Laverack et al, noting that participatory and diffusion methods "are often presented as mutually exclusive", make a case for combining them: "a suitable strategy for many programmes will probably be a pragmatic mix of both approaches", a combination they term "semi participatory" (1997: 26).

The generalized goal of community participation is not just a reflection of contemporary views concerning respect for all cultures. It is also increasingly recognized by diffusion-oriented policymakers as a means to enhance the effectiveness of development programs. On the other hand, even in the most grassroots-level participatory efforts, information does need to be passed along; people need to learn skills and gain knowledge to better take control of their lives. This possibly troubling aspect of participatory programs was noted by some authors:

> The analysis also… provides… evidence that that shows that successful community-based programs require a substantial, sustained input from properly-trained external collaborators in the planning, execution and operation phases of a project (Eng, Briscoe and Cunningham 1990: 1358).

Participatory communication activist and scholar Jan Servaes echoes this point.

> Participation does not imply that there is no longer a role for development specialists, planners, and institutional leaders. It only means that the viewpoint of the local public groups is considered before the resources for development projects are allocated and distributed and that suggestions for changes in the policy are taken into consideration (Servaes, 1999: 157).

Such comments and examination of the studies reviewed here suggest that, like the claim made by Reardon and Rogers (1988) about the spurious distinction between interpersonal and mass communication, the distinction between participatory and diffusion approaches may be justifiably described as a false dichotomy.

Conclusion

This analysis has reviewed development communication projects for evidence of successful outcomes linked to the goals of diffusion and participatory approaches. Examination of many studies shows that many types of interventions produce at least some of the desired results, but under different conditions they produce different results, some more successfully than others.

One reason that it is difficult to discover a pattern of successful techniques is that most campaigns use some combination of strategies, but they do not use the same combination. Strategies vary depending on local needs, resources and politics, and program aims. It can be difficult, then, to sort through and attribute change to one or another piece of an overall campaign or to a certain combination of factors.

The Rockefeller Foundation report on communication for social change makes this case in terms of participatory projects: "Because dialogue and debate are the immediate objectives and are difficult to measure or attribute to any particular intervention, and because it is recognized that social change is likely to take a long time, this work is very difficult to assess and evaluate" (1999: 19). Concerning projects based on diffusion principles, Storey et al (1999: 272) similarly state: "the causes of any given health behavior change can be highly complex, so it is unlikely that any one message or act of communication will consistently produce action".

Certainly, the foregoing has revealed no clear pattern of success in development communication interventions. Interventions based on different theoretical models, communication strategies, measurement tools, and goals have met varying degrees of success at different times and in different places.

In the end, this chapter has been not so much about whether diffusion and participatory-based development campaigns achieve their goals but about why it's difficult to generalize about what works, or, stated in terms of the scientific method, what can be replicated. But the prospect of generalizability and replicability of development communication campaigns seemingly remains out of reach.

Jan Servaes makes a virtue of this lack of replicability: "each society must attempt to delineate its own strategy to development, based on its own ecology and culture. Therefore, it should not attempt to blindly imitate program and strategies of other countries with a totally different historical and cultural background" (Servaes, 1990: 38). It is not possible, maintains another scholar, "to identify a single solution to a complex set of problems which do not share a common history of creation" (Rifkin, 1996: 90).

One of the basic discoveries of the globalization of commerce is that blanket multinational strategies for selling products do not work. Instead, marketers are adopting local strategies based on research into the specificities of local cultures (Maxwell, 1997). In this case development communication practitioners, who have long employed techniques of research and message diffusion drawn from marketing, again echo the marketers, and perhaps even anticipated this fundamental tenet. Participatory communication analyst Susan B. Rifkin could be addressing a corporate boardroom when she asserts "community participation can be seen as a set of views and activities which reflect a solution to a specific set of circumstances. The process under which solutions develop might have some universal characteristics but the solution itself will be local" (Rifkin, 1996: 89). Even in the developed world, argue Hancock et al, interventions must be localized: "standard interventions may not be acceptable within the community setting. A standardized approach that includes flexibility to individual community variability may be more appropriate" (Hancock et al, 1997: 236).

Development communication researchers, like their marketing counterparts, have argued that foreign models and assumptions don't work (McDivitt, 1991; Starosta, 1994; Ogindimu, 1994; Brunt, Lindsey and Hopkinson, 1997) and that successful campaigns owe their success, at least in part, to their incorporation of local norms, vocabulary and understandings, not to mention participation (Wright et al, 1997; Marmo da Silva and Chagas Guimarães, 2000).

