

# Facilitating Large-scale Transitions to Quality of Care: An Idea Whose Time Has Come

Ruth Simmons, Joseph Brown, and Margarita Díaz

*In the field of reproductive health, investigation of the transfer of knowledge gained from demonstration and pilot projects to large public-sector programs typically has not been considered a relevant domain for research or other investigation. This article draws on a range of research in the social sciences and presents two frameworks for understanding the critical attributes of successful expansion of small-scale innovations. Seven key lessons are developed using examples from family planning where scaling up was an explicit objective, including the early Taichung Study of Taiwan, the Chinese Experiment in Quality of Care, the Bangladesh MCH-FP Extension Project, the Navrongo Project in Ghana, and the Reprolatina Project in Brazil. Unless small, innovative projects concern themselves from the outset with determining how their innovations can be put to use on a larger scale, they risk remaining irrelevant for policy and program development. (STUDIES IN FAMILY PLANNING 2002; 33[1]: 61–75)*

At the beginning of the twenty-first century, family planning programs have shown a measure of success in regions of the world where earlier little hope had been voiced, especially among those persuaded by structural and demand-side interpretations of demographic change. Family planning programs have drawn increasing criticism, however, for their lack of attention to quality of care and to more general reproductive health needs. The Program of Action approved at the International Conference on Population and Development (ICPD) held in 1994 in Cairo mandates that family planning programs adopt a reproductive health approach, address social and gender inequalities, and ensure adherence to appropriate levels of quality of care (UN 1994). The challenge for the twenty-first century will be to demonstrate how this shift can be accomplished on a large scale, especially in resource-constrained public-sector settings.

A key to accomplishing the ambitious ICPD agenda lies in understanding the transfer of reproductive health innovations from small-scale projects to large-scale pro-

grams. Impressive pilot, demonstration, and experimental projects from different parts of the world have shown that quality of care can be attained and a range of reproductive health needs addressed even in settings characterized by extreme poverty (Phillips et al. 1988). Many such projects have been cited in the recent effort to document progress five years after the Cairo conference (Population Reference Bureau 1999; Haberland and Measham 2002), although they generally fail to address the question of how the innovations they have tested can be expanded or “scaled up” so that they benefit regional or national programs. The results of many other projects are confined to the “gray literature” of project documentation and, therefore, largely go unnoticed.

The use of research findings and related experience from small-scale interventions in family planning for broader policy and program development has received little attention and is not commonly acknowledged as a problem requiring scientific research. This article draws attention to important insights about scaling up that can be derived from social science literature and a variety of field experiences.

Although the family planning literature has not paid sustained attention to issues of scaling up, some exceptions can be found. In several instances, a concern for scaling up was made part of the experimental or pilot project from its beginning. One of the first major family planning experiments in the world, the Taichung study, was deliberately designed to inform national policy and

---

*Ruth Simmons is Professor and Joseph Brown is Assistant Professor, University of Michigan School of Public Health, Department of Health Behavior and Education, 1420 Washington Heights, Ann Arbor, MI 48109–2029. E-mail: rsimmons@umich.edu. Margarita Díaz is President, Reprolatina, Campinas, SP, Brazil.*

program development in Taiwan.<sup>1</sup> Freedman and Take-shita (1969) and Cernada (1982) analyzed how research results in Taiwan were integrated into program experience. Another initiative, the Extension Project, organized by the International Centre for Diarrhoeal Disease Research in Bangladesh, was designed to transfer lessons from the successful Matlab Maternal and Child Health–Family Planning Project to the national program,<sup>2</sup> and the process of transfer was systematically examined (Phillips et al. 1984; Haaga and Maru 1996). In a third example, the strategic approach to contraceptive introduction pioneered by the World Health Organization (Simmons et al. 1997) has dedicated a major stage of work to the use of research findings for policy and program development. As an extension of this program, the Reprolatina Project in Brazil<sup>3</sup> is studying the process of how successful innovations tested in four municipalities can be made available throughout the country. Fourth, the Navrongo Project in Ghana was, from its inception, designed to avoid the problem of isolation of research from action.<sup>4</sup> The project is a collaboration between researchers and senior government officials. At all stages, results have been fed into the normal channels of government through memoranda, staff meetings, and internal Ministry of Health conferences (Nyonator et al. 2001).

If we look beyond the family planning literature to related areas of reproductive health (Gonzales et al. 1999), and beyond that to the international literature on hunger eradication, income generation, and child survival and nutrition, we can see that attention to scaling up increased considerably in the 1990s (Clark 1991; Edwards and Hulme 1992; Lovell and Abed 1993; Uvin 1995; Wils 1995; Uvin and Miller 1996; Wazir and Oudenhoven 1998; Marchione 1999; Sternin et al. 1999; Uvin 1999). Much of this research arose out of a broader interest in the role of nongovernmental organizations (NGOs) in the development field. This body of work provides a range of important lessons about scaling up and also attempts to present typologies of how NGOs have dealt with growth in their programs and projects.

This article draws upon research from several social science disciplines in an effort to develop broader frameworks and principles for understanding how innovations are transferred successfully from pilot projects to larger, public-sector programs. Among the studies that can inform discussions of scaling up are: (1) a body of scholarly work that explicitly studied the diffusion of innovation and the transfer of knowledge (Havelock 1971; Glaser et al. 1983; Rogers 1995); (2) the political science literature related to policy formation, agenda setting, and the diffusion of innovations within political systems (Walker 1969; Kingdon 1984; Mintrom 1997); and (3) theory and

research from the management and organization sciences (Lawrence and Lorsch 1969; Perrow 1978; Paul 1982; Ron-dinelli 1983; French and Bell 1995; Donaldson 2001).

Because the literature on the transfer of knowledge and diffusion of innovation is largely unknown in the international health and development fields, some of its central ideas are highlighted below. This literature alerts us both to the attributes that encourage successful transfer and to the difficulties that confront the broad replication of quality-of-care innovations. Pertinent insights from the political and organization sciences as they apply to the international scaling-up experience in family planning and health care are also discussed. Scaling up, which in the NGO literature is defined as “increasing impact” (Edwards and Hulme 1992: 14), is defined here as the deliberate transfer of quality-of-care innovations tested in pilot or experimental projects to large-scale public-sector health and family planning bureaucracies.

## Insights from the Knowledge-transfer Literature

In the decades following World War II, interest in the application of knowledge and especially in the diffusion of technology was strong. Technological innovations were multiplying, social science and applied research were thriving, and issues of social change—in both industrialized and nonindustrialized societies—attracted a great deal of attention. The diffusion of innovations, planned change, and the dissemination and use of research were the subject of many publications. For example, the bibliography of a major review of the literature on the diffusion of knowledge and the implementation of planned change by Glaser et al. (1983) consists of more than 2,000 entries; Rogers’ bibliography in his volume on the diffusion of innovations (1995) comprises more than 1,000 entries. Between 1964 and 1986, the Center for Research on the Use of Scientific Knowledge at the University of Michigan was dedicated to these issues. Similarly, in the field of family planning, interest in this subject was illustrated by the organization of a conference on the use of family planning research (Echols 1974, as cited by Cernada 1982), and of other professional meetings and activities. Although still pursued in the social sciences, these issues have become less prominent than they were in the 1960s, 1970s, and early 1980s.

The key question addressed in this body of work is how to ensure that new products, ideas, or exemplary practices will be put to use on a broad scale. The literature on the transfer of knowledge and innovations has identified a variety of factors that affect the successful

transfer of knowledge.<sup>5</sup> Distinctions are made among factors pertaining to: (1) the innovation itself, that is, the innovative product, process, or practice; (2) the change agency, resource, or sending system from which the innovation originates; (3) the potential users or the user system—sometimes also referred to as the receiving system; (4) the means of transmitting knowledge, also referred to as the dissemination–utilization strategy or the linkage process; and (5) the larger social system within which the transfer of innovation occurs.

In seeking to identify the determinants of the effective use of knowledge, several authors have established lists of variables or attributes that can be used in assessing the potential for innovations to be implemented in particular settings. These factors are derived from a variety of sources: case studies, clinical experience, and research projects that have used models of behavioral change and learning theory.

