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Family Planning Programs in Sub-Saharan Africa

Case Studies from Ghana, Rwanda, and the Sudan

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Therese McGinn
Donald Lauro
and
John Ross

Perhaps family planning has a better future in Sub-Saharan Africa than experts have assumed. Case studies from three countries suggest reason for increased optimism.

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This paper — a product of the Population Policy and Advisory Service, Population and Human Resources Department — was prepared for a review of effective family planning programs. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (October 1992, 23 pages).

In the 1980s, signs that Sub-Saharan Africans would welcome family planning in numbers sufficient to make a difference in fertility rates were scattered and weak. Pessimists cited formidable cultural and socioeconomic barriers; optimists provided resources for pilot projects, coupled with research to document results and to guide expansion and replication.

Among projects with measurable achievements in acceptance of family planning in settings that were less than promising were the Ghana Registered Midwives Project, the Ruhengeri Project in Rwanda, and the Sudan Community-Based Family Health Project. All were associated with the Operations Research Program of Columbia University's Center for Population and Family Health.

In Ghana, midwives in private practice were trained and given other support to initiate family planning services.

In Rwanda, rural community development volunteers added family planning to their educational activities.

In the Sudan, rural catchment areas and work assignments of rural primary health care personnel were changed to introduce family planning and strengthen other child survival services.

Positive results were evident from quantitative measures of service delivery and, in Rwanda and the Sudan, from an increase in contraceptive prevalence in the project areas. Other criteria for success included improved management skills, motivation for replicating successful programmatic elements, and potential for continuity.

Questions remain as to why attitudes changed, when contraceptive use for family limitation will be practiced widely, and how applicable the experiences reported here are to other locations. These projects do not provide the answers. They do, nonetheless, support an optimistic view for the future of family planning in Sub-Saharan Africa.

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FAMILY PLANNING PROGRAMS IN SUB-SAHARAN AFRICA: CASE STUDIES FROM GHANA, RWANDA, AND THE SUDAN

Regina McNamara, Therese McGinn, Donald Lauro, and John Ross

Contents

I. Introduction

Family planning services in sub-Saharan Africa are developing slowly for reasons embedded in social and cultural patterns that reward high fertility, as well as for lack of human and material resources. International agencies and a few countries spent large sums in the 1980s to increase family planning services in the region, with little effect on contraceptive prevalence rates. Yet there are hopeful signs—programs here and there that suggest that changes are occurring or are imminent. This paper reports on three such programs which were undertaken in collaboration with the Columbia University Operations Research Program conducted from 1984 to 1990.[1] The Ghana Registered Midwives Association Project, the Ruhengeri Project in Rwanda, and the Community Based Family Health Project in the Sudan were new efforts in countries with substantial impediments to development of family planning programs. The discussion of factors which appear to have influenced their acceptability, evidence of their success over the short term, and assessments of their potential for continuation are based on the operations research.

The environment for family planning in sub-Saharan Africa, as described by Frank (1990) and by Caldwell and Caldwell (1990a; 1990b), is not promising. According to these observers, programs fail because demand for children is so strongly rooted in sub-Saharan institutions, and demand will not abate unless there are changes in economic, social or cultural conditions. In brief, social and family patterns that are resistant to family limitation include obsession with fertility to continue the (husband's) lineage, weak marital bonds (Caldwell), fear of child mortality, abhorrence of sterility, and the custom of fostering children in the extended family system (Frank).

The World Fertility Surveys (WFS) conducted in sub-Saharan Africa in the late 1970s and early 1980s generally confirmed the absence of signs of fertility decline. Possible initial stages were noted in Ghana, Kenya, Senegal, and the Sudan, but they were not sufficiently strong or methodologically convincing to remove doubts as to a sustained decline (van de Walle and Foster, 1990). Recent Demographic and Health Surveys (DHS) have detected fertility declines among women up to age 34 in Botswana and Zimbabwe, and a smaller decline in Kenya (Arnold and Blanc, 1990). The DHS report for Botswana links the timing of the fertility decline to the introduction of the national family planning program some 10 to 15 years before the survey (Lesetedi et al., 1989). From this it could be inferred that in Botswana there were women who did not want additional children, who were ready for family planning and, once contraceptives were made available, accepted in sufficient numbers to affect the overall fertility rate.

The premise of an existing demand among women who do not want more children, or who would prefer a substitute for postpartum abstinence for child spacing, and the belief that additional demand can be stimulated by accessible services, undergirds policy and operational strategies of agencies that fund family planning programs. This more optimistic viewpoint is

[1]The Operations Research Program was funded under Cooperative Agreement DPE-03-A-00-4049 between Columbia University and the United States Agency for International Development, Office of Population, Research Division. It was conducted by the Center for Population and Family Health, School of Public Health of Columbia University.

supported by evidence from other parts of the world where organized programs do make a contribution to contraceptive prevalence, over and above the influence of education, urbanization and other socioeconomic variables (Mauldin and Berelson, 1978; Lapham and Mauldin, 1985) and by evidence from Zimbabwe, Kenya, and Zaire, among others (Ross, 1990). Although the sub-Saharan efforts have been for the most part relatively small-scale, and were launched with resources not easily duplicated, they demonstrate the possibility of an unequivocal positive response.

Contraceptive prevalence levels (modern methods) barely reached one percent in Rwanda in the early 1980s, and did not reach five percent in Ghana or the Sudan (Ross et al., 1988).[2] Family planning program efforts were weak or very weak, according to the Lapham and Mauldin (1985) measurements of family planning program efforts in 1982. Lapham and Mauldin define three major components of program effort: policies, resources and stage-setting activities; service and service-related activities; and record keeping and evaluation. These three make possible the fourth component, availability and accessibility of supplies and services. Scores on individual components, based on a 30-item scale, are summed for the total program effort. Out of a possible program effort total of 120, Ghana scored 21.3, Rwanda 27.6, and the Sudan 9.0. Table 1 shows the Lapham and Mauldin country scores and their percentages of maximum possible scores. For comparison with countries at similar development levels according to World Bank ranking (World Bank, 1990, Table 1), Niger and Kenya are shown with Rwanda, Benin and Lesotho with Ghana, and Mauritania and Senegal with the Sudan. These juxtapositions do not reveal any association of development level with program effort.

