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A REPORT ON ASSISTANCE TO DEVELOP
A NATIONAL MATERNAL AND CHILD HEALTH
AND FAMILY PLANNING PROGRAM
IN RWANDA

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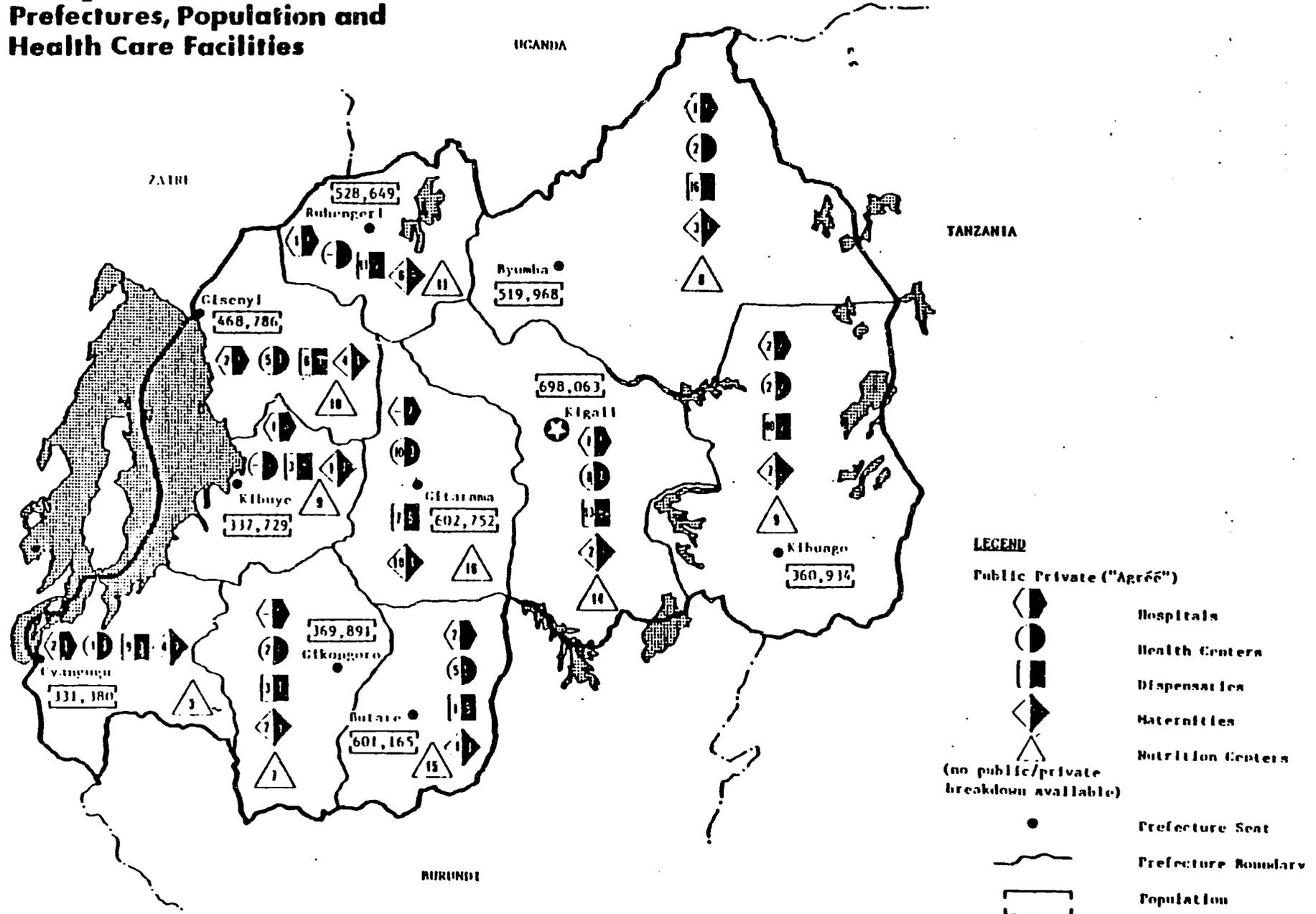
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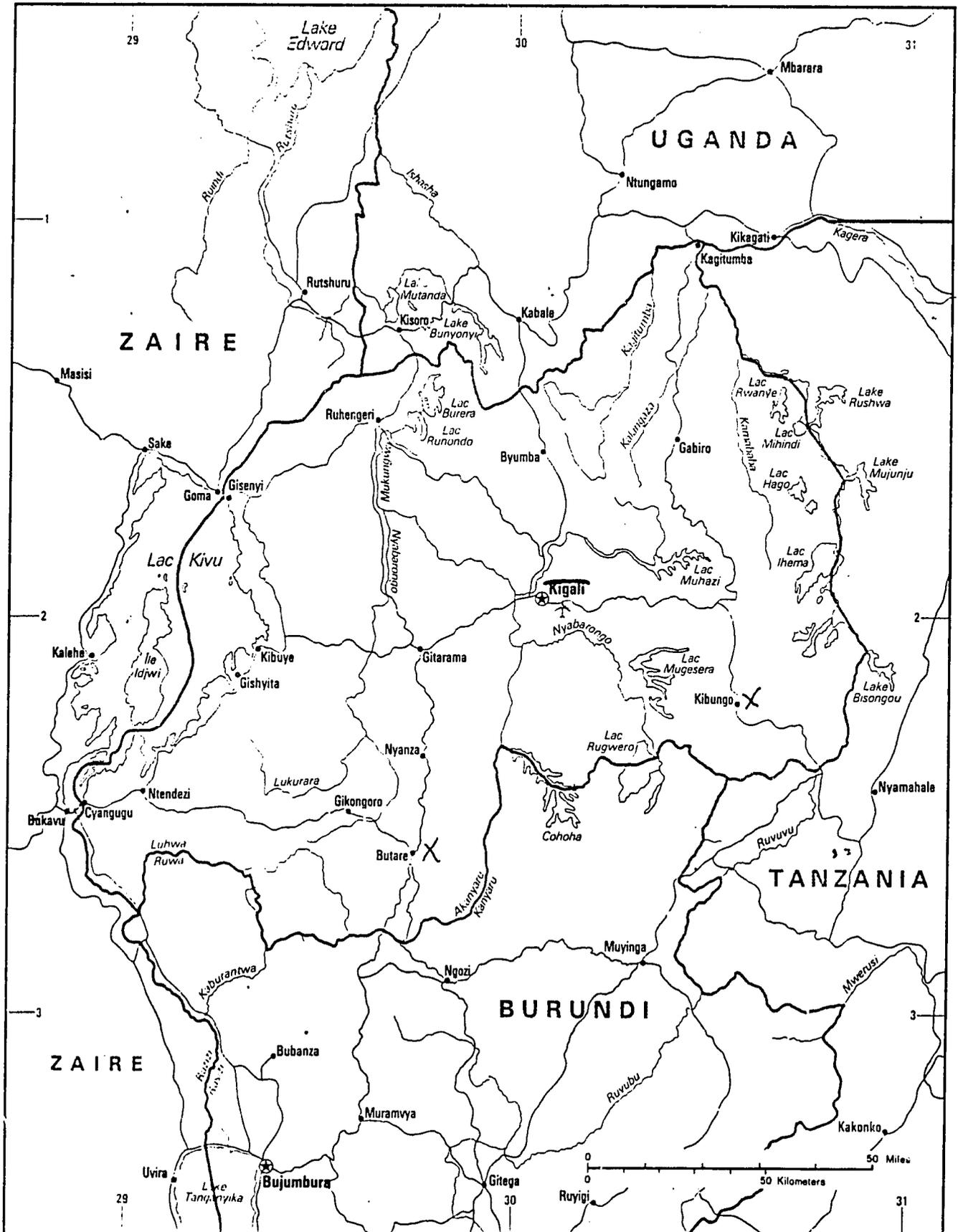
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Map of Rwanda