Figure 1 provides an overview of elements of the innovation-transfer framework, along with key attributes that were found to assure success in such a transfer. The large oval represents the social, cultural, political, and economic environment within which the resource system and the user system are located (for a discussion of the importance of this larger sociopolitical context, see Chunharas 2001). The small rectangle to the left within the oval depicts the innovation as well as the resource system (or change agency) that has tested the innovation. The small rectangle to the right side within the oval designates the user system, that is, the organization or pro-

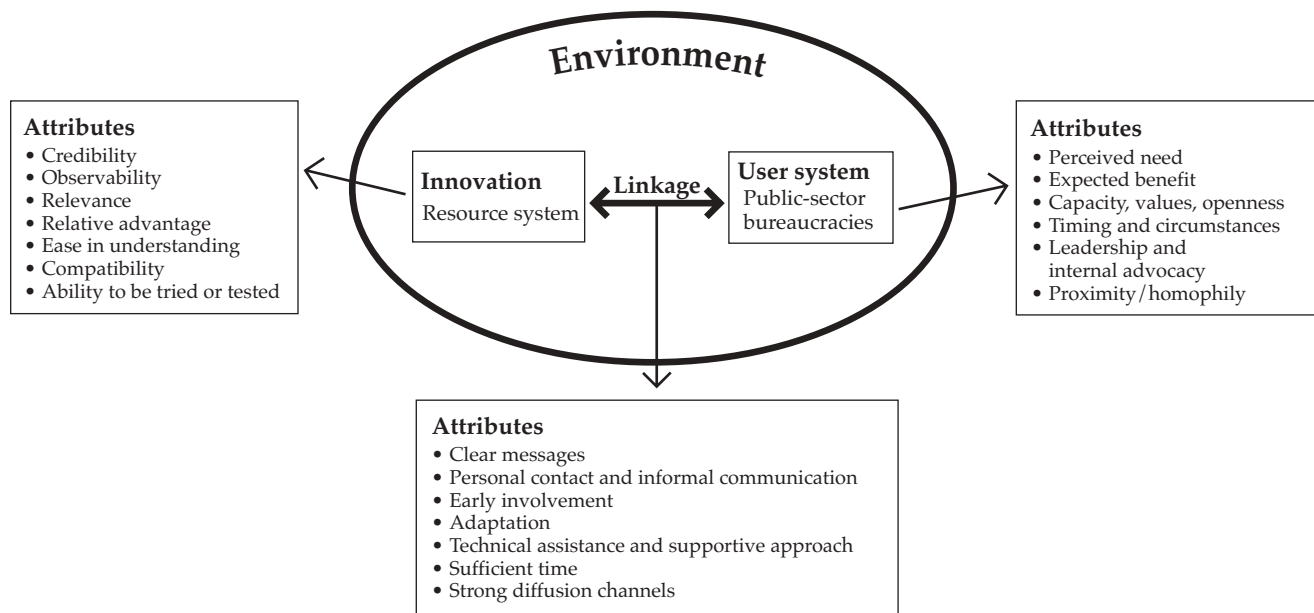
gram context within which the innovation is to be replicated and expanded. Connecting these two rectangles is an arrow, representing the linkage process, defined as the strategies for the communication, diffusion, or dissemination of the innovation. The arrow is pointing in both directions to highlight the importance of a two-way communication process to ensure that the transfer of knowledge succeeds.

Connected to the innovation, to the user system, and to the linkage process are three boxes outside the oval. These identify major attributes of each component that, according to the literature, contribute to a successful translation of new ideas, products, and exemplary processes into larger-scale practice.

### Attributes of the Innovation

Innovation is defined as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption” (Rogers 1995: 11). As Rogers points out, whether the idea, practice, or object is new or whether it is only perceived to be so matters little. If it is perceived to be new, it is considered an innovation. Glaser identified seven key characteristics of the innovation that were found to facilitate its wider application (Glaser and Taylor 1973, as cited in Glaser et al. 1983). Innovations must be: (1) based on sound evidence or espoused by respected persons or respected institutions in order to be credible; (2) observable to ensure that potential users can see the results in practice; (3) relevant for addressing persistent

**Figure 1** Components of the innovation-transfer framework and key attributes of success



or sharply felt problems; (4) having a relative advantage over existing practices so that potential users are convinced that the costs of implementation are offset by benefits; (5) easy to install and understand rather than complex and complicated; (6) compatible with the potential users' established values, norms, and facilities; (7) able to be tested or tried without committing the potential user to complete adoption when results have not yet been seen.<sup>6</sup>

These seven characteristics logically facilitate the transfer of innovations, but in practice they are unlikely to be present simultaneously. In the case of innovations derived from research, evidence may be sound and the innovations may be supported by respected persons or institutions. Proposed innovations usually are observable in pilot, demonstration, or experimental projects, and they can be tested by the user system before large-scale adoption.

Other attributes on the list above may not be present, however. Policymakers or other decisionmakers may not always see the advantage of the innovation; they may consider it too complex or costly, or the innovation may conflict with established norms, practices, or resources in the potential user system. For example, when innovations are tested in nongovernmental settings rather than in the public sector, policymakers may argue that the innovations are irrelevant.

Policymakers usually have a preference for technological solutions, expecting that "magic bullets" will provide effective solutions to pervasive problems. New approaches to preventive health care or emphasis on what has been referred to as the "software" dimensions of quality of care receive less attention because they are less visible or demonstrable. For example, to program managers and policymakers, expanding contraceptive choice typically suggests bringing in new contraceptive devices and distributing them rapidly. It does not suggest improving counseling or the information given to clients or upgrading the technical standards of care. Technological solutions are also easier to install and understand than are innovations in management with which services of higher quality can be delivered. Policymakers want simplicity, whereas researchers may conclude that relatively complex change is needed.

Moreover, improving the quality of services usually requires that clients be treated with dignity and respect, that their concerns be listened to, and that they be given the information and support they need. Public-sector bureaucracies charged with delivering reproductive health-care services are rarely characterized by such an orientation. Providers and field staff are more likely to be authoritarian and nonsupportive of clients' needs.

Furthermore, public-sector management systems tend to be punitive rather than problem solving in their approach to supervision and generally are not sufficiently supportive of their frontline staff. Small-scale demonstration or experimental projects often create an organizational environment in which energies are directed toward achieving formally established service goals. In large-scale, complex bureaucracies, other concerns tend to predominate, such as finding additional sources of income, advancing careers, promoting political agendas, and dealing with power struggles (Perrow 1978; Misra et al. 1982; Phillips et al. 1985).

### *Attributes of the Potential User System*

Research findings show that successful transfer of innovations is facilitated when: (1) the members of a user system perceive a need for the innovation, and consider it beneficial and congruent with the system's central ideas and concepts; (2) the user system has the appropriate implementation capacity, values, and openness; (3) the timing and circumstances are right; (4) the user system possesses effective leadership and internal advocacy; and (5) the resource and user system are similar in characteristics (homophily) and are in close physical proximity.<sup>7</sup>

For an innovation to be adopted, the members of the user system must be sufficiently dissatisfied with the status quo, must generally be open to the idea that change is desirable and possible, and must be willing to accept outside help. The innovation must be perceived as relevant to the pressing problems the system faces, and there should be no major resistance to the innovation's central concepts and ideas.

These requirements often stand in contrast to the circumstances found within the potential organizations that will have to scale up pilot programs. The quality-of-care and reproductive health innovations tested in small-scale interventions address problems that are sharply felt in the global reproductive health profession by individual researchers, and even by individuals within the user system. The key decisionmakers within the user system may not give these problems priority or consider them to be pressing, however. Their agendas are often oriented differently.

Clearly, the user system must have the appropriate openness, values, and capacity to implement an innovation. In practice, the organizations or programs expected to scale up quality-of-care and reproductive health innovations are usually limited in their capacity to implement such change. Their physical and human resources generally are constrained. Their organizational culture often does not support a quality-of-care and human-

service orientation that makes such innovations effective (Simmons 1980).