Rwanda's 52 percent of the possible maximum score for policy and stage setting is notable, yet the availability of services and supplies is scarcely better than that of the Sudan which is much weaker with respect to policy. The situation in Ghana is similar to Rwanda; a score for policy which is relatively good compared with other sub-Saharan countries, and barely perceptible service delivery (as of 1982).[3]

Family planning programs in these settings, especially new programs, need time to build scale and momentum before fertility change is a useful indicator, but from the outset service statistics and qualitative investigations of service organization and community attitudes are essential tools to reveal program processes and outcomes. These have been used extensively for the evaluation of the Rwanda, Ghana and Sudan projects, supplemented by contraceptive prevalence estimates where community surveys were feasible. In the early program stages, when acceptability of modern methods of contraception and service management skills are still untested, qualitative measures of program continuity and institution building to enlarge capability, such as those cited by McIntosh for programs in India (1989), are also pertinent. The Indian programs

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[2]Modern methods as defined in this paper include oral contraceptives, injectable progestogen, implants, spermicides, condom, IUD, diaphragm, and male and female sterilization.

[3]A global assessment of family planning programs in 1989 indicates substantial change in seven years in Ghana and Rwanda. Ghana has reached the "Moderate" category; Rwanda is still Weak, but is given 43 percent of the possible maximum score in 1989, compared with 23 percent in 1982. Ghana's percentage of maximum possible total effort score increased from 18 percent to 52 percent. The Sudan, while remaining in the Very Weak or None category. increased from 8 percent to 20 percent in percentage of total maximum score for program effort (Ross et al., 1992).

Table 1. Family planning program effort and components for selected African countries: Scores and percent of maximum possible score

	Component and maximum possible score				
Country	*Program effort (120)*	*Policy and stage setting (32)*	*Service and service-related (52)*	*Records and evaluation (12)*	*Availability and access (24)*
Effort score					
Niger	5.5	3.0	1.1	0.2	1.2
Rwanda	27.6	16.7	8.3	2.0	0.6
Kenya	33.7	13.7	12.7	3.8	3.5
Benin	13.7	3.9	5.0	2.9	1.9
Ghana	21.3	10.1	7.6	2.1	0.9
Lesotho	16.7	8.6	6.3	0.9	0.9
Mauritania	4.2	1.3	1.4	0.0	1.5
Sudan	9.0	5.7	2.8	0.2	0.3
Senegal	27.2	10.3	10.4	3.0	3.5
Global	69.5	21.0	27.8	6.1	14.6
Percent of maximum					
Niger	5	9	2	2	5
Rwanda	23	52	16	17	3
Kenya	28	43	24	32	15
Benin	11	12	10	24	8
Ghana	18	32	15	18	4
Lesotho	14	27	12	8	4
Mauritania	4	4	3	0	6
Sudan	8	18	5	2	1
Senegal	23	32	20	25	15
Global	58	66	53	51	61

Adapted from R. J. Lapham and W. Parker Mauldin, "Contraceptive prevalence: The influence of organized family planning programs," *Studies in Family Planning* 16(3), 1985:117-137, Table 1.

judged successful "have survived· most have developed new programmes; all have expanded in geographical coverage; and many are providing a valuable service by offering consultation and training support to government and other private agencies." Program survival, expansion, demonstration and replication were among the criteria applied to the three programs described in this paper as indicators of their successes in making family planning services available under difficult circumstances.

II. Ghana Registered Midwives Association Family Planning Program

Background

Ghana was the first of the African colonies to realize political independence and one of the first to officially declare that its high fertility was an impediment to social and economic development and to set goals for lower growth rates. These goals have not been achieved. The annual growth rate from 1960 to 1970 was about 3.0 percent; the United Nations Department of International Economic and Social Affairs estimated the 1990 population at 15 million and the growth rate at 3.2 percent (United Nations, 1990). In 1990, there were almost three million more Ghanians than was reported from the 1984 census.

Ghana promulgated its official population policy in 1969 and the National Family Planning Programme (GNFPP) was established a year later. The Secretariat charged with coordination of activities in both public and private sectors was located within the Ministry of Finance and Economic Planning. Participating agencies included five other government ministries and the Central Bureau of Statistics as well as the Christian Council of Ghana and the Planned Parenthood Association of Ghana (PPAG), private sector agencies which had been offering family planning services since the 1960s.

According to reports of the University of Ghana Population Impact Project, the population policy was retained through successive administrations over the next 20 years, but with erratic political commitment. Lack of adequate knowledge about population issues, poor institutional coordination, a limited number of trained personnel, insufficient institutional support and inadequate government funding are a few of the problems cited (Benneh et al., 1989). Historical accounts are replete with references to poor institutional coordination, tension, structural confusion and frustration (Kwafo, n.d.; Nabila, n.d.). Yet some progress was made. By 1974, family planning services were offered in 135 clinics throughout the country; over half were Ministry of Health (MOH) facilities and the others were PPAG, the Christian Council and private or military hospitals and clinics. By 1986, approximately 330 clinics offered family planning services (Nabila, 1986). Contraceptive social marketing programs were attempted in 1971 and 1978, and a current program started in 1986.

Economic deterioration in Ghana, beginning in the early 1970s and reaching the lowest point in 1983, severely damaged the country's health service infrastructure. An exodus of skilled labor, poor morale among the health workers who remained, high prices and lack of petrol, paper, and other basics for supply and communication, all brought MCH and family planning services close to a moribund state. There was little international donor assistance during these devastating years to maintain existing services or to encourage initiatives in program development.

The 1971 and 1978 social marketing efforts foundered on lack of funds and management expertise, although their demise is attributed also to ambivalence in official circles concerning use of the media for family planning messages, especially those that describe contraceptive methods. On several occasions, all social marketing promotions through the mass media were halted, at least in part because of political apprehension about support for family planning in a country where high fertility is valued. Nevertheless, Ghanaians have had extensive exposure to

family planning messages. Surveys indicate that knowledge of contraceptive methods is widespread. The 1988 Demographic and Health Survey found that 76 percent of the married women and men interviewed knew at least one modern method. Reported current use, however, was five percent for modern methods and eight percent for traditional methods. An increase of 3.4 percentage points since the 1979 Ghana Fertility Survey was in traditional methods, not modern. Sixty-two percent of the women who were not currently using contraceptives did not intend to use in the future (Ghana Statistical Service, 1989).

Since 1985, signs abound of a renewed public sector commitment to the task of reducing the rate of increase of Ghana's population. A short-term primary health care plan for 1986-1988 that gave priority to MCH and family planning signaled a turn-around made possible by improvements in the national economic situation. Important roles in the initiatives were played by official multilateral and bilateral agencies and the non-governmental donor organizations such as the International Planned Parenthood Federation and Family Planning International Assistance. The United States Agency for International Development (A.I.D.), which provided support for the Ghana Registered Midwives Program described in this paper, was also assisting five other projects; the Ghana Social Marketing Program (GSMP) with approximately 3,000 pharmacists and chemical sellers distributing contraceptives, the Population Impact Project of the University of Ghana to provide information to policy-makers, a Ministry of Health family planning education program, and a national program for training traditional birth attendants (TBAs) in rural areas, and an expansion of the GSMP to include traders in the traditional markets. The latter two were also assisted by Columbia University as operations research projects.