Prefectures, Population and Health Care Facilities



Rwanda



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EXECUTIVE SUMMARY

At the request of the Office of Population of the Government of Rwanda (GOR) and USAID/Kigali, the American Public Health Association (APHA) assembled a team composed of a public health physician, an anthropologist, a health educator, and a demographer to assist in developing a plan for a national maternal and child health and family planning (MCH/FP) program and in preparing a project paper. All the members of the team had extensive overseas experience and a working knowledge of MCH/FP as it relates to their discipline. Approximately one week was spent visiting representative health and social development facilities and staff in scattered areas of Rwanda. The team interviewed many GOR officials in the National Office of Population (ONAPO), the Ministry of Health (MOH), the Ministry of Social Affairs and Community Development (MOS), the Ministry of Plan (MOP), the Ministry of Education (MOE), and the Census Bureau, representatives of international organizations, such as the World Health Organization (WHO) and the International Bank for Reconstruction and Development (IBRD), and well-informed private citizens. The team also reviewed many relevant documents supplied by the United States Agency for International Development (USAID) and the GOR.

Although it is not possible in six weeks to understand completely a country, the consultants did feel that they absorbed sufficient information to make judgments and to fulfill their assigned tasks. The last several weeks of the consultancy were devoted to the preparation of the reports needed to develop the plan for the national MCH/FP program and the project paper.

Rwanda is a small, landlocked, equatorial country. A nation of approximately five million people, Rwanda is an archetypical, and primarily traditional, less developed country (LDC), with 95 percent of the people engaged in agriculture. The population is well characterized as rural poor. Income and educational levels are among the lowest in the region. The predominant characteristic--and the overwhelming concern--of the country is overpopulation, especially as it relates to the scarcity of arable land and consequent malnutrition. With more than 200 inhabitants per square kilometer, Rwanda is one of the most densely populated countries in Africa. But the government is development-conscious, and the country shares a common language and has relatively good transportation. These conditions favor all projects.

The goal of the MOH is to provide primary health care (PHC) to all by the year 2000. This objective is consistent with the WHO's policy and with the AID's desire to reach the rural poor. Although the MOH still wants more hospitals to be constructed than it is likely to be able to use efficiently, it does emphasize MCH and preventive services, such as immunization and prenatal care. Too, it has rational policies; for example, it concentrates on the supply of a few of the basic drugs recommended by the WHO and makes

generous use of auxiliaries to staff health facilities where there is a lack of fully-trained professionals. It should reach (or nearly reach) its goal of at least one hospital in each of the 10 prefectures and one health center in each of the 143 communes in the next five years.