The work of Havelock and Lingwood (1973) and Rogers (1995) emphasizes the importance of “homophily”—the similarity in the characteristics of the resource organization and the user system—as critical attributes for determining the successful transfer of innovations. Researchers and policymakers are, by definition, dissimilar in their orientations. Policymakers and program managers need quick and timely solutions; researchers require sufficient time to undertake a systematic process of study design, data collection, analysis, and synthesis. Scientific rigor requires a process of rational steps and methodical documentation of findings and analysis. Political rationality proceeds according to a different logic and at a much faster pace. The innovations often do not fit readily into the organizations into which they are to be transplanted. Such complications suggest that if the transfer of knowledge and innovations is to succeed, careful and sustained attention must be devoted to the linkage strategy.

### *Attributes of the Linkage Strategy*

Key attributes of the linkage strategy that have been found to predict successful transfer are: (1) clear messages through which the advantages of the innovation are made visible; (2) personal contact and informal communication; (3) early involvement of members of the user system; (4) adaptation of the innovation to the local context; (5) technical assistance and a supportive approach; (6) sufficient time to implement new approaches; and (7) strong diffusion channels.

For innovations to be adopted widely, they must be presented simply and clearly, and their advantages must be made apparent. The language of research, however, is often unintelligible to policymakers and program managers (Orosz 1994). Researchers usually have a trained incapacity to communicate in practical, clear, succinct language.

Even though written materials are relevant, research on the transfer of innovations has consistently demonstrated the power of interpersonal contact, both formal and informal. For example, Rogers (1995:18) has argued that “People learn about new ideas, products and processes not necessarily through a rational and directive information seeking process, but often through serendipity and personal contact.” The mass media can make people aware of an innovation, but interpersonal channels of communication are more effective in persuading individuals to accept new ideas or practices (Rogers 1995; Gladwell 2000). Glaser (1983: 305) notes that “Con-

ferences in which research findings and exemplary practices are presented and discussed in depth with practitioners are more influential than publications or other one-way processes.” The dominant mode of research dissemination in the health and family planning field remains focused on written materials and publications of various sorts despite extensive evidence that publications alone are insufficient.

The literature stresses the involvement and participation of members of the user system as an important ingredient of success in the transfer of innovations. Researchers should involve managers in the development of research design and focus, and research should be conducted by collaborative teams (Glaser et al. 1983; Davis and Howden-Chapman 1996). Transfer of innovations should be viewed as a two-way rather than a one-way process because when potential users are actively involved, obstacles become shared concerns (Glaser et al. 1983). A two-way effort also ensures that appropriate adaptations of the innovation can be made to suit the needs and capabilities of the user system.

In the early years of research concerning innovation transfer, the assumption prevailed that innovations either would be adopted or rejected; in practice, they were often modified or “reinvented” (see Rogers 1995). Reinvention may simplify an innovation, increase its flexibility, and cause it to be viewed as a local product. In the course of such adaptation, the integral components of the innovation should not be lost, however.

Technical assistance, a supportive approach on the part of the resource system, and sufficient time to implement innovations also were found to be characteristics of effective transfer strategies (Glaser et al. 1983). Success usually requires strong diffusion channels, a fair amount of time, and an overall strong linkage process. Unfortunately, in reproductive health as well as in other fields, dissemination and use of research results often occurs as an afterthought, is not considered as the responsibility of the researcher, and is not something to which precious time is allotted.

A variety of factors, therefore, maintain and reinforce current practices and prevent innovations from taking root in larger program settings. Researchers and others wishing to promote the use of research findings must incorporate concern for the transfer of their innovations from the outset of their projects. All of the factors facilitating successful transfer may not be present in a given situation. The fewer the determinants of success that are present, the stronger the linkage process must be.

This summary of attributes of successful program diffusion suggested by the social science literature leads to an important conclusion: The transfer of innovations

in quality of care and other aspects of reproductive health should not be considered a simple or mechanical process. These innovations cannot flourish in the organizational environment that characterizes most public-sector programs; they require change in organizational culture and orientation. Scaling up quality-of-care innovations in reproductive health, therefore, must be considered an institutional change task of major proportions.

## Seven Key Lessons for Scaling Up

Scaling-up examples from the family planning and related reproductive health literature and experience provide a number of useful lessons. Insights from the political and organizational sciences are drawn upon here because political, institutional, and organizational factors and not predominantly resource constraints are major barriers to scaling up (Satia et al. 1985).<sup>8</sup>

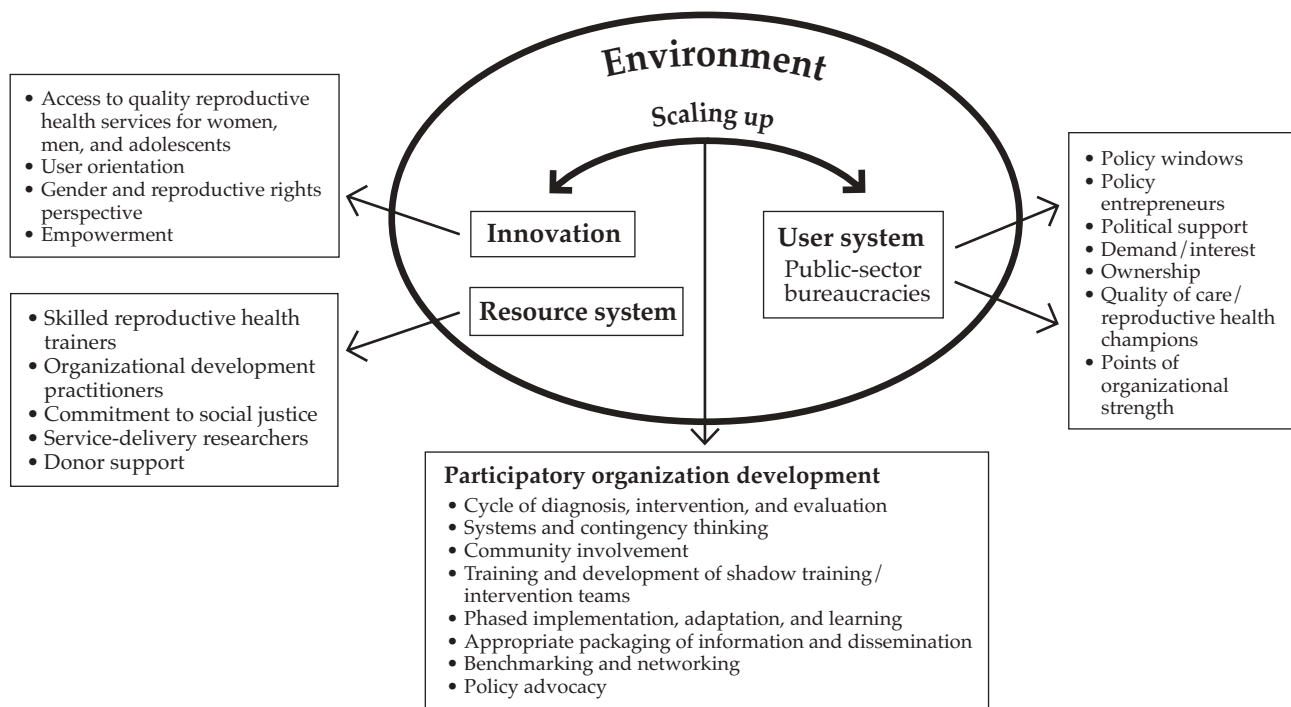
A complete review of what can be learned from either the family planning or the political and organization sciences would be too formidable a task to undertake within the confines of one article.<sup>9</sup> Examples are presented here that illustrate central issues and provide seven key lessons for scaling up. These lessons demonstrate that systematic attention to the process of scaling up can yield positive results even in difficult environments.

Using the insights from the family planning experience and the policy and organization sciences, we present a second framework (see Figure 2). The innovations with which we are concerned relate to providing access to quality reproductive health services for women, men, and adolescents, to user orientations, gender and reproductive rights perspectives, and empowerment. Figure 2 builds on Figure 1, offering a conceptual framework that identifies key elements in the resource and the user systems that facilitate scaling up of innovations designed to improve quality of care. It also identifies a process of participatory organizational development that enables potential change agents in both systems to work together to scale up innovations. The innovation, the resource system, and the user system are again placed inside an oval that represents the social, cultural, political, and economic environment within which scaling up takes place.