The GRMA Program

The Ghana Registered Midwives Association (GRMA) has its origins in the 1930s and is recognized by the government as the professional organization for midwives in Ghana. Almost all of Ghana's professionally trained midwives working in the private sector are members and they constitute about half of the organization's membership of approximately 600 midwives. Private sector maternities are an important source of prenatal and delivery care throughout the country. A study conducted in the Greater Accra Region in 1987 (Adjei, 1987) estimated that the private maternities were providing about as much prenatal care as the region's entire government health system. This proportion is probably even larger in the rural and semi-urban areas.

Very few of the midwives had offered family planning services before the GRMA program began in 1987, largely because no training had been organized for them. Under the GRMA program, 204 had been trained and were providing services by May 1990 and the program will continue until all members who want the training receive it. This is a two-week course covering family planning and midwifery topics with additional instruction on MCH topics including control of diarrhea, growth monitoring, immunization, breastfeeding and weaning practices. (In many locations the maternities provide primary health care for children; some function as their community's MOH service site.) After training, the GRMA supports the midwives with continuing education, supervision, and assistance in obtaining contraceptives and other supplies.

For this work, the association received financial and technical assistance from five A.I.D.-funded organizations. The American College of Nurse-Midwives (ACNM), the professional organization for certified nurse-midwives in the United States, had the major role

for training, continuing education, and institutional development. The ACNM was responsible for coordinating the activities of the other organizations. The John Snow, Inc. Enterprise Program provided financial and technical assistance for workshops to improve member midwives' business and management skills. Johns Hopkins University's Population Communication Services, through the Ministry of Health, provided the midwives with posters, pamphlets and other educational materials. Columbia University's Operations Research Program supplied financial and technical assistance for data collection and analysis for purposes of program planning, management, and evaluation. The Ghana Social Marketing Program provided a free supply of contraceptives after training and makes supplies available to the GRMA at wholesale prices for the participating midwives. With this concentration of financial and technical assistance, since 1986 the GRMA has grown from a staff of volunteer members to eleven paid staff engaged in organizational management, public relations, membership services, and national and international liaison.

Information collected on the first 134 trained indicate that the midwives in this program are a diversified group; approximately one-third are under age 45, and one-quarter over age 55. More than six Ghanaian ethnic groups are represented. Thirty-seven percent practice in rural areas, and both rural and urban midwives reported that at least part of their clientele comes from villages or poor, crowded urban areas. Only seventeen of the midwives in this group had had previous training in family planning and only 11 percent of the maternities offered family planning services prior to entering the GRMA program. Following training, all maternities provided services. In addition to the small profit to the midwife on each family planning client, an incentive for the midwives was a potential increase in clientele for future antenatal visits and deliveries and for child health services where they are offered.

Training was conducted in 1987 and 1988 for groups of about 25 each. The characterization of this program as a success is based in part on the records of 130 midwives in the first six groups covering the period from the completion of their training in 1988 through December 1989. (Estimates given are believed to be on the low side since not all midwives complied 100 percent with reporting requirements.)

These midwives reported 12,411 new family planning clients (new to them; not all were new acceptors). Deliveries during the same time period were 18,884 giving a ratio of about 1 family planning client to 1.5 deliveries.

The midwives gathered background information on all of their new family planning clients for two to five months after training, depending on training dates. Of the 4,462 new clients interviewed, four out of five were using contraceptives for the first time. One in four (26 percent) were contracepting in order to cease childbearing (although 33 percent indicated that they wanted no more children). Sixty percent were spacing births. The more effective methods were chosen by over three-fourths of the women (60 percent oral contraceptives, 18 percent injections, and 6 percent IUCD).[4] Men were also using the family planning services at the maternities (9 percent of all clients). Most of the male clients were obtaining condoms for protection against sexually transmitted diseases as well as for contraception. Little is known as yet about continuation of contraceptive use. There were approximately 800 revisits per month by the fourth

[4]Among the 204 midwives trained, 45 were instructed in IUCD insertion at the University College Hospital in Ibadan, Nigeria since practical training was not available for them in Ghana.

quarter of 1989, and interviews with 227 randomly selected clients were encouraging in that almost 89 percent were continuing after three months and 69 percent after nine months; nevertheless cases are too few to confirm a clear pattern.

Factors Contributing to GRMA Program Success

The three most important factors fostering the success of the GRMA program are the pre-existence of a network of health professionals who are indigenous, self-supporting, and in close contact with the target population, the support of the public sector; and the confluence of substantial financial and technical assistance by five organizations which had long term institution-building objectives.

Thus the program has the advantage of the presence of health professionals widely distributed in rural and urban areas, with their own facilities, and linked to a national organization. As practitioners in the private sector who do not require extensive training, they could be quickly mobilized for service delivery. They are known in their communities, especially by women in childbearing ages, and they are especially well-placed for postpartum counseling.

The idea for the family planning training program originated with a Ministry of Health official and the MOH has supported the activities of the GRMA by contributing educational materials, for example. There is a history of cooperation between the MOH and private sector maternities, especially those where MCH sessions are held. Many of the midwives started their careers in the Ministry and personal and professional ties endure.

Each of the organizations that was funded by A.I.D. to assist the GRMA program made its specific contribution to the development of the organization itself, the training program, procedures for supervision, and maintaining motivation and skills (e.g., continuing education, a periodic newsletter), and staff capability for program monitoring.

ACNM technical assistance in helping to establish a central organization capable of managing the training and support services for the midwives has been of paramount importance. The consultants played active roles in planning the program and its budgets, training the trainers, organizing and conducting the training sessions, and on-going management of the program.

The Social Marketing Program made possible a centralized system for supplying the midwives at wholesale prices. Enterprise consultants led workshops to teach the midwives financial management. (This aspect of the program was evaluated by a sixth A.I.D.-funded program, the Population Impact Project.) The Population Communication Services' contribution was through materials and technical support for the Ministry of Health and transferred from the Ministry to the GRMA; hence that agency was not directly involved in day-to-day operations.