The MCH program receives technical assistance primarily from the WHO and material support from the United Nations International Children's Emergency Fund (UNICEF). The proposed AID project will provide assistance to the MCH program that will permit expansion and the addition of family planning services.

Given the current conditions in Rwanda--overpopulation, malnutrition, high birth rates, and excessive maternal and infant mortality--the lack of family planning services constitutes a serious deficiency in the MCH program. But now, after seven years of study, research, and agonizing consideration of the population problem, the GOR seems to be ready to institute an effective population and family planning program.

The National Office of Population was instituted officially in January 1981. After considerable internal discussions, the president confirmed that ONAPO's policy would be to offer all reversible artificial methods of contraception that are technically approved by the health authorities in addition to natural methods. Sterilization and abortions are not recognized and will not be offered as family planning measures, but they can be performed for medical reasons. Although the GOR is conscious of the pressing need for population control and of the relationship of population to economic and social development, initially, family planning services will emphasize only the need to space children as a health measure to protect mothers and children. Family planning services will be provided only by trained health staff to fully-informed clients who will be free to select, without coercion or persuasion, any one method, or all methods.

At the time of the APHA team's visit, family planning services were being offered at several health facilities, but only on demand. Some of the 40 people who had been trained abroad by the AID or who were expatriates were providing the services. Contraceptives were being supplied irregularly and ad hoc. Records usually were not being kept because the GOR's policy decision on family planning had yet to filter down to the working level. The team estimated that approximately 2,000 people were practicing family planning, with Depo Provera being the most acceptable method to both staff and clients; the next most acceptable methods are oral contraceptives (OCs) and intrauterine devices (IUDs). Condoms and spermicides are not commonly used, and sales in pharmacies are minimal.

The team believes that Rwanda is ready to implement a national family planning program as one component of the MCH program. It also thinks that the AID should support such a program by providing the necessary resources through the proposed \$6 million, five-year project. However, before the project can begin, a guaranteed supply-line of contraceptives and medical kits needs to be provided, either by Pathfinder or Family Planning International Assistance (FPIA).

The project will provide for technical assistance to ONAPO and both overseas and domestic training for those who will provide the MCH/FP services, for staff involved in the information, education, and communication (IEC) activities of the MOH and the MOS, for demographic and statistical staff, and for social-science-research staff. Construction will be limited to a training center, four health centers, and two nutrition centers. The construction of these facilities represents only a small portion of what will be required of donors. The GOR must be encouraged to implement its plans for health services. Vehicles for supervision, equipment, and supplies for MCH/FP services, as well as information services, will be provided. A management information statistical system will be installed, and research in demography and the social sciences will be undertaken.

It is expected that the three reference hospitals will provide family planning services in 1981; all 10 prefectural hospitals are expected to provide these services sometime in 1982. Each of the 143 communes should provide family planning in its respective health centers by the end of the five-year program. One could anticipate that during this period, accumulated experience will lead the ONAPO to further liberalize its policies in the provision of services and kinds of contraceptives.

The team estimates that the family planning program could increase the number of new acceptors from the current 2,000 to 10,000 in 1982, and 70,000 by 1987. An increase in the number of new acceptors could result in the prevention of approximately 50,000 births during the five-year period. These projections are based on scant and poorly documented experience in Rwanda and on better documented experience in similar LDCs. They must be considered as rough estimates that will be revised as the project progresses.

The project will provide for the collection and analysis of data for evaluation. It also will provide for special studies and research in demography and the socioeconomic factors that affect family planning acceptance and program decisions. Current information on attitudes toward family planning is often contradictory; therefore, special surveys, such as knowledge, attitude, and practice (KAP) studies, are in order.

It is the considered opinion of the team that Rwanda is ready for a family planning program and should be encouraged and supported in its effort. Rwanda has the potential to develop one of the better African programs. The country has a strong, development-oriented government which recognizes the need to control population growth. There is considerable difference of opinion in the country about the acceptance of family planning by the half-Catholic, traditionalist society that favors large families; however, the society is changing, and in all places where family planning services have been offered, women have accepted them under less than ideal conditions. The need for population control--a result of land

pressure--is widely recognized by both high officials and the population at large. As an African LDC, Rwanda has a reasonably well-developed MCH system that is well-patronized, with 80 percent of all women receiving some prenatal care. Rwanda is relatively compact, and its satisfactory roads make transportation and logistics manageable. The policies of the MOH are rational. The MOS has a well-developed information chain in the nutrition centers and is expanding its community development centers. The ONAPO can organize the demographic, economic, statistical, and sociological studies required for informed management if it receives the recommended assistance.