### Lesson One

*Do not rely on spontaneous transfer; make scaling up a concern from the time pilot projects are initiated.* Skeptics might argue that sustained attention to the use of research findings is unnecessary. Ample evidence exists, they might assert, that many kinds of innovations spread spontaneously from individual to individual and from inno-

**Figure 2** Participatory organization development (OD) framework for scaling up quality-of-care innovations



vative program settings to other environments. Walker's research (1969) on American politics has shown, for example, that policy innovations often have been initiated by key or leading states and subsequently imitated by others without guidance from anyone. In the population field, the study of the fertility transition has shown that fertility control spread throughout Europe without any deliberate policy or program initiative (Coale and Watkins 1986). Innovations in community-based family planning and primary health care initiated by the Navrongo Health Research Centre (NHRC) in Ghana have been spontaneously replicated in other regions of the country by health officials who visited the project.<sup>10</sup> A quality-of-care pilot project undertaken by the State Family Planning Commission of China in one county in each of six provinces has generated much interest in replicating these innovations in other counties of these provinces without project leaders' deliberate efforts to generate such interest. Indeed, other provinces and regions of the country have shown considerable interest in becoming part of the pilot project (Gu Baochang 1998; Zhang Erli 1998).

The spontaneous transfer of research innovations from experimental settings to larger program units is an important process. As the literature indicates, it is likely to occur when the innovations address a clearly felt need within the program or when a focusing event draws attention to a need (Shiffman 2000). In China, for example, a heavy-handed and tightly administered population-control program increasingly encounters complaints from local people, demonstrating that the program is incompatible with the climate of personal initiative and entrepreneurship that is encouraged by economic reforms. The program is also likely to become redundant in regions where fertility preferences are already low and couples have access to other sources of contraception than those provided by the government. Improving the quality of care and incorporating a range of reproductive health services also address managers' desire to follow the consensus established at ICPD and the 1995 Beijing Women's Conference (Simmons et al. 2000).

In areas where a strongly felt need for change—or other factors—generates a spontaneous expansion, ensuring that the essence of the innovation remains intact is important. In Ghana, conversations with regional directors of health have revealed that where the diffusion of the Navrongo model has occurred in an unguided, spontaneous way, only one major element of the approach is being replicated: posting a community health nurse at the village level. Such a spontaneous replication misses the point that the model's success has depended largely on the mobilization of community leaders and el-

ders and on a participatory approach that involved these leaders in program implementation (Nazzar et al. 1995). Incomplete or superficial transfer of reproductive health innovations will not produce the desired results.<sup>11</sup> As evidence mounted in Ghana that scaling up was associated with partial implementation and poor service quality, a formal program was launched to coordinate the scaling-up effort.<sup>12</sup>

An even more important reason why we must pay systematic attention to scaling up is that without such attention, small-scale research innovations remain mostly irrelevant for policy and program development. Spontaneous and complete diffusion of such innovations is extremely rare, precisely because the quality-of-care innovations are not often congruent with the institutional practices of public-sector programs. A process of learning is necessary about what works and what does not and about what needs to be adapted or changed as innovations are implemented on a larger scale. To ensure that such learning occurs and is widely shared among the relevant stakeholders, scaling up must be intentional, directed, and supported.

Family planning field experience suggests that a concern for scaling up should guide the very design of pilot projects (Pyle 1980; Cernada 1982; Simmons et al. 1997). As described above, the literature on the diffusion of innovation argues that those who will later implement results on a broader scale should be involved in the early stages of the project planning process. Moreover, innovations should be tested under realistic institutional conditions and within the resource constraints of public-sector programs.

## *Lesson Two*

*Acknowledge the political nature of the task and value incremental change.* Most observers know that public-sector bureaucracies, especially those in resource-poor societies, are complex political organizations, frequently more concerned with power struggles than with the provision of quality services. Therefore, any attempt to scale up service-oriented innovations is likely to encounter political and other obstacles. The awareness of such barriers is rarely part of the official, professional, or even academic discourse. Scaling up, if considered at all, is treated as a technical task to be approached from the perspective of training needs, personnel, or the requirements of physical resources. Exceptions are Cernada's 1982 review of Taiwan's early experience with the use of research, Haaga and Maru's review (1996) of the effects of operations research on program changes in Bangladesh, and Pyle's analysis (1980) of why an integrated health and

nutrition project was not scaled up. Haaga and Maru (page 85) concluded:

Policy advice that is consonant with existing power relations (between layers of the hierarchy, or among functional units) is the easiest to implement. Policy advice that disrupts long-standing relationships is especially liable to remain mere declaration.

Proposed innovations, particularly those likely to bring about major shifts in the way services are provided and managed, often threaten to interfere with existing power relations. As a consequence, large-scale expansion may succeed only partially. This point is well documented in an example from the Extension Project's effort in Bangladesh in the late 1980s to assist with nationwide recruitment of community-based female family planning workers. When comparison of worker-to-population ratios between the Matlab project and the government family planning program revealed that the more favorable ratios in Matlab explained a fair amount of its success, the government embarked upon large-scale recruitment of additional workers. The Extension Project, the major goal of which was to transfer lessons from Matlab to the government program, provided technical assistance for this effort, using recruitment criteria that had been pre-tested in Extension Project subdistricts. Results demonstrated that such rational recruitment criteria as workers' residence in their area of employment and their educational qualifications could be enforced (Simmons 1987; Haaga and Maru 1996). By contrast, monetary kickbacks to officials involved in recruitment could not be abolished. Such payments are as deeply rooted as they are deleterious for implementing results-oriented programs.

An understanding of the political dimensions of large-scale transfers of innovation generates realistic expectations about the extent to which large bureaucratic systems can be changed. The Extension Project demonstrated that a great deal can be accomplished despite the pervasive presence of dysfunctional power relations. The cumulative benefits of such incremental change must not be underestimated, although as noted above, if replication is incomplete, it may not produce the full range of desired effects.

### *Lesson Three*

*Benefit from policy windows and policy entrepreneurs.* Insights from the political science literature concerning the policy process provide a more optimistic interpretation of the point made above. It suggests that although leadership and internal advocacy are essential for implement-

ing the proposed change, not all key decisionmakers have to be in favor of it. Often key individuals, referred to as "policy entrepreneurs," who are supportive of the change are sufficient for moving it forward (Kingdon 1984; Mintrom 1997).

The political science concepts of policy entrepreneurs and "policy windows" are helpful for viewing the potential for success in the transfer of innovations as dynamic rather than static. When policy windows are open, they provide opportunities for researchers and others to draw attention to the value of innovations that have been tested in small research projects and to the usefulness of their broader application in larger settings. When the windows close, the potential for the innovation's impact declines. The ICPD is an example of how a global conference created a policy window that made research-based quality-of-care innovations relevant to policy and program development.

The election of officials committed to improving public health services also provides an important policy opportunity. Such a policy window is likely to remain open only for as long as the supportive cohort of politicians stays in power. When they are replaced, new leaders typically introduce new initiatives rather than continuing those of their predecessors. The process of transferring quality-of-care innovations may, therefore, come to an abrupt halt or require intensive effort to be integrated into the program devised by the newly elected political team. To be sustainable, the transfer of innovations in public-sector bureaucracies must have gathered sufficient institutional strength to survive when policy windows close. Because political change occurs rapidly, often there is not enough time for such institutionalization to occur. Strong and continuing support from the resource system can play a catalytic role in ensuring program survival in the face of electoral or other political change (Díaz and Simmons 1999; Díaz et al. 2002).

Policy entrepreneurs are advocates who are willing to "invest their resources in return for policies they favor" (Kingdon 1984: 215). These advocates have a claim to be heard because they are experts or leaders of interest groups or because they occupy a position of authority in the government hierarchy. They are politically well connected and persistent. They are found in formal or informal positions, in or outside of government, and can be influential in moving an issue into a position of prominence on the policy agenda. As Mintrom (1997: 40) explains, "Policy entrepreneurs are able to spot problems, they are prepared to take risks to promote innovative approaches to problem solving, and they have the ability to organize others to help turn policy ideas into government policies."