The GRMA program enjoyed some enhancement of status in official and academic circles as a Columbia University operations research project. The main contribution of the operations research to program success, however, has been through regular reports on the training and on services delivered; also by establishing within the GRMA the capability to collect and analyze data as a routine administrative task for program evaluation.

It may be neither possible or necessary to assemble elsewhere the numerous organizations and consultants that were involved in the creation of this family planning service. The cost in U.S. dollars was high; probably over half a million in three years for the ACNM part alone (in Ghana and in the U.S.). Yet the funds and technical assistance provided to the GRMA, the coordinating role played by ACNM, and the adroitness of the GRMA in managing relationships with five agencies while guarding its autonomy were undoubtedly factors responsible for a successful launching of a family planning service program with excellent potential for long term influence on Ghanaian attitudes and practices. The experience gained is guiding replication of the program in Nigeria and Uganda, two countries where private maternities are also common.

The effects of this program, which adds about 300 service delivery sites throughout a country that has approximately two and a half million women of reproductive age, are not likely to be seen immediately in national prevalence or total fertility rates. Nonetheless, by expanding the scope of professionals who are already established in their communities, it has put in place (with good prospects for continuation) a private sector piece that was missing from the national program.

III. The Rwanda Community Project

Background

Rwanda has two extraordinary demographic problems; a population of about seven million on 26.3 thousand square kilometers (270 persons per sq. km.) and an annual rate of population increase of about 3.5 percent. The 1988 total fertility rate, estimated at 8.0, was the world's highest (World Bank, 1990, Table 27). Rwanda is also one of the least urbanized countries; worldwide, its 7 percent urban population is exceeded by all nations except its neighbor, Burundi, and Bhutan (World Bank, 1990, Table 31). Subsistence crops comprise 95 percent of agricultural production; and these are raised on a rugged land mass with steep slopes.

The area was part of German East Africa until the League of Nations awarded it to Belgium as a mandate after World War I. It attained political independence in 1962. The Hutu group (a Bantu people) constitute 84 percent of the population and nearly 100 percent of the leadership; 15 percent of Rwandans are Tutsi (Europa Publications, 1986). This is a tightly structured society, organized from the highest levels of government to the ten regions, the communes within regions, and the cellules within communes.

The rate of population increase was recognized as a problem in the colonial era and after independence in several five-year plans that proposed internal and external migration, expansion of arable lands, and agricultural improvements. The second-five year plan (1977-1981) recognized overpopulation as a major obstacle to development, and proposed research on family planning, training and service delivery (Emmanuel, 1988). The third development plan (1982-1986) was more specific; it proposed to maintain the growth rate at 3.7 percent per year while the conditions for a rapid decline after 1986 were to be put in place. Raising age at first birth and limiting births among women over age 40 were priorities. Pronouncements of the president, and the political party, Mouvement Révolutionnaire National pour le Développement (MRND), have called for action by the State and non-governmental organizations, especially by religious groups.

The Office National de la Population (ONAPO) was established by decree in 1981 and the political will to support its efforts has been strong and unwavering. By the mid-1980s, with financial and technical assistance from A.I.D, UNFPA and other donors, ONAPO and the Ministry of Health (MINISANTE) had instituted family planning services in about 65 percent of the government health clinics throughout the country. In many of these, however, family planning was offered at fixed days and hours separately from other services. By late 1988, estimates from service statistics indicated a national prevalence rate of 4.2 percent, an increase from the one percent reported by the 1983 National Fertility Survey, but the gap between national policy and individual practice was formidable.

Fertility for the purpose of transmitting life is highly valued in Rwanda as a sacred duty to family, ancestors, and lineage (May et al., 1990). Postpartum abstinence is not practiced but other methods, principally breastfeeding for an average 21 months, are used for birth spacing, which is also very highly valued. Closely spaced births are severely criticized as endangering the welfare of the entire family as well as the survival of the penultimate child. The strength of the desire to postpone births suggests receptivity to contraception for that purpose, if services become widely available and fears of side effects are allayed.

The position of the Roman Catholic Church with respect to contraception has been an obstacle of considerable magnitude. About 40 percent of the people are Roman Catholic and, until December 1985, the Roman Catholic Archbishop of Kigali was a member of the central committee of the MRND. According to May et al. (1990), fifty to sixty percent of all Rwandans use health facilities operated by the Catholic church. They offer only natural family planning methods. High-level discussions between the government and the church hierarchy have produced statements of cooperation and the intention of the church to promote natural family planning methods vigorously (Viviateur, 1988) but the constraints remain on development of a widely-available service system.

The Ruhengeri Project

The Ruhengeri project introduced community education and distribution of contraceptives by volunteers who belong to the network of the Centers for Development and Continuing Education (CCDFP) of the Ministry of the Interior and Community Development (MININTER). Rural development in Rwanda is organized around the CCDFP's *Abakangurambaga* or "wakers of the people" who provide information and advice on many development topics throughout the country at a ratio of one volunteer to as few as ten families. Rwanda's system of communal labor and frequent community meetings provide forums for communication of the development messages. The Abakangurambaga are generally multi-purpose and promote community activities as directed by the CCDFP. They receive no compensation from any government body and the communities are not expected to pay them.

The plan was for ONAPO to select and train Abakangurambaga as volunteer specialists for a national information, education and communication (IEC) program. The pilot operations research project, designed and conducted in cooperation with Columbia University, was to provide an experiential as well as an experimental basis for the national program.

The Ruhengeri Region chosen for the study is a mountainous area where the rural dwellers are particularly hard-pressed to reach health clinics, and contraceptive prevalence was

lower than in most of the other nine regions of Rwanda. This region is in the northern part of Rwanda; it was not affected by the civil unrest occurring during the life of the operations research project but educational and other developmental activities in the area were undoubtedly affected by the military actions of 1990.

The research was conducted in three noncontiguous communes, each with a population of about 30,000. Two, Kidaho and Gatonde, were experimental areas, and a third, Kinigi, served as a control. In Kidaho, 23 volunteers trained for the project provided information and clinic referrals and distributed contraceptives (condoms and spermicidal tablets, and resupply of oral contraceptives). In Gatonde, information and referrals by 23 trained volunteers were the only interventions. Routine services at the clinics continued in these areas as well as in Kinigi, which had no outreach activities.

A series of meetings among collaborating organizations and meetings with national and regional officials of ONAPO, MINISANTE, and MININTER were held at the project's start to make sure its objectives and procedures were clearly understood and supported. In the study area, existing clinic services and service statistics were reviewed and focus group discussions provided information for training and for the design of research instruments.