ABBREVIATIONS

ADB	African Development Bank
AID	Agency for International Development
AID/W	Agency for International Development/Washington
APHA	American Public Health Association
BCG	Bacillus, Calmette-Guérin, Vaccine Against Tuberculosis
CCDFP	Center for Cooperation and Development of Permanent Training
CDC	Centers for Disease Control
CDSS	Country Development Strategy Statement
CP	Country Profile
CRES	Center for Economic and Social Research
CRS	Catholic Relief Services
CSC	Scientific Consultative Council for Socio-Demographic Problems
CUSP	University Center for Public Health
EPI	Expanded Program for Immunization
ESSI	Enseignement Supérieure de Science Infirmière
FAC	French Equivalent of AID
FDA	Food and Drug Administration
FED	European Development Foundation
FHI	Family Health Initiatives
FPA	Family Planning Association
FPIA	Family Planning International Assistance
GFR	General Fertility Rate
GOR	Government of Rwanda

GTZ	German Agency for Technical Cooperation
HC	Health Center
IAMSEA	African and Mauritian Institute for Statistics and Applied Economics
IBRD	International Bank for Reconstruction and Development (World Bank)
IEC	Information, Education, and Communication
IPN	National Pedagogic Institute
IPPF	International Planned Parenthood Federation
IRG	International Review Group
ISAR	Institute of Agronomical Sciences of Rwanda
ITS	Ingénieur des Travaux Statistiques
IUD	Intrauterine Device
JHPIEGO	Johns Hopkins Program for International Education in Gynecology and Obstetrics
JHU	Johns Hopkins University
KAP	Knowledge, Attitude, and Practice
LDC	Less Developed Country
MCH	Maternal and Child Health
MCH/FP	Maternal and Child Health and Family Planning
MOE	Ministry of Education
MOH	Ministry of Health
MOI	Ministry of Information
MOP	Ministry of Plan
MOS	Ministry of Social Affairs (and Cooperative Movements)
M.P.H.	Masters Degree in Public Health
OC	Oral Contraceptive
ONAPO	National Office of Population

ONPFP	National Office of Population and Family Planning
OPHAR	Central Supply System of the Ministry of Health
ORINFOR	Rwandan Information Office
PHC	Primary Health Care
PID	Project Identification Document
PIP	Population Information Program
POL	Petrol, Oil, and Lubricant
RAPID	Resources for Awareness of Population Impact on Development
RWF	Rwandan Franc, Monetary Unit of Rwanda
SAUT	Surface Agricole Utile Théorique
SAWS	Seventh Day Adventists
SUNY	State University of New York
TDY	Temporary Duty
U.N.	United Nations
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations International Children's Emergency Fund
URC	University Research Corporation
USAID	United States Agency for International Development
USICA	United States International Communication Agency
WFS	World Fertility Survey
WHO	World Health Organization
WHS	Westinghouse Health Systems

I. INTRODUCTION

I. INTRODUCTION

The principal purpose of this consultation was to assist the Government of Rwanda (GOR) and the United States Agency for International Development (USAID) in developing a national maternal and child health and family planning (MCH/FP) program. A secondary purpose was to assist the USAID/Kigali in preparing a project paper, which was needed to obtain funding for the recommended assistance. The proposed assistance should enable the GOR to expand its MCH program and to introduce family planning as one of its important services.

After its orientation at the AID's offices in Washington, the team went to Kigali, Rwanda, where the U.S. Ambassador, the director of the mission, the health and population officer, and officials of Rwanda's National Office of Population (ONAPO) provided additional information. Unfortunately, the director of the ONAPO was abroad during the first month of the team's consultation; however, when she returned, she gave the team much help.

The first month was spent interviewing officials and visiting representative health facilities in all parts of Rwanda. (See Appendix A.) From Kigali, the team traveled to the eastern, northwestern, and southern borders of the country. The team interviewed officials of the Ministry of Health (MOH), the Ministry of Social Affairs and Cooperative Movements (MOS), the Ministry of Education (MOE), the Ministry of Plan (MOP), the World Health Organization (WHO), the International Bank for Reconstruction and Development (IBRD; also known as World Bank), the Catholic Church, Seventh Day Adventists (SAWS), and Catholic Relief Services (CRS), and knowledgeable private citizens. For protocol and orientation, the members of the team met as a group with officials and then separately with their counterparts.

They made field trips to hospitals, health centers, dispensaries, laboratories, libraries, training centers, nutrition centers, community development centers, garage facilities, production and supply centers, and family planning centers. They visited most facilities as a team, but each member focused on his or her area(s) of interest. (See Appendix B for a list of the facilities.) The anthropologist also spent several days interviewing the residents in four rural communes in southern Rwanda.

Numerous published and unpublished documents, including working papers, project papers, national plans, and demographic studies, were examined. (See Appendix C.)

Interviews were continued through the fifth week. After one month, the team began to prepare this report. At the end of the consultancy, the team leader and the sociologist remained in Kigali to help the mission translate the substance of the report into a project paper.

II. BACKGROUND ON RWANDA

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Rwanda is a linguistically homogeneous country. It has three main ethnic groups. The Hutu are primarily agriculturalists and constitute 90 percent of the population. The Tutsi were originally nomadic pastoralists, but they, too, have become settled agriculturalists. They comprise approximately 9 percent of the population. The Twa, a pygmoid group, were traditionally hunters and gatherers. Today, they constitute under 1 percent of the population. A fourth group, the Hima, consists of an even smaller number of pastoralists. This tribe is found in some areas in northeastern Rwanda.