Any scaling-up initiative can benefit immensely from the support of policy or program entrepreneurs. For example, the Deputy Minister of Health of Ghana took great interest in the results of the community-based family planning and health service model developed and tested by the Navrongo Health Research Center until his replacement after the national elections in 2001. He saw this model as providing a mechanism for bringing primary health care to local communities—a goal that he had sought since the 1970s, and especially since the Alma Ata Declaration.<sup>13</sup> Being senior and close to retirement, the deputy minister was not only a person with expertise, a formal position of authority, and many connections, but also someone who no longer had to be concerned about his professional or political career. As a result, he was able to devote his full attention to the pursuit of policy priorities. He considered the provision of primary health care an urgent necessity and viewed the Navrongo model as a viable solution to this need. With the change in government and the replacement of the deputy minister, political support for the scaling-up initiative has atrophied.

Scaling up benefits from the creation of coalitions of support, ideally across party-lines, so that the initiative does not depend on a single individual (Pyle 1980). Obviously, such broad-based support is not easy to achieve.

#### **Lesson Four**

*Insist on phased implementation while simultaneously addressing broader dissemination of central ideas.* Policy entrepreneurs willing to champion the cause of program innovations are major assets. The discrepant time perspectives of policymakers and researchers remains a problem, however. Policy entrepreneurs tend to have the short-term time horizons of the politician and little patience for a slower, incremental process of research and expansion.<sup>14</sup> Successful development projects, by contrast, use a process of phased implementation that allows learning through gradual expansion and concurrent adaptation (Paul 1982; Rondinelli 1983).

Gradual expansion of research-based innovations is important because, in many instances, the determinants of success in experimental projects are incompletely tested or understood. For example, the Matlab project tested a community-based family planning service model showing that such a strategy can have significant impact on desired outcomes. In implementing the model, however, the project deliberately isolated itself from local political pressures that might have curtailed its ability to design an effective management and monitoring system (Phillips et al. 1988). As a result, only partial con-

clusions about the broader use of Matlab results for national program development could be derived. The project demonstrated that community-based and user-oriented services will succeed, but not how such a strategy could be implemented in a complex, bureaucratic, and resource-poor national program. Answers to those questions could only be obtained from the Extension Project organized later within the constraints of the public-sector program.

In Ghana, the current interest in scaling up the Navrongo model presents a similar predicament. Navrongo has demonstrated that a community-based and participatory model of service delivery could make inroads in a traditional and economically deprived setting. The push for nationwide expansion occurred before complex managerial dimensions of the innovation were functioning without the support of the research team. Therefore, no evidence-based advice could be given from the Navrongo Health Research Centre about how the public health system could be reoriented to provide supportive supervision or about which management information system would work within the context of the national program. A process of phased expansion of research innovations provides time to adapt and learn. Phased implementation also allows for the possibility of reinventing (Rogers 1995) or adapting innovations to variable conditions.

The Ghanaian example shows how the contradiction between the pressure for quick expansion and the need for gradual scaling up and adaptation might be reconciled. The current plan for expansion combines attention to national dissemination of the key lessons from the Navrongo experiment through consensus-building involving national and regional health leaders and a process of guided expansion of the model to a limited number of districts. This approach allows for the possibility that national and regional policymakers and program managers can move ahead with consensus-building and preparation for large-scale implementation. According to the plan, regional health directors can proceed with replication on their own. At the same time, the Navrongo Health Research Centre is undertaking a process of phased implementation in a limited number of districts. Work in these limited settings will encourage learning that can subsequently be used to inform a further expansion of the model.

#### **Lesson Five**

*Scale up where there are points of strength.* The transfer of small-scale innovations to larger systems is enhanced by capitalizing on points of strength. Large, complex nation-

al programs—no matter how poorly funded or otherwise constrained—are always characterized by considerable internal variation in their capacity to organize effective services. Although the overall commitment to improve quality of services or expand access and availability may be limited, individuals within these systems may, nonetheless, be highly motivated to move forward. For example, Simmons and Simmons (1992: 24) argue that:

In all settings, no matter how complex, some scope exists for change. . . . Over the years we have observed again and again that some units within severely resource-constrained programs flourished, while others lagged behind. In each case, the commitment, orientation, and work style of the individual managers made the difference, demonstrating that much can be accomplished, even in settings functioning within severe social, financial, and bureaucratic constraints. One of the reasons these managers were effective is that they exerted normative influence, eliciting a moral and emotional involvement with the quality of care objectives of the program.

Internal differentiation exists not only with regard to staff motivation and morale but also with regard to other organizational characteristics. These include results orientation, flexibility, staff competence, and supervision aimed at problem solving, which have been discussed as important determinants of success with scaling up initiatives (Pyle 1980; Cernada 1982; Satia et al. 1985).

Building on points of strength is likely to lead to successful transfers. These, in turn, make it possible to solidify the model, to gain experience, to build support, and to create demonstrable results that can motivate interest in expansion to other regions. Such an approach is being adopted currently in the Chinese experiment, which initiated pilot projects to enhance quality of care in the more economically advanced regions of the country. It also informs the Reprolatina Project in Brazil, which seeks to expand successful innovations by working only with municipalities that have given clear evidence of motivation and initiative.

Concern to provide improved services for a country's poorest regions could lead scaling-up efforts to concentrate major resources there. If strong commitment to the proposed innovation exists in these regions, and quality-of-care "champions" can be identified, this can be an effective approach. If such commitment does not exist, working initially in areas of greater strength may be more appropriate. Once multiple examples are available to demonstrate how the transfer of quality-of-care innovations can be replicated successfully in several areas or

regions within a program, these can serve as benchmarks for policymakers and program managers and build momentum for further expansion.<sup>15</sup> Such a strategy was pursued in China. Leaders of the quality-of-care project felt that prior to expansion to poorer provinces, national policy commitment to quality of care needed strengthening. Doing so involved demonstrating success, which could be most easily accomplished in the more developed part of the country. Since national policy commitment is ensured, new quality-of-care pilots are being initiated in poorer, western provinces (Zhang Kaining 2001). This example serves to emphasize the point that scaling up refers not only to the expansion of service innovations but also to the building of policy support for quality of care in reproductive health services.<sup>16</sup>

### *Lesson Six*

*Use participatory organization development and ensure long-term support from resource systems.* Mainstreaming quality-of-care innovations in public-sector bureaucracies requires instituting management practices that support these innovations. Organization development is an applied behavioral science discipline that can be used for this purpose. Organization development has been defined by French and Bell (1995: 28) as

a long-term effort, led and supported by top management, to improve an organization's visioning, empowerment, learning, and problem-solving processes, through an ongoing, collaborative management of organization culture . . . utilizing the consultant-facilitator role and the theory and technology of applied behavioral science, including action research.

It is a process of working collaboratively with people in organizations, helping them diagnose existing problems, design interventions, and evaluate their effectiveness.<sup>17</sup> Experience in Bangladesh (Phillips et al. 1984) and Brazil has shown that use of such a process can be instrumental in promoting the transfer of innovations and the transition to quality of care in reproductive health services more generally.

Organization-development practitioners start with the assumption that substantial improvements in management processes, culture, strategies, and structure cannot be accomplished in a short period of time. Such change requires a commitment to a process of organizational improvement. Transferring quality-of-care innovations to public-sector bureaucracies can only succeed if there is such a commitment to required institutional needs and to the required investment in time (Phillips

et al. 1991). A “program” rather than a “project” perspective is needed, as well as donor support for such longer time horizons.<sup>18</sup> Such institutional changes do not necessarily require the infusion of massive external resources. On the contrary, the pilot projects discussed here have undertaken quality-of-care innovations with minimal additional input. Moreover, the additional resources needed were generated mostly from within the bureaucratic system into which innovations were introduced (Díaz et al. 1999; Zhang Erli et al. 1999). Cost analysis of the widely discussed Matlab project showed that the relatively high-quality services provided by this project were not more expensive than those provided by the much weaker public sector (Simmons et al. 1991).

Emphasis in the organization-development approach on a cycle of diagnosis, intervention, and evaluation highlights the importance of information feedback to decisionmakers. Clear, parsimonious, and expeditious feedback about the operations of existing programs or health needs, ideally presented in concise indicators, are an essential ingredient in the successful transfer of innovations (Cernada 1982; Kingdon 1984).