This may seem discouraging to campaign planners seeking a globally efficacious intervention template, but it is important to be aware that local communities retain their unique characteristics and expectations. Here, too, is a page from the marketers' book. For better or worse, Nike, Coke and Ford are finding that solid research into local norms and values enhances their ability to turn a profit by shaping products and advertising to specific audiences. As has been suggested by researchers from both participatory and diffusion schools of thought, such research and its skilled application can also enhance the ability of development communication practitioners to achieve their ends.

The gap between diffusion and participatory approaches is being bridged by proponents of both models, who knowingly or unknowingly have borrowed elements from one another. What will work in the local environment is not a question of which is the superior approach. It is a question of shaping project goals to community needs and finding the most appropriate means to pursue those goals.

Figure 2.1. Studies reviewed - diffusion framework

AUTHOR(S)	FRAMEWORK				OBJECTIVES									MEASUREMENT									REPORTED OUTCOMES							
	media: entertainment-education	media: social marketing	media + interpers	participatory	infant health	family planning	AIDS/HIV	other-health	other	empowerment	equity	democratization-community decis mkg	build ldrshp/organizational capacity	pre-post survey	pre-post panel	post survey	quasi/field experiment	focus groups/ interviews	participant-observation	clinic data	other qualitative	other quantitative	improved K	improved A	improved P	empowerment	equity	democratization-community decis mkg	build ldrshp/organizational capacity	collaboration with govt/other orgs
Bertrand et al. (3 sites)		X	X			X								X			X			X			X	X	X					
Boulay, Storey & Sood		X				X										X							X		X					
Brown & Cody	X								X							X														
Hindin et al.		X				X										X									X					
Hornik et al.		X	X		X									X				X							X		X			
Kane et al.	X	X				X								X									X	X	X					
Kincaid		X				X									X										X					
Kincaid et al.		X				X											X			X			X		X					
Lettenmaier et al.	X					X								X				X		X			X	X	X					
McCombie & Hornik			X				X									X		X					X	X	X					
McDivitt		X			X									X				X					X							
McDivitt & McDowell		X	X		X											X	X	X					X		X					
McDivitt, Zimicki & Hornik		X			X							X		X									X		X					
Ogundimu		X			X											X		X			X		X							
Patil & Kincaid		X					X								X										X					
Piotrow et al. Nigeria - a		X				X														X					X					
Piotrow et al. Nigeria - b	X					X										X				X					X					
Piotrow et al. Nigeria - c	X	X				X										X				X					X					
Piotrow et al. - Zimbabwe	X		X			X								X									X	X	X					
Rogers et al.	X					X								X			X			X	X	X		X	X	X	("self-efficacy")				
Storey et al.	X	X			X									X	X			X		X	X	X	X	X	X						
Valente & Saba		X				X								X	X								X	X	X						
Valente et al.	X	X				X								X				X					X	X	X	X					
Vaughan et al.	X						X							X			X					X		X	X	X	("self-efficacy")				
Westoff & Rodriguez	X	X				X																X		X	X						
Yoder, Hornik & Chirwa	X						X							X									X		X	(not causal)				
Yoder, Zheng & Zhou		X			X									X									X		X					

Figure 2.2. Studies reviewed - participatory framework

AUTHOR(S)	FRAMEWORK				OBJECTIVES									MEASUREMENT									REPORTED OUTCOMES							
	media: entertainment-education	media: social marketing	media + interpers	participatory	infant health	family planning	AIDS/HIV	other-health	other	empowement	equity	democratization-community decis mkg	build ldrshp/organizational capacity	pre-post survey	pre-post panel	post survey	quasi/field experiment	focus groups/ interviews	participant-observation	clinic data	other qualitative	other quantitative	improved K	improved A	improved P	empowement	equity	democratization-community decis mkg	build ldrshp/organizational capacity	collaboration with govt/other orgs
Antunes et al.				X			X			X				X											X					
Diaz				X		X							X					X		X	X				X			X		X
Dickson				X				X		X	X		X					X	X							X		X	X	X
Eng, Brisco & Cunningham				X	X												X	X		X					X					
Hildebrant				X				X		X											X				X	X				X
Hussain, Aaro & Kvale			X	X	X											X							X		X					
Kalipeni & Kamlongera				X				X		X		X							X	X		X		X	X	X		X		
Laverack, Sakyi & Hubley				X				X		X			X			X		X							X					
Purdey et al.- irrigation				X					X	X		X							X							X	X	X	X	X
Purdey et al.- stoves				X					X	X		X	X						X						X	X	X	X	X	
Rowley et al.				X				X				X		X						X			X			X		X		X
Sarri & Sarri - Bolivia				X				X					X						X							X		X	X	X
Sarri & Sarri - Detroit				X					X			X							X							X		X	X	X
Wallerstein, Sanchez-Merki & Dow				X				X	X	X				X				X	X							X			X	
Wang & Burris				X		X		X		X		X						X	X							X				X
Wright et al.	X			X	X					X										X	X				X					