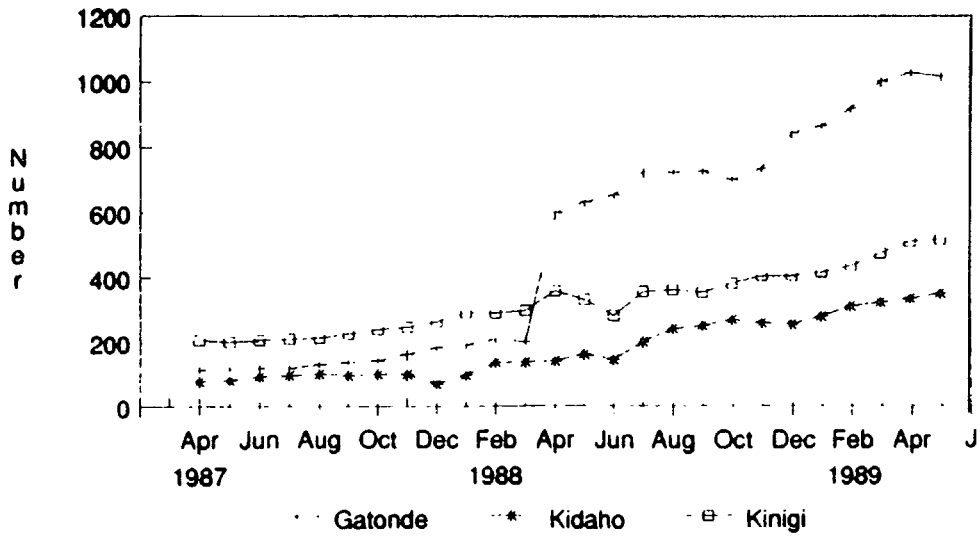
At the start of the project, family planning clients were about equal in numbers at the single clinic in each of the two experimental areas. The control area, Kinigi, had three service sites and almost twice the family planning clients. Immediately after Abakangurambaga training in February 1988, increases in clinic attendance in Gatonde were of sufficient magnitude to cause the authorities to open a satellite facility in that commune. Clinic attendance in Kidaho increased also, though to a lesser extent. The community-based distribution of contraceptives, mainly condoms, in Kidaho accounted for little of the gains in contraceptive usage. Injectable contraceptives, available only in the clinics, were by far the method of choice in these communes, as in the country as a whole.

A survey of 1,363 randomly selected married women, aged 15 to 49, conducted in the study areas after 16 months of Abakangurambaga activity, verified trends that had been observed from service statistics. The contraceptive prevalence rate, as estimated in January 1988 for the three areas taken together, was 4.6 percent for modern methods. By June 1989, prevalence had risen to 13.9 percent. The survey in the Gatonde commune, which had not had distribution by the volunteers, found 28.5 percent prevalence of modern methods, compared with the earlier estimate of 4.5 percent. Kidaho, where contraceptives were distributed, reported an increase from 2.3 percent to 6.4 percent, and the control area, which had a higher prevalence of 6.9 percent in 1988, increased to 7.4 percent in June 1989 (Figure 1).

Overall, affirmative replies to questions on desire to use contraception in the future were given by 70 percent of the women with one to three children who were not currently using. Sixty-three percent of the respondents with seven or more children, not currently using, indicated an intention to use in the future.

ONAPO and the ministries reacted quickly to the early evidence of positive effects of the volunteer activity on clinic services and set in motion a comparable national program before the operations research results were in. Rwanda's "Global IEC Plan" was instituted in late 1988 and 17,000 Abakangurambaga were trained as family planning promoters, though not as community

Figure 1. Number of current users of modern contraceptives, April 1987–May 1989



Source: Office National de la Population (ONAPO) and Columbia University Center for Population and Family Health, *Rapport de l'Etude sur la Promotion et la Prestation des Services de Planification Familiale a Base Communautaire a Ruhengeri*, Kigali, Rwanda, August 1989.

to outreach activities comparable to those in the experimental areas.

Higher levels of education among the women of Gatonde probably account for part of the difference in levels of contraceptive prevalence achieved, but differences between the two experimental areas in the activities of the volunteers and their support from the community leaders are important as well. In Gatonde, 40 percent of the women interviewed reported that the Abakangurambaga were their principal source of information on the benefits of family planning, compared with 6.5 percent in Kidaho. Over 40 percent of current users in Gatonde but only 20 percent in Kidaho attributed their acceptance of family planning to the work of the volunteers.

There were far fewer community meetings in Kidaho during this period than in Gatonde, and they were not popular. Consequently, the Kidaho volunteers had fewer opportunities to speak of family planning. Several changes in commune leadership in Kidaho over 16 months had weakened support for the Abakangurambaga and most likely adversely affected motivation. Kidaho volunteers counseled just a fraction of the number counseled by Gatonde volunteers who profited from very strong support from local authorities. These authorities themselves spoke about family planning during frequent and well-attended community meetings and regularly gave the Abakangurambaga a chance to address the groups. Encouraged by an interested public and supportive leaders, the volunteers apparently worked harder and thus created, in their turn, more interest.

Without extensive interviewing and observation, the motivating influence of the Abakangurambagas in creating a demand for family planning services cannot be definitively established, but this interpretation is certainly suggested in Gatonde where a second clinic had

Without extensive interviewing and observation, the motivating influence of the Abakangurambagas in creating a demand for family planning services cannot be definitively established, but this interpretation is certainly suggested in Gatonde where a second clinic had to be added to handle the sudden increase in clients seeking services in the first months after the program was introduced. In the Kidaho area, the greater part of current use was accounted for by the injectable, not by the methods supplied by the Abakangurambaga.[5]

The hopes for the national program initiated shortly after the first results of the pilot project were known are tempered by the realization that openness to family planning practice documented in the 1989 survey in the study areas did not readily translate into a desire for small families. The ideal number of children expressed by the respondents was 5.8 (calculated by adding the additional number of children desired to the number of existing children), not very much lower than the 6.3 found in the 1983 Fertility Survey. The mean ideal number of children among Gatonde respondents was lower than those of the other regions. Gatonde women were also more likely to have the intention to use family planning in the future, suggesting that the Abakangurambaga had an influence on these attitudes. Neither education or religion differentiated future use among non-users in any project area.