A key characteristic of organization development is that consultants (in the framework presented here—members of the resource system) establish an egalitarian relationship with members of the organization with which they work. Their role is to help organization members identify new opportunities and solve their own problems (French and Bell 1995). As noted in Figure 2, members of the resource system must be experienced trainers who can impart to others the values that produced the successful innovations and be familiar with the principles of organization development and service-delivery research.

Moving to greater quality of care in reproductive health services constitutes a major new opportunity for public-sector health bureaucracies. To emphasize the egalitarian nature of the relationships and the need for local ownership by health authorities, we prefer to use the term “participatory organization development.”<sup>19</sup> To ensure effectiveness and the local relevance of innovations, a participatory process also includes involvement of community members (Díaz et al. 1999).

In Brazil, the Replatina Project is currently expanding quality-of-care innovations previously tested in four municipalities to other municipalities. Participatory organization development is undertaken as a collaborative effort among health authorities, providers, community members, and members of the resource team. It focuses on: (1) assessments of local health service needs; (2) training in sexual and reproductive health; (3) restructuring of services to allow greater attention to reproduc-

tive health; (4) improvements in supervision, supply management, and information systems; and (5) the strategic use of information technology. In addition, local training and intervention capacity are being developed to ensure that innovations can subsequently be expanded to other municipalities within the region. The effectiveness of “shadow” replication teams, which continue to expand innovations in other areas once the original training and intervention team withdraws, has been documented in the scaling up of dairy cooperatives in India (Paul 1982). As innovations expand to more and more municipalities, networking among participating municipal partners serves to reinforce and sustain the movement to greater quality of care.

### *Lesson Seven*

*Appreciate the principle of contingency and the need for adaptation.* One of the most insightful lessons from the organization sciences is that no single best way exists to organize anything. This lesson is derived from contingency theory, which states that what works best organizationally depends on the particular context in which organizations function (Lawrence and Lorsch 1969; Donaldson 2001).<sup>20</sup> Contingency theory encourages us to think of organizations as systems of interrelated elements, where change in one aspect has to be evaluated within a larger context (Katz and Kahn 1978). Such “systems thinking” is a major component of the strategic approach to contraceptive introduction in which attention to scaling up is heavily emphasized (Simmons et al. 1997).

Contingency theory suggests that service-delivery innovations may be feasible in one region of a country but may need to be adapted to work well in another. For example, the principle of proximity identified by the social science literature on the diffusion of innovations might be used to argue that the resource system should always be located close to the user system. This proximity worked well in Taiwan, for example, where the research and implementation teams were housed within the same organization. Scaling up benefited from the close association of these two systems (Cernada 1982). The Taiwan experience was successful because extensive capacity and motivation existed within the government system. Where such capacity is absent, too close an association can also entangle the resource team in bureaucratic red tape and inaction.

Reflecting the principle of contingency, the organization-development approach used by the Replatina Project requires that a diagnostic assessment must be undertaken in each new participating municipality. This assessment serves to familiarize the resource team and

key members of the user system with the practical realities of service implementation. It also provides an opportunity to assess how service innovations successfully implemented in other regions of the country should be adapted to the particular context. Such a focus on local needs and realities is also essential for health authorities and political leaders who want to ensure that new initiatives fit their policy agendas and requirements.

The principle of contingency is so important that it almost calls into question use of such a term as the “transfer” of innovations. General principles are transferable, but as Rogers (1995) points out, innovations have to be reinvented in each location so that they can be locally owned.

## Conclusion

Referring to small-scale innovations in health and family planning as pilot or demonstration projects implies that such efforts will lead us somewhere or demonstrate something that is relevant beyond a limited setting. Yet there are many pilot projects that lead nowhere and many demonstrations that do not produce action on a broader scale. Experimental projects often provide good scientific data about what interventions have beneficial effects on fertility, mortality, or reproductive morbidity. Too often the science ends there. The predominant underlying assumption has been that the demonstration of success by itself would lead to the transfer of innovative approaches to large-scale programs and policy development. In the family planning field, investigation of the transfer of knowledge from small projects into large-scale programs typically has not been considered a relevant domain for research or other scientific analysis.

Pilots, demonstrations, and experimental projects are immensely valuable. They must be designed, however, not only to test what works to improve health or reduce fertility; they should also, from the outset, be concerned with the question of how the innovations can be put to practical use on a large scale. Rigorous study and analysis should not end with the pilot project or experiment. It should be extended to the process of transferring innovations into larger programmatic settings. This review of relevant literature suggests that doing so will be a difficult task, because a large gap exists between the attributes of user systems that predict success and the prevailing situation of large-scale bureaucracies charged with implementing reproductive health services. Past and current experience with scaling-up projects provides valuable lessons, and insights from the organization and political sciences have proved helpful in formulating the

seven strategic lessons presented here. A focus on transferring innovations from small-scale projects to larger public-sector programs is an idea whose time has come.

## Notes

- 1 This experiment, designed to bring family planning to the city of Taichung, was initiated in 1963 by the Taiwan Provincial Health Department. The rapid success of the project led to its extension to the whole of Taiwan one year later. This carefully documented experiment provided a model for programs in other parts of the world during the early years of the family planning movement.
- 2 The Matlab Project was initiated in 1977 in the rural field station of the ICDDR,B to test the hypothesis that an appropriate service-delivery system can induce fertility decline even in an adverse socioeconomic setting (Bhatia et al. 1980; Phillips et al. 1982; Phillips et al. 1988). When the success of the project became evident, the Ministry of Health and Population Planning of Bangladesh requested the ICDDR,B to assist in transferring successful family planning and health-service innovations to the public-sector program. This request led to the initiation of the Extension Project in 1982, which initially operated in two subdistricts and was subsequently extended to other areas of the country (Phillips et al. 1984; Haaga and Maru 1996).
- 3 The Reprolatina Project's main goal is to increase access to quality family planning services and related reproductive health services in public-sector programs in Brazil and other Latin American countries. It was initiated in 1999 as a partnership among three institutions: Reprolatina, a nongovernmental organization in Campinas, Brazil, the Population Council, and the University of Michigan.
- 4 The Community Health and Family Planning Project of the Navrongo Health Research Centre in northern Ghana was initiated in 1994 as a pilot project and scaled up to a districtwide experimental study in 1996. The project was guided by a Ministry of Health protocol for testing the impact of alternative strategies for community-based health and family planning services on fertility and child mortality (Binka et al. 1995; Nazzar et al. 1995). Preliminary results of the project demonstrated that service activities, community organization, and mobilization can improve primary health care and reduce fertility (Pence et al. 2001; Debpuur et al. 2002).
- 5 The number of attributes identified is immense. Only a few key attributes are selected here for discussion. For a major review of this literature, see Glaser et al. (1983).
- 6 Other authors identified other, overlapping attributes. For a fuller discussion, see Glaser and Taylor (1973) and Rogers (1995).
- 7 Several of these factors were originally enunciated by Davis (1971) and by Davis and Salasin (1975) (as cited by Glaser et al. 1983). Proximity and homophily were emphasized by Havelock and Lingwood (1973) and by Rogers (1995), and leadership by Glaser et al. (1983).
- 8 D'Alessandro et al. (1995) provide a contrary example, however, showing that although nationwide introduction of insecticide-treated bed nets in The Gambia would produce significant reductions in child mortality, the effort was not affordable.
- 9 For an earlier review of literature on organizational factors and political, economic, and sociocultural processes, see Glaser et al. 1983.

- 10 Health officials' frequent visits to the Navrongo field site produced spontaneous replication of some aspects of the model in other regions of the country. Because such replication was haphazard and incomplete, a formal project seeking to scale up the model for the country as a whole was initiated by the Ministry of Health.
- 11 The expansion of the WARMI methodology from Bolivia to Peru experienced a similar problem (Gonzales et al. 1999).
- 12 This informal program is known as the Community-based Health Planning and Services Initiative.
- 13 In 1978, the Alma-Ata Declaration approved at the International Conference on Primary Health Care at Alma-Ata, Kazakh, USSR, established that by the year 2000, all peoples should have attained a level of health that permits them to lead socially and economically productive lives. Primary health care was seen as a key to attaining this goal.
- 14 As an example of this point, in Taiwan research results were not implemented because the project's findings were not yet available when critical program decisions had to be made (Cernada 1982).
- 15 For a discussion of benchmarking, see Boxwell (1994).
- 16 For a discussion of various types of scaling up, see Uvin (1995 and 1999) and Uvin and Miller (1996).
- 17 The WARMI project in Bolivia (Gonzales et al. 1999) used a "community-action cycle" consisting of auto-diagnosis, planning, implementation, and participatory evaluation, which is similar to organization development as described here.
- 18 For a similar point, see also Gonzales et al. 1999.
- 19 The importance of this point was also discussed extensively in the social science literature on the diffusion of innovation (Havelock 1971).
- 20 This point was also made in the research-utilization literature. Glaser et al. (1983: 11) argue that "one who plans to undertake a particular utilization effort must keep in mind the many considerations and circumstances affecting the particular case. . . . [E]ach application of any principle that may evolve from a summation of individual studies of innovation is *contingent* on various characteristics that pertain to that application."

## References

- Bhatia, Shushum, W.H. Mosley, A.G.S. Faruque, and J. Chakraborty. 1980. "The Matlab Family Planning-Health Services Project." *Studies in Family Planning* 11(6): 202-212.
- Binka, Fred N., Alex Nazzar, and James F. Phillips. 1995. "The Navrongo Community Health and Family Planning Project." *Studies in Family Planning* 26(3): 121-139.
- Boxwell, Robert J. 1994. *Benchmarking for Competitive Advantage*. New York: McGraw-Hill.
- Cernada, George P. 1982. *Knowledge into Action: A Guide to Research Utilization*. Farmingdale, NY: Baywood Publishing Company.
- Chunharas, Somsak. 2001. "Linking research to policy and action." In *Forging Links for Health Research: Perspectives from the Council on Health Research for Development*. Eds. Victor Neufeld and Nancy Johnson. Ottawa, Canada: International Development Research Centre.
- Clark, John. 1991. *Democratizing Development*. London: Earthscan Publications.
- Coale, Ansley J. and Susan Cotts Watkins (eds.). 1986. *The Decline of Fertility in Europe*. Princeton: Princeton University Press.
- D'Alessandro, U., B.O. Olaleye, W. McGuire, P. Langerock, S. Bennett, M.K. Aikins et al. 1995. "Mortality and morbidity from malaria in Gambian children after introduction of an impregnated bednet programme." *The Lancet* 345(8,948): 479-483.
- Davis, H.R. 1971. "A checklist for change." In *A Manual for Research Utilization*. National Institute of Mental Health. Washington, DC: US Government Printing Office.
- Davis, H.R. and S.E. Salasin. 1975. "The utilization of evaluation." In *Handbook of Evaluation Research*. Volume 1. Eds. E. Struening and M. Guttentag. Beverly Hills, CA: Sage.
- Davis, Peter and Philippa Howden-Chapman. 1996. "Translating research findings into health policy." *Social Science and Medicine* 43(5): 865-872.
- Debpuur, Cornelius, James F. Phillips, Elizabeth F. Jackson, Alex Nazzar, Pierre Ngom, and Fred N. Binka. 2002. "The impact of the Navrongo project on reproductive preferences and fertility." Paper presented at the annual meeting of the Population Association of America, March 29-31, Washington, DC.
- Díaz, Margarita and Ruth Simmons. 1999. "When is research participatory? Reflections on a reproductive health project in Brazil." *Journal of Women's Health* 8(2): 175-184.
- Díaz, Margarita, Ruth Simmons, Juan Díaz, Carlos Gonzalez, Maria Yolanda Makuch, and Debora Bossemeyer. 1999. "Expanding contraceptive choice: Findings from Brazil." *Studies in Family Planning* 30(1): 1-16.
- Díaz, Margarita, Ruth Simmons, Juan Díaz, Francisco Cabral, Debora Bossemeyer, Maria Yolanda Makuch, and Laura Ghiron. 2002. "Action research to enhance reproductive choice in a Brazilian municipality: The Santa Barbara Project." In *Responding to Cairo: Case Studies of Changing Practice in Reproductive Health and Family Planning*. Eds. Nicole Haberland and Diana Measham. New York: Population Council.
- Donaldson, Lex. 2001. *The Contingency Theory of Organizations (Foundations for Organizational Science)*. Thousand Oaks, CA: Sage Publications.
- Echols, J. (ed.) 1974. *Making Population-Family Planning Research Useful: The Communicator's Contribution*. Conference summary report. Honolulu, HI: East-West Communication Institute.
- Edwards, Michael and David Hulme (eds.) 1992. *Making a Difference: NGOs and Development in a Changing World*. London: Earthscan.
- Freedman, Ronald and J. Yuzuru Takeshita. 1969. *Family Planning in Taiwan: An Experiment in Social Change*. Princeton: Princeton University Press.
- French, Wendell L. and Cecil Bell. 1995. *Organization Development—Behavioral Science Interventions for Organization Improvement*. Englewood Cliffs, NJ: Prentice-Hall.
- Gladwell, Malcolm. 2000. *The Tipping Point: How Little Things Can Make a Big Difference*. Boston: Little Brown.
- Glaser, Edward M., Harold H. Abelson, and Kathalee N. Garrison. 1983. *Putting Knowledge to Use: Facilitating the Diffusion of Knowledge and the Implementation of Planned Change*. San Francisco: Jossey-Bass.

- Glaser, Edward M. and S. Taylor. 1973. "Factors influencing the success of applied research." *American Psychologist* 28: 140–146.
- Gonzales, Fernando, Elizabeth Arteaga, and Lisa Howard-Grabman. 1999. "Scaling up the WARMI project: Lessons Learned." In *Presented Papers: High Impact PVO Child Survival Programs*. Eds. Barton R. Burkhalter and Victoria L. Graham. Volume 2. Proceedings of an Expert Consultation, Gallaudet University, 21–24 June 1998. Arlington, VA: CORE Group/BASICS Project/USAID.
- Gu Baochang. 1998. Personal communication. Gu Baochang was, at the time, a researcher at the Center for Population Information and Research, Beijing, China.
- Haaga, John and Rushikesh M. Maru. 1996. "The effect of operations research on program changes in Bangladesh." *Studies in Family Planning* 27(2): 76–87.
- Haberland, Nicole and Diana Measham (eds.) 2002. *Responding to Cairo: Case Studies of Changing Practice in Reproductive Health and Family Planning*. New York: Population Council.
- Havelock, Ronald G. 1971. *Planning for Innovation Through Dissemination and Utilization of Knowledge*. Ann Arbor, MI: Center for Research on Utilization of Scientific Knowledge, University of Michigan Institute for Social Research.
- Havelock, Ronald G. and D.A. Lingwood. 1973. *R&D Utilization Strategies and Functions: An Analytical Comparison of Four Systems*. Ann Arbor, MI: Center for Research on Utilization of Scientific Knowledge, University of Michigan Institute for Social Research.
- Katz, Daniel and Robert L. Kahn. 1978. *The Social Psychology of Organizations*. New York: John Wiley and Sons.
- Kingdon, John W. 1984. *Agendas, Alternatives and Public Policies*. Boston: Little Brown.
- Lawrence, Paul R. and Jay William Lorsch. 1969. *Organization and Environment*. Homewood, IL: Irwin.
- Lovell, Catherine and F.H. Abed. 1993. "Scaling-up in health: Two decades of learning in Bangladesh." In *Reaching Health for All*. Eds. John Rohde, Meera Chatterjee, and David Morley. Delhi: Oxford University Press.
- Marchione, Thomas J. (ed.). 1999. *Scaling Up, Scaling Down—Overcoming Malnutrition in Developing Countries*. Amsterdam: Gordon and Breach.
- Mintrom, Michael. 1997. "Policy entrepreneurs and the diffusion of innovation." *American Journal of Political Science* 41(3): 738–770.
- Misra, B.D., A. Ashraf, Ruth Simmons, and George Simmons. 1982. *Organization for Change: A Systems Analysis of Family Planning in Rural India*. Ann Arbor, MI: University of Michigan, Center for South and Southeast Asian Studies.
- Nazzar, Alex, Philip B. Adongo, Fred N. Binka, James F. Phillips, and Cornelius Debuur. 1995. "Developing a culturally appropriate family planning program for the Navrongo experiment." *Studies in Family Planning* 26(6): 307–324.
- Nyonator, Frank, John Awoonor-Williams, Rofina Asuru, James F. Phillips, and Robert C. Miller. 2002. "The Community-based Health Planning and Services (CHPS) initiative in Ghana: A paradigm for evidence-based health systems development." Paper prepared for the 29<sup>th</sup> Annual Conference of the Global Health Council, Washington, DC, 28–31 May.
- Orosz, Eva. 1994. "The impact of social science research on health policy." *Social Science and Medicine* 39(9): 1,287–1,293.
- Paul, Samuel. 1982. *Managing Development Programs: The Lessons of Success*. Boulder, CO: Westview Press.
- Pence, Brian, Philomena Nyarko, James F. Phillips, and Cornelius Debuur. 2001. "The impact of the Navrongo Community Health and Family Planning Project on child mortality, 1993–2000." Paper presented at the general conference of the International Union for the Scientific Study of Population, Salvador, Brazil, 18–24 August. Unpublished.
- Perrow, Charles. 1978. "Demystifying organizations." In *The Management of Human Services*. Eds. Rosemary C. Sarri and Yehekel Hasenfeld. New York: Columbia University Press. Pp. 105–120.
- Phillips, James F., Wayne S. Stinson, Shushum Bhatia, Maklisur Rahman, and J. Chakraborty. 1982. "The demographic impact of the family planning–health services project in Matlab, Bangladesh." *Studies in Family Planning* 13(5): 131–140.
- Phillips, James F., Ruth Simmons, George B. Simmons, and M. Yunus. 1984. "Transferring health and family planning services innovations to the public sector: An experiment in organization development in Bangladesh." *Studies in Family Planning* 15(2): 62–73.
- Phillips, James F., Ruth Simmons, A.A. Zahidul Huque, Marjorie A. Koblinsky, and Michael A. Koenig. 1985. "Implementation based policy development: A progress report on the MCH–FP Extension Project paradigm, field strategy, and impact." Unpublished.
- Phillips, James F., Ruth Simmons, Michael A. Koenig, and J. Chakraborty. 1988. "Determinants of reproductive change in a traditional society: Evidence from Matlab, Bangladesh." *Studies in Family Planning* 19(6): 313–334.
- Phillips, James F., Ruth Simmons, and George B. Simmons. 1991. "The institutionalization of operations research." In *Operations Research: Helping Family Planning Programs Work Better*. Eds. Myrna Seidman and Marjorie C. Horn. New York: Wiley-Liss.
- Population Reference Bureau and The Population Council. 1999. *A Guide to Research Findings on the Cairo Consensus*. Monograph. New York: Population Reference Bureau and The Population Council.
- Pyle, David F. 1980. "From pilot project to operational program in India: The problems of transition." In *Politics and Policy Implementation in the Third World*. Ed. Merilee S. Grindle. Princeton: Princeton University Press.
- Rogers, Everett M. 1995. *Diffusion of Innovations*. New York: Free Press.
- Rondinelli, Dennis A. 1983. *Development Projects as Policy Experiments*. New York: Methuen.
- Satia, Jay K., D. Mavlankar, and Menon Indu. 1985. "Scaling up for child survival—key issues." In *Collection of Concept Papers, Case Studies and Experience Sharing*. Papers presented at the Regional Workshop on Scaling Up for Child Survival Activities, 20–23 August. Ahmedabad, India: Indian Institute of Management.
- Shiffman, Jeremy. 2000. "Agenda setting and reproductive rights into the 21<sup>st</sup> century." Paper presented at the International Union for the Scientific Study of Population conference on Family Planning Programmes in the 21<sup>st</sup> Century, Dhaka, Bangladesh, 17–20 January.
- Simmons, George B., Deborah Balk, and Khodezatul K. Faiz. 1991. "Cost-effectiveness analysis of family planning programs in rural Bangladesh: Evidence from Matlab." *Studies in Family Planning* 22(2): 83–101.

- Simmons, Ruth. 1980. "A human service perspective on the organization of primary health care." In *Human Resources for Primary Health Care in the Middle East*. Health Sciences Faculty (eds.). Beirut, Lebanon: American University of Beirut.
- Simmons, Ruth, James F. Phillips, Michael A. Koenig, and A.A. Zahidul Huque. 1987. "Implementation-based Policy Development in Bangladesh." Paper presented at the annual meeting of the Population Association of America, Chicago 30 April–2 May.
- Simmons, Ruth and George B. Simmons. 1992. "Moving toward a higher quality of care: Challenges for management." In *Managing Quality of Care in Population Programs*. Anrudh K. Jain (Ed). West Hartford, CT: Kumarian Press.
- Simmons, Ruth, Peter Hall, Juan Díaz, Margarita Díaz, Peter Fajans, and Jay Satia. 1997. "The strategic approach to contraceptive introduction." *Studies in Family Planning* 28(2): 79–94.
- Simmons, Ruth, Gu Baochang, and Sheila Ward. 2000. "Initiating reform in the Chinese family planning program." Paper presented at the annual meeting of the Population Association of America, Los Angeles, 21–24 March.
- Sternin, Monique, Jerry Sternin, and David March. 1999. In *Scaling Up, Scaling Down—Overcoming Malnutrition in Developing Countries*. Ed. Thomas J. Marchione. Amsterdam: Gordon and Breach.
- United Nations. 1994. "Program of Action adopted at the International Conference on Population and Development, Cairo, 5–13 September." New York: United Nations. Document No. A/CONF.171/13, 18 October.
- Uvin, Peter. 1995. "Fighting hunger at the grassroots: Paths to scaling up." *World Development* 23(6): 927–940.
- . 1999. "Eliminating hunger after the end of the Cold War: Progress and constraints." In *Scaling Up, Scaling Down—Overcoming Malnutrition in Developing Countries*. Ed. Thomas J. Marchione. Amsterdam: Gordon and Breach.
- Uvin, Peter and David Miller. 1996. "Paths to scaling-up: Alternative strategies for local nongovernmental organizations." *Human Organization* (55)3: 344–354.
- Walker, Jack L. 1969. "The diffusion of innovations among the American states." *The American Political Science Review* 63(3): 880–899.
- Wazir, Tekha and Nico van Oudenhoven. 1998. "Increasing the coverage of social programmes." *International Social Science Journal* 50(155): 145–154.
- World Health Organization (WHO). 1978. "Report of the International Conference on Primary Health Care, Alma-Ata, Kazakh, USSR, 6–12 September." Geneva: WHO.
- Wils, Frits. 1995. "Scaling-up, mainstreaming and accountability: The challenge for NGOs." In *Non-Governmental Organisations: Performance and Accountability beyond the Magic Bullet*. Eds. Michael Edwards and David Hulme. London: Earthscan.
- Zhang Erli. 1998. Personal communication. Zhang Erli, at the time Director of Statistics and Planning of the State Family Planning Commission of China, was the head of the quality-of-care project.
- Zhang Erli, Baochang Gu, and Zhenming Xie (eds.). 1999. *Assessment Reports on the SFPC's First Pilot Counties/District on Quality of Care in Family Planning (1995–1998)*. (In Chinese.) Beijing: China Population Press.
- Zhang Kaining. 2001. Personal communication. Zhang Kaining at the time was Director of Yunnan Reproductive Health Research Association, Director of the Institute for Health Sciences, Kunming Medical College; and Member of the Gender Advisory Panel, UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction.

## Acknowledgments

The authors gratefully acknowledge the support of the UNDP/UNFPA/WHO/World Bank Special Programs of Research, Development and Research Training in Human Reproduction's Strategic Component on Technology Introduction and Transfer and the Bill and Melinda Gates Foundation. We also greatly appreciate the assistance of Max Heirich, Laura Ghiron, Cindy Colen, and Shailaja Maru, who provided extensive research support and manuscript review.