The Twa are thought to be the original inhabitants of Rwanda. It is believed that they were pushed back gradually by the Bantu-speaking Hutu, who progressively cleared much of the original forest. Sometime during the twelfth century, the Tutsi, who may be of Hamitic origin, slowly extended their control over much of the country, adopting the language and some of the political institutions of the Hutu.

Although never the sole rulers of Rwanda, the Tutsi exerted domination with the assistance of the German and Belgian colonial authorities. Through them, the Tutsi extended their control and ruled indirectly. A highly centralized and complex sociopolitical structure evolved under the religiously sanctioned figure of the mwami. This form of government persisted until the Hutu gained control following a bloody revolution that lasted from 1959 to 1962. Once in power, the Hutu established a republic.

Unrest among Rwanda's ethnic groups and ineffective government led to a military coup in 1973 and contributed to the founding in 1975 of the National Revolutionary Development Movement. The aims of this political organization were to reconcile the ethnic groups and promote the economic and social development of the country.

Despite government policy and the flight of thousands of Tutsi to neighboring countries, ethnic tensions remain, and only occasionally do they find political expression. A quota system restricts the employment of the Tutsi, many of whom have been relocated to less desirable parts of the country. During the 1978 census, it was rumored that the Tutsi were being registered so that they could be deported to ease Rwanda's demographic problem.

Relations between the Hutu and the Tutsi vary considerably, and it is not always possible to distinguish between their physical characteristics and way of life. Furthermore, the dominant Hutu element of the population is not entirely homogeneous. There are significant regional differences, particularly between the central and southern regions and the north, which was never subject to the Tutsi's domination to the same degree as the south.

The southeast also has distinct historical traditions. In recent years, it has received large numbers of people from overcrowded regions elsewhere in Rwanda.

In addition to traditional ethnic differences, religious differences also are observable in Rwanda. Approximately one-half the population is at least nominally Christian, with Catholics comprising 95 percent of this group. Presbyterians, Anglicans, Seventh Day Adventists, Jehovah's Witnesses, and Conservative Baptists make up other Christian denominations. There is a small but growing number of Muslims, particularly in the towns and among merchants and traders. The rest of the population practices traditional, ancestor-based, religions and belongs to such cults as the Kubandwa in the center and south and the Nyabingi in the north. Diviners and sorcerers have traditionally been important, and sorcerers are said to be active still, particularly in the Gisaka region.

Almost all available land in Rwanda is occupied, but the country is 95 percent dependent on agriculture for its livelihood. Consequently, development is limited. To cope with the problem, the Scientific Consultative Council for Socio-Demographic Problems (CSC) was created in 1974. It was succeeded in January 1971 by the National Office of Population, also known as the ONAPO. The ONAPO's major goals are the "sensitization of the population to the socio-demographic problems and the coordination of programs of family planning in the country...."

Rwanda is divided into 10 prefectures, which are composed of varying numbers of subprefectures, 143 communes, 1,600 sectors, and several thousand cells. All officials, from ministers to prefects and burgomasters, who head communes, are appointed. The councils that assist the burgomasters are elected, as are the delegates of sectors and cells. Burgomasters have their own sources of funds from head and animal taxes to promote local economic and social development.

The density of the population varies, from as few as 85 persons per square kilometer in the eastern and southeastern regions to 500 persons per square kilometer in parts of the south, and in the central and northwestern regions. Rwandans live in scattered family homesteads, each of which averages approximately 4.8 persons. At one time, land ownership and marriage were governed by a patrilineal descent system composed of clans (ubwoku) and two levels of lineage (umulyango and inzu). However, pressure on the land, the centralized administration of both Tutsi and colonial rulers, education, and a money economy undermined the significance of that system. The nuclear family has since become largely autonomous.

Although accurate figures are not available, the government estimates that more than 56 percent of the population over 7 years old is illiterate. The percentage is considerably lower for the younger age groups. It is

claimed that 50 percent of school-age children attend primary school, but the percentage that completes six years of primary schooling is, of course, much lower.

Rwanda plans to revise its educational system by extending primary education to eight years and by instituting more practical curricula. This effort will be especially difficult, given the lack of adequate personnel and facilities.

III. THE DEMOGRAPHIC SITUATION IN RWANDA

III. THE DEMOGRAPHIC SITUATION IN RWANDA

Characteristics of the Population

Rwanda is a landlocked nation in the center of Africa. The characteristics of its population are surprisingly similar to those of many Asian countries. The population density, which is one of the highest in the world, was estimated to be 183 inhabitants per square kilometer in 1978, up from less than 80 persons per square kilometer only three decades earlier. Although the density varies considerably among the country's 10 prefectures, no part of Rwanda is considered to be underpopulated, at least by African standards (see Table III-1). The ratio of population to land under cultivation is much higher--approximately 524 persons per square kilometer in 1978.¹ This statistic is especially important because Rwanda's population is predominantly agricultural. Indeed, in 1974, rural inhabitants accounted for approximately 96.5 percent of the population.

Rwanda, like many African countries, is reluctant to adopt a Malthusian population policy. However, because available land is scarce, the government has had to institute a controlled demographic policy to ensure socioeconomic development, even though that policy goes against Rwanda's strong pronatalist traditions.