Factors Contributing to Success in Ruhengeri

The determination of the government to solve the problems of extraordinary population density and growth of the population provided a firm official foundation for the project. It was not mounted by ONAPO unilaterally, but in concert with the Ministry of Health and the Ministry of the Interior and Community Development. This unity of purpose at high levels, however, had little direct effect on the family planning practice. The change factor seemed to be the men and women of the rural communities who were known, who were trusted, and who were experienced with communicating the government's messages. Also, the Abakangurambaga were apparently most convincing when they were assured that their most immediate leaders and national leaders were speaking with the same voice. Lack of local support was an impediment the volunteers in Kidaho could not overcome. Recommendations made at the end of the operations research project emphasized at several points the need to prepare the communities for the volunteers, promote community meetings, and broadcast IEC messages on the radio as essential strategies for building and maintaining the volunteers' motivation.

The prospects for survival of the program are excellent given the unequivocal government support, and geographical expansion was underway at the first signs of success in attracting new acceptors. Organization and management of a national program undoubtedly brings its own problems but this project in a short time period provided useful training and program monitoring experience, and encouraging evidence that women in Rwanda do respond to community education.

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[5]Contraceptive supplies distributed in government clinics in Rwanda, as in many Third World countries, are contributed by international and bilateral donor agencies. A.I.D. does not distribute injectables; UNFPA is the major source for supplies of this contraceptive.

IV. The Sudan Community-Based Family Health Project

Background

Sudan, the largest African country, varies geographically from the desert or semi-desert covering the northern third of its 2.5 million square kilometers to dense equatorial jungle in the south. The 1988 population is estimated at 23.8 million (World Bank, 1990, Table 1) Approximately 80 percent of the economically active population are in the agricultural sector, the majority in subsistence production (Europa Publications, 1986). Droughts, civil war between the Islamic north and the Christian and animist south, development policies and heavy borrowing brought this country to the verge of economic collapse in the early 1980s when the Family Health Project was initiated. The available resources for building up the public health services infrastructure were directed primarily to the most densely populated areas in and around the capital, Khartoum, and the central and eastern provinces (Farah, 1983).

The national primary health care programs of the late 1970s were limited in the range of services to be provided as well as in the area to be reached. There was no organized center for MCH within the MOH. The main providers of MCH services were health visitors (trained nurses) in urban health centers and village midwives who attend home deliveries (UNFPA, 1986). Family planning for birth spacing was nominally part of MCH services although it was not a priority. A non-governmental family planning association, an affiliate of the International Planned Parenthood Federation (IPPF), was founded in 1965 but services in the early and mid-1980s were in general available to those who could pay a physician or a private clinic. Some training for services and public education were undertaken, with assistance from UNFPA, WHO and other agencies, but major constraints identified by a 1985 UNFPA needs assessment mission included the lack of an institutional base for MCH and family planning within the MOH and other levels of administration, lack of management and supervisory capabilities, absence of guidelines for service delivery, and the difficult economic situation (UNFPA, 1986). Public health officials were cautious in view of presumed negative attitudes toward birth control held by Sudanese women and traditional values favoring high fertility. The official position in the Sudan was that the annual population growth rate of about 3.3 percent was satisfactory for the nation and for family well-being. Intervention to moderate growth was not deemed necessary (UNDIESA, n.d.).

More than three-fourths of the population of North Sudan are Muslim and traditions and practices support the bearing of many children as a religious duty as well as a safeguard against a destitute old age (Saghayroun, 1983). A summation of difficulties anticipated for family planning promotion in the Sudan included "illiteracy and ignorance, the ancestral need for sons, the social-security need for sons, social pressure toward parenthood, the superstitions and customs attached to menstruation, the sensitivity of sex-related behaviour, the invisibility of social support on so private a matter and in addition to that, the remoteness of rewards" (Adam, 1983).

Women's fulfillment of their primary role as reproducers in Arab countries was examined in Farid's comparison of the results of fertility surveys in the Sudan (North), Egypt, Jordan, Mauritania, Morocco, Syria, Tunisia, and Yemen (1984). These surveys were conducted in cooperation with the World Fertility Survey Program in the late 1970s and early 1980s. Sudan's reported total fertility rate (TFR) in the five years preceding the survey was 6.02, midway among the eight countries where TFR ranged from 5.27 (Egypt) to 8.51 (Yemen). Sudanese women aged

40-44 and 45-49 reported 6.00 and 6.03 children ever born. A family of four children was, on average, desired in Egypt and Tunisia, six children in North Sudan, and nine children in Mauritania. The current family size at which a least 50 percent of the women interviewed said they wanted no more children ranged from three children in Egypt, seven in Yemen, nine in the Sudan, and more than nine in Mauritania. Five percent of the currently married fecund Sudanese respondents reported current use of contraceptives, compared with 36 percent in Tunisia and one percent in Mauritania and Yemen. In the Sudan, 87 percent had never used contraception, and 79 percent stated that they did not intend to use in the future.

These estimates are not descriptive of urban Sudanese women, women who had completed primary school, or women in the Khartoum province. Close to 20 percent of Khartoum women were currently using a contraceptive method (traditional or modern) and 27 percent stated they wanted no more children (Department of Statistics, 1982). The five percent of the sample who had completed primary school differed sharply from the 82 percent with no schooling in their ever use of family planning (62 percent and 6 percent, respectively) and their current use (42 percent and 2 percent). They differed by two children in desired family size, 4.7 among the educated and 6.7 among those with no formal education.

The population of the two areas covered by the Sudan Community-Based Family Health Project had been exposed to modernizing influences. The Original Area project was conducted in 90 villages with about 100,000 population, just north of Khartoum. The Extension Area comprised 65 villages along 125 kilometers of the Nile River, from the northern border of Khartoum Province to Shendi, the Nile Province capital. Although both are rural areas, they have the advantage of proximity to the Nile for irrigation and access to rail service to Khartoum. Both the Original and Extension projects received funds from the USAID/Khartoum Mission and technical assistance from the Columbia University Operations Research Program. Additional information on both projects can be found in Department of Community Medicine and Center for Population and Family Health (1988) and El Tom (1985) and El Tom et al. (1984; 1984-85; 1987; 1989).

The Original Project

The public health system in the Sudan has had a strong commitment to physician-oriented curative care, yet cadres of paramedics have been deployed in rural regions. A complete paramedic complement includes a medical assistant who has had three years of nursing training, field experience, and two more years of rural health care training; nurses; and community health workers. The community health workers, who are the main providers of primary health care in the villages, have little to do with MCH (UNFPA, 1986). Village women selected by their communities for nine months of midwifery training at a government school are under the supervision of nurse-midwives but they are not paid by the official system. They receive stipends from their communities or payments in cash or kind for deliveries. All but the midwives are male and their orientation is curative.