Although a plethora of data on population is available, the accuracy of the information varies so much that it is difficult to establish demographic parameters. Some people insist that there are no reliable or accurate data on Rwanda; others claim that the statistical environment is better in Rwanda than in any other African country. Although the population was estimated in a United Nations (U.N.) survey,² a demographic survey in 1970, and a "Recensement Administratif" in 1976, the only reliable source of data is the first census, which was carried out in 1978 with the assistance of the United Nations Fund for Population Activities (UNFPA).

It is hoped that the census data will be the basis for the government's projections for the Third Plan (1982-1986) and that they will

¹ UNFPA, Report of Mission on Needs Assessment for Population Assistance: Rwanda, No. 26, June 1979, p. 138.

² U.N., Demographic Yearbook 1970, New York, 1971, pp. 107 and 114.

Table III-1
POPULATION, AREA, AND POPULATION DENSITY, BY PREFECTURES,
AUGUST 15, 1978

Prefectures	Population ¹	Census Area ² (km ²)	Theoretically Utilizable Agricultural Area, SAUT ³ (km ²)	SAUT ³ As Percentage of Census Area	Population Density ⁴ (Population Per km ² of Census Area)	Agricultural Density ⁵ (Population Per km ² of SAUT ³)
Sutare	601,165	1,830.0	1,703	93.1	328.5	353.0
Byumba	519,968	3,315.3	2,251	67.9	156.8	231.0
Cyangugu	331,380	2,044.8	1,056	51.6	162.1	313.8
Gikongoro	369,891	2,192.7	1,515	69.1	168.7	244.2
Gisenyi	468,786	1,847.5	1,290	69.8	253.7	363.4
Gitarama	602,752	2,248.0	2,054	91.4	268.1	293.5
Kibungo	360,934	3,025.5	2,573	85.0	119.3	140.3
Kibuye	337,729	1,004.5	1,296	129.0	336.2	260.6
Kigali	698,063	3,301.7	2,631	79.7	211.4	265.3
Ruhengeri	528,649	1,762.0	1,389	78.8	300.0	380.6
TOTAL	<u>4,819,317</u>	<u>22,572.0</u>	<u>17,758</u>	<u>78.7</u>	<u>213.5</u>	<u>271.4</u>

¹ Preliminary census figures; Bureau National de Recensement.

² The official census area excludes the area of Lake Kivu and national parks.

³ SAUT, or Surface Agricole Utile Théorique. Source: Ministry of Social Affairs and Cooperative Movements.

⁴ The area of Lake Kivu and the national park amounts to 3,766 km² (14.3 percent of the country's total surface of 26,338 km²). The population density at the time of the census was 183 (population per km² of the total surface area).

⁵ The estimated area of arable land, land under permanent crops, as well as permanent meadows and pastures, was 15,160 km² in 1975. The density of population per km² of this agriculturally exploited area was 317.9.

provide a sampling frame for national surveys. The preliminary results¹ show a population of 4,819,317, the level projected for 1980 by the U.N. If the figure is correct, earlier estimates for the year 2000² need to be revised upward. If no action is taken, one can expect the population to reach 10 million, and not 9 million, by 2000.

Little is known about the growth of the population before the census, but the annual rate of growth was probably in the range of 3.0 percent to 3.3 percent. This rate is one of the highest in the world, and higher than the rate of 2.6 percent used in the Second Plan (1976-1981). Using the most commonly accepted figure of 3.1, the population of Rwanda in 1981 would be approximately 5,281,550; the density would be 206 persons per square kilometer.

A one-tenth sample drawn from the census was used to construct the five-year age-group pyramid in Graph III-1.³ This pyramid shows the distribution, by age and sex, of the population in 1978. The population was young, with 45.6 percent in the group of children under 15; 49.5 percent were adults 15-59, and 4.9 percent were over 59. The age-dependence ratio for this year was 0.98.⁴ It was the result of high mortality, especially among infants and children, and high fertility.

Age is an imprecise factor that affects the reliability of other demographic indicators. Age heapings are not particularly disturbing (the Myers index is 14.4 for women and 10.6 for men); however, the shifts among age groups affect the accuracy of demographic measures. It is clear from the U.N. index (25.6 for 1978) and from the 1970 demographic survey (81.7) that children between the ages of 5 and 10 are shifted to the adjacent age groups of 0-4 and 10-15 and that adults who are between 25 and 35 are shifted to the adjacent age groups of 15-25 and 35-40.

The small size of the 25-to-50 age group is striking. It is attributable partly to the shifting among age groups, but it may also be the

¹ National Bureau of the Census, Census 1978: Preliminary Results, p. 62.

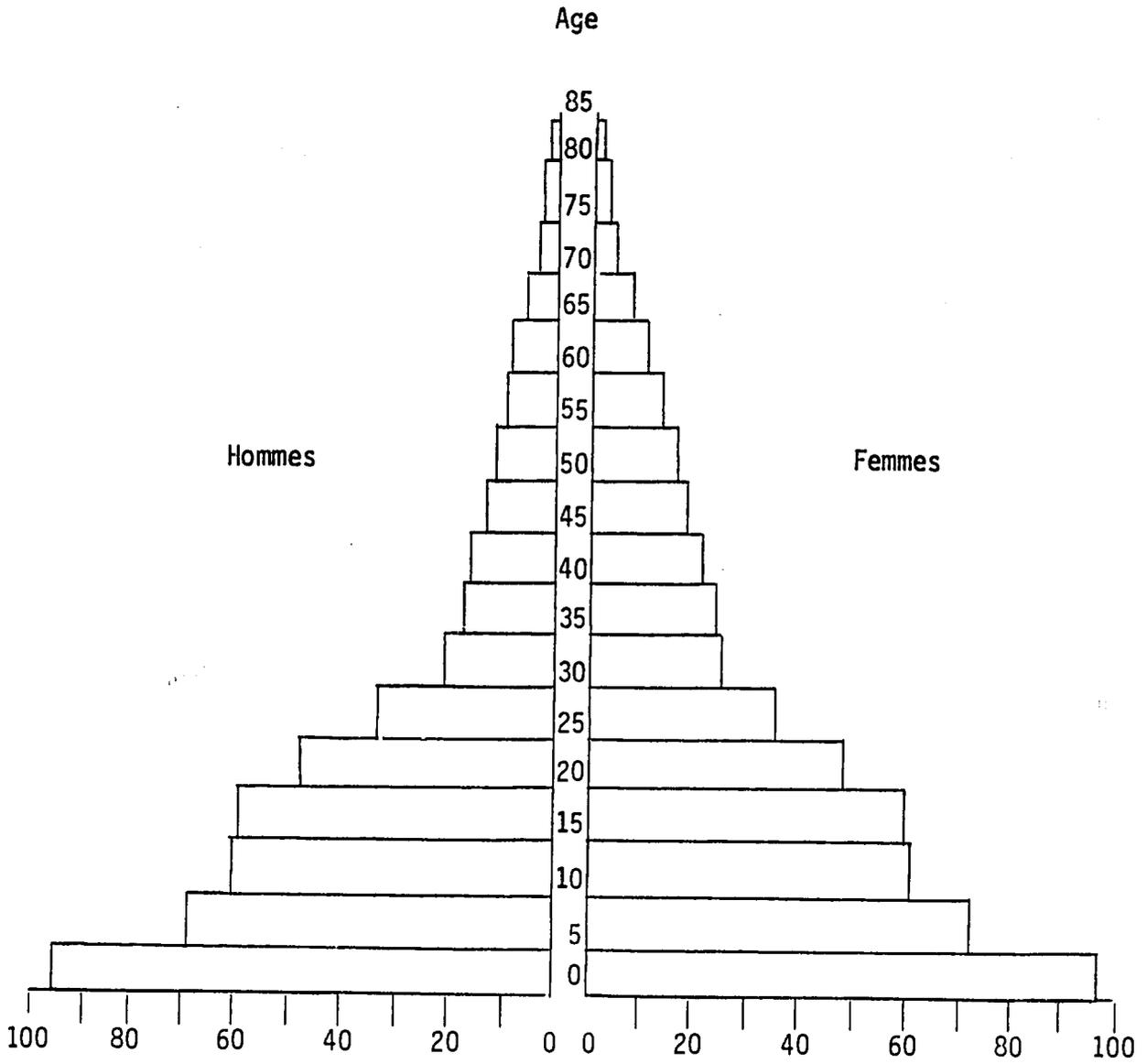
² U.N., Selected World Demographic Indicators by Countries, 1950-2000, Population Division, New York, 1975, and Demographic Estimates and Projections for the World Regions and Countries as Assessed in 1978, New York, 1979.

³ Carlos Da Costa, Analyse des Données de l'Enchantillon au Dixième du Recensement Général de la Population, 1978, Rwanda, National Bureau of the Census, July 1981, p. 84.

⁴
$$\frac{\text{Population, 15-59}}{\text{Population Under 15} + \text{Population Over 60}}$$

Graph III-1

PYRAMIDE DES AGES DE LA POPULATION DU RWANDA, 1978



Affectifs par groupe d'âges pour 1,000 individus au total.

result of omissions, emigration, and differential mortality from a famine in the 1940s. The male deficit, which is particularly important, may be the result of a rumor that the census was conducted to count young men and force them to emigrate.

Rwanda has a "natural" population. Neither contraceptives nor voluntary interventions have been used widely. External migration has been a common consequence of political change, but its effect on the country is difficult to determine in the absence of reliable information.

Mortality is high because of poor health conditions, endemic infectious diseases, and malnutrition. Without reliable statistics, it is difficult to measure accurately the crude death rate, especially for infants and children. By using a question from the 1978 census on deaths during the last 12 months, the crude death rate can be estimated with various indirect methods. The estimated rate is approximately 21 per 1,000 population; the rate of infant mortality ranges from 137 per 1,000 to 157 per 1,000. This figure is higher than the 127 per 1,000 found in 1970.¹ Improvement is expected as more Rwandans are immunized in the Expanded Program for Immunization (EPI). Already, fewer children are dying from measles. Life expectancy at birth is estimated to be 41.7 for men, 47.9 for women, and 45 for the population as a whole. In 1970, it was estimated to be 39 years.

The crude birth rate, approximately 52 per 1,000, suggests high fertility. Various demographic indicators confirm that fertility is high. The general fertility rate (GFR) among women 15-49 is 237 per 1,000. The average completed family size is 7.4 live births for women at the end of their reproductive lives, and the average completed family size, based on cumulated current age-specific fertility rates, is 8.6. Although the difference between the latter two figures may be indicative of increased fertility, it also may be attributed to shifting among age groups, which might have resulted in overestimation. Whatever the explanation, fertility in Rwanda is among the highest in the world.

Marriage is almost universal; only 0.5 percent of the women and 1.5 percent of the men have never married. However, various studies contain conclusive evidence that first marriage occurs late in Rwanda.² In 1978 the average age at first marriage was 21.1 for women and 24.4 for men, whereas in 1970 it was 20.1 for women and 22.6 for men. Only 15.2 percent

¹ Carlos Da Costa, op. cit. (Mortality figures should not be cited.)

² Silas Niyibizi, Etude des Variations Géographiques de l'Age Moyen au Premier Mariage chez les Femmes et les Hommes Rwandais, National Bureau of the Census, June 1978, and La Fécondité, Ses Facteurs ainsi que les Attitudes des Femmes Rwandaises face au Planning Familial, University of Butare, 1975.

of the women 15-19 had been married in 1970. For women between the ages of 20 and 24 the percentage was 69.2. It was 94 percent for women between 25 and 29. In 1970, the percentage for that age group was 98 percent.

Age at marriage seems to be influenced primarily by socioeconomic conditions. Particularly important factors are the limited availability of land and the custom of inkwano, the payment of a dowry by the groom to the bride's father. The relatively high age at menarche--14 years and 11 months in 1970--may be due to malnutrition.¹ Polygamy seems to be widespread in Rwanda, although it is not officially acknowledged. There is no reliable information on marital patterns. Studies on this subject are needed.

High fertility among married couples is compensation for time lost because of late marriage. It can be attributable to the lack of contraception; pronatalist attitudes (all births, regardless of sex, are welcomed); the absence of taboos against intercourse after birth and during breastfeeding; and prohibition against abortion. The increasing scarcity of land, changing marital patterns, and the decrease in infant mortality may be affecting traditional attitudes. At this time, it is still unacceptable to talk about limiting the number of children or using irreversible methods of contraception.

A few studies have shown that international migrations were important between 1940 and 1944 and between 1959 and 1964. Internal migration and emigration may be significant demographic factors, but information will not become available until the demographic survey for 1981 has been completed and analyzed. The survey, scheduled for August 1981, includes several questions on migrations. Internal migration may be seasonal or, where land remains available, permanent. Most Rwandans are reluctant to move, and they do so only for economic reasons.²

¹ C. Delcourt, "Les Aspects et l'Age de Puberté Féminine au Rwanda," Revue Médicale Rwandaise, No. 30, Second Quarter, 1975.

N. Petit Maire Heinz, Croissance et Puberté Féminine au Rwanda, ed. J. Dyulot, Belgium, S.A. Gembloux, 1963.

² Anne S. McCook, Population and Nutrition in Burundi, Rwanda and Zaire: Problems and Recommendation, Report for the Permanent Secretariat, Communauté Economique des Pays des Grands Lacs, One America Inc., July 1980, p. 74.

Ministry of Public Works and Equipment, Rwanda, Enquête Urbaine, Kigali 1977, February-April 1977, p. 54 and tables.

Health and Population Data Systems

Rwanda has a sound network for the collection of socioeconomic and demographic data. The completeness and accuracy of the statistics and the methods for collecting data need to be improved, however. Assistance is needed to develop an analytical capacity to facilitate the planning of economic and social development.

A. Health Statistics

1. Overview

The collection of health statistics is well organized in Rwanda, but information is published only in a yearbook. The statistical service cannot afford to provide the analytical studies that are needed to formulate and execute health policies.

Data are collected by the statistical service in the Ministry of Health. The service is supervised by two WHO experts who have many other duties. The staff consists of three statistical assistants, of whom only one has been trained as an adjoint-statistique in Yaoundé, Cameroon. The other two completed three years of schooling above the primary level, but they have received no training in the collection and analysis of statistics.

Activities are limited to the collection of data from the 10 prefectures and the production of a yearbook. Quarterly reports on morbidity, mortality, and maternity services, and a weekly report on epidemiological conditions, are issued. Because resources are not available, the country has not been able to establish an adequate data base for analytical studies in conjunction with the health services. In addition to a shortage of trained statisticians, few funds are available to collect, process, and analyze health data. Machinery and equipment also are unsatisfactory.

There is a regional network in each of the 10 prefectures. One person is in charge of gathering the reports produced by the institutions that offer health care services, such as hospitals, health centers, and dispensaries. None of these people has the same qualifications. Furthermore, because of the lack of transportation and poor communication between the ministry and the prefectures and between the representatives of the medical sectors and the communes, the supervision and training that are needed to improve the system are not provided.

In each health care institution one person is responsible for keeping statistical records and sending them to the prefecture. The qualifications of the recorders are vague; few understand the purpose of