In 1980, the Department of Community Medicine of the Faculty of Medicine, University of Khartoum (DCM) initiated the Original Area program as an operations research project to test expanding the functions of the village midwives to include family planning, oral rehydration therapy, nutrition education, and mobilization for immunizations. Proximity of the area to the capital offered the advantage of a relatively well-developed health infrastructure and ease of

access for DCM staff and visitors. The disadvantage for a pilot demonstration project was its dissimilarity to most other rural regions in the Sudan (although some of the 90 villages were relatively isolated) but the model to be tested was a first attempt at community-level education and distribution of contraceptives in the Sudan and involvement of the midwives as a previously underutilized resource. Reasonable travel conditions were considered to be necessary for communication and supply, and to keep public health officials informed as to its progress.

Following extensive meetings and discussions with community leaders, the midwives were trained to undertake a series of house-to-house visits in their villages to promote the interventions in sequence. They were supplied with oral contraceptives to distribute to women who indicated a desire to use them. Preparations for this first introduction of family planning services within the government system were thorough. A week-long seminar of religious leaders from the project area with an Islamic scholar had been held to allay concerns that family planning was not in accordance with the Koran. Midwives were instructed to discuss the subject in privacy and only where the women visited exhibited some interest. Birth spacing, not family limitation, was their theme.

Research on the Original project included a baseline sample survey, analysis of service records, and observations. A second survey was conducted in 1981, some nine to twelve months after the several interventions were introduced. The results, especially changes in family planning KAP, were encouraging. The post-intervention survey showed current use of modern contraceptives (orals) at 10.6 percent, compared with 8.5 percent at the baseline. Multivariate analysis indicated a proportionately greater increase in the poorer and more isolated villages—those that were less susceptible to secular influences from Khartoum and more dependent upon midwife visits for motivation and supply. The concept of family planning as a component of primary health care appeared to be acceptable to the health workers and to the villagers.

This phase of the Original Project ended in 1982, and community outreach and supply activities of the midwives were expected to continue under the supervision of the government health personnel having responsibility for these villages. By 1986, it was apparent that services had faltered in the absence of the personal and monetary stimulation supplied by the Department of Community Medicine during the operations research phase. A good start had been made, but the likelihood was that this was going the way of so many pilot projects, that is, it was fading away as the "extras" were removed. A recently formed Directorate for Maternal and Child Health within the Ministry of Health then undertook a revitalization of the program in the villages, replicating not the Original Project but the Extension Project described below.

The Extension Project

The Extension project, initiated in 1984, also concentrated on oral rehydration therapy, family planning, nutrition education, and mobilization for immunizations. Adaptations in its organization, based on the experiences in the Original area, were as follows:

- The focus was on all paramedics working in the area and community volunteers, not the village midwives alone. Health teams were created, each within a newly demarcated health zone with a health center or dispensary. These were not new facilities or additional staff. Access to services had varied considerably among the villages and reorganization of service zones reduced travel time for many and, by

identifying a team with specific villages, improved communication and community participation.

- The midwives were the outreach workers, visiting households for education, motivation, and supply, with back-up by other team members at the centers. Midwives did not receive stipends, but each village worked out a system for payment for contraceptives with a portion of the fee to go to the midwives. The remainder helped to defray health team expenses. Training was decentralized to the district level and to the community level and all health workers participated. Training was phased and the midwives had a chance to gain experience in house-to-house visiting before introducing family planning.

- Supervision and supply from central headquarters had been perhaps the most difficult problem in the Original area, and it had not been resolved by payment of stipends to supervisors. In the Extension project, stipends were not paid. Instead, natural lateral linkages among staff under the medical assistant were exploited, team meetings were held frequently, supervisors were trained to exercise leadership in a constructive, supportive climate, and the medical assistants' visits to district headquarters for pay and supplies were used for discussions of the work in the field.

- DCM staff limited their participation to technical support for training and research. They trained district health officials to train the medical assistants who in turn trained their team members. Analysis of service statistics and the administration of short, narrowly focused questionnaires for program evaluation were operations research methods taught.

The post-intervention survey in the Extension area was conducted in 1987, three years after a baseline survey and after approximately two years of community education and oral contraceptive supply. The baseline survey had indicated that modern contraceptives were currently used by 6.8 percent of the women interviewed. In the final survey, 19.8 percent reported current use; 92 percent of the users were using oral contraceptives. Table 2 shows the distribution of users of modern contraceptives by age and educational level at the baseline and after the project introduced community-level education and supply.

Close to a quarter of the women interviewed for the post-intervention survey had at some time used a modern method (predominately oral contraceptives) and of these, 59 percent said their first source of information about family planning came from the village health team. Respondents who received information about family planning from the health team were more likely to be users of contraceptives than women informed by other sources. Among the women using oral contraceptives at the time of the survey, 77 percent were supplied by the health team. The evidence indicates that, in spite of political, religious and cultural sensitivities, when information about family planning and the means to practice are made available, rural and semi-rural Sudanese women respond.

Revitalization in the Original Area

A survey conducted in the Original Area at the same time as that of the post-intervention survey in the Extension Area indicated parallels in results achieved. The major difference was

a time lag in the Original area. Both areas reached 20 percent prevalence of current use of modern contraceptives by 1987; the Original area starting from a base of 8.5 percent in 1980 and the Extension area from a base of 6.8 percent in 1984. Between 1981 and 1986 there was a gain of just 2.7 percentage points in the Original Area. Following revitalization of the village program of education and supply by the Ministry of Health in 1986, there was a gain of 6.4 percentage points in about one year. Stabilization of the revised program and continuation by the Ministry was essential to recapturing the momentum of community acceptance.

Factors Contributing to Family Health Project Success

The intensive series of meetings of Department of Community Medicine staff and village leaders held at the outset of program planning brought to the surface community views on health conditions and the services they needed. With the exception of family planning, the problems expressed by the villagers coincided with the interventions proposed. It is likely that the dialogue and acceptance of the program was influenced by the identity of the Department head—a persuasive leader from a family of village chiefs who is known and esteemed for his accomplishments as well as for his lineage.

A belief that the teachings of Islam forbid the use of contraceptives was a potential obstacle the program planners met head on by convening a workshop for local religious leaders. Religious beliefs, however, did not appear to be a problem for the villagers. According to the survey data, few women do not use or discontinue use of contraceptives for religious reasons.

The midwives who made household visits were of the villages and were known to the families. They were charged not merely with supplying contraceptives, but also were responsible for activities necessary for successful promotion of family planning; that is, reducing fear of

Table 2. Current use of contraceptives among married women aged 15–49, Sudan Extension Project, 1984 and 1987

	1984		*1987*	
Characteristic	*N*	*Percent*	*N*	*Percent*
Age				
15–24	325	4.3	353	13.9
25–34	557	7.0	651	27.5
35+	537	8.2	487	13.8
Education				
None	955	5.7	738	19.2
1–4 years	263	9.1	352	22.4
5+ years	201	9.5	401	18.5
Total current use	1,419	6.8	1,491	19.8
Total ever use	1,419	22.6	1,491	37.1

Source: Center for Population and Family Health, Columbia University. Operations Research Program, Sudan Community-Based Family Health Project Data Files.

contraceptive technology (and side effects) and addressing religious barriers, high child mortality risks, and high fertility preferences (Simmons et al., 1988).

The effectiveness of indigenous women in conveying information about family planning is a point that recurs throughout these case studies, and a second point is the need for consistency of political and administrative backing. The support forthcoming from the local health team, the district officials and the Ministry of Health for the Extension project and the second phase of the Original project was essential. Continuation of the projects depends upon their integration with a functioning public health system.

Operations research made its contributions to program success by identifying deficiencies in the first model, testing corrections, and documenting results. Also, trials of strategies that are new to the country or region can attract the interest of otherwise cautious officials and this was the case in the Sudan. Visibility for the project and cooperation between the DCM and the public health system were reinforced through planning meetings and a workshop on operations research. As in Ghana and Rwanda, the operations research was conducted with an explicit objective of enhancing political receptivity to findings, replication of any programmatic success that might be achieved, and commitment to family planning service development.

V. Discussion

The judgment that these three projects were successful in raising levels of contraceptive use in their target areas was based primarily on community surveys in Rwanda and Sudan and on service statistics in Ghana. To recapitulate from these records, 130 private midwives in Ghana newly trained as service providers had a total of 12,411 clients in a little over a year; a ratio of 1 family planning client to 1.5 deliveries. In Rwanda, use of modern contraceptive methods in one experimental area increased from 4.5 percent to 28.5 percent. The post-intervention survey in Extension Area in the Sudan showed an increase in use of modern methods from 6.8 percent to 19.8 percent over three years.

Because the time periods covered in these case studies were short, 18 months to three years, evaluation according to qualitative measures such as those cited by McIntosh (1989) is provisional. The projects can, nevertheless, be judged as to their potential for survival, expansion in geographical coverage, and influence on regional or national family planning program development.

For the midwives in Ghana, their role as family planning service providers has been newly created and firmly linked to a central organization which benefited from intensive institution building assistance. Because they are individuals in private practice, some may not continue without stimulation from the GRMA in the form of supervisory visits, newsletters, education, and assistance with securing supplies. Others who are well-motivated, or who are satisfied with family planning as a component of their practice, will continue and will manage to get supplies through private channels as they do for their obstetric work.

The government of Rwanda has made a commitment to continuation of the program in the project sites and to national expansion. The operations research indicated some of the problems that will be encountered, specifically with supervising the volunteers and maintaining

their morale. A program on a much larger scale risks considerable dilution of effort, and response in other regions may be less striking. This community-based approach, however, is consistent with Rwanda's political and social organization. It is an adaptation of the volunteer community development worker system, not a new strategy, and it holds promise for continuity over the long term.

In Sudan's public health system, education for birth spacing was intended to be the responsibility of all primary health care providers, including community health workers and village midwives (UNFPA, 1986). The project demonstrated now this could become a reality. If economic conditions do not deteriorate to the point where the health teams working in villages are isolated, without supplies and without transportation, the prospects for continuation are favorable. Solutions for those formidable problems are usually outside the purview of the local programs.

None of the projects introduced a new category of paramedical worker, a condition which enhances their potential for survival without large outlays of funds for staff support. The workers were drawn from the community resources—private sector registered midwives, volunteers for community development, and, in the Sudan Extension project, health center staff and the village midwives.

Costs for the three cases included research, technical assistance from several sources, staff training, administration, and various expenses associated with demonstration objectives; which produced relatively high costs per couple year of protection. The GRMA project incurred additional institution-building expenses. For replication, the costs would be less but partial funding from external sources is probably necessary to prepare staff for expanded functions and the logistics of supervision and supply. (Program planners in these countries anticipate continuation of multilateral and bilateral donor agency contributions of contraceptives.)

Geographical expansion, as a qualitative measure of program success, characterized the Ruhengeri and GRMA projects. Both were conceived as national programs; the former was a pilot project and its successful intervention (IEC without distribution) was quickly accepted and replicated. The Sudan Extension area project was itself a geographical expansion of an earlier pilot and in 1987 both were based within the official health system and were considered by the Ministry of Health to be models for rural maternal and child health and family planning services. In each of the countries, the supply of human resources for consultation and training for family planning program development and evaluation was enriched by the experience.

The projects described shared some advantages as operations research projects. Financial and technical assistance was provided for pre-project planning (e.g., feasibility studies, focus groups, interviews) as well as for program operation; some logistical obstacles, such as irregular supplies of contraceptives, were circumvented or problems were identified through operations research and corrected; effort for results was concentrated over a short period of time; and the health workers and volunteers enjoyed public recognition for their participation in a new program. In addition, there was some protection for organizers and managers from risks associated with a new enterprise. In the Sudan particularly, if the distribution of contraceptives by village midwives proved to be unacceptable, the "pilot project" could be quickly terminated and reports of its failure filed.

It is likely that these conditions were responsible in part for the success of these projects, but not entirely. The nature and location of the promoter/distributor in the community appears to have been an important factor. In Ghana and the Sudan, the midwives were known and presumably trusted persons with whom sexual matters might be discussed. In Rwanda, the volunteers had not had this special mission before the project started, but the Abakangurambaga had a recognized and legitimized role as the government's spokespersons working for the good of the country. In their several ways, the promoters/distributors in each of the cases belonged to their communities and their IEC work was person to person.

It cannot be said that the increased use of contraceptives reported from these projects is entirely explained by the factors discussed here. It appears that in Ghana and Sudan there was a latent demand, a readiness to try modern contraceptive methods when they became available, perhaps due to the extensive public information campaigns that had been conducted in Ghana and the relative prosperity of the Sudan Extension area and its proximity to Khartoum. In Rwanda, on the other hand, the data strongly suggest that the Abakangurambaga generated demand; supply in the form of a satellite clinic was increased after the demand became evident. Questions remain as to why attitudes changed, if and when contraceptive use for family limitation will be practiced widely, and how applicable the experiences reported here are to other locations. These projects do not provide the answers. They do, nonetheless, support an optimistic view for the future of family planning in sub-Saharan Africa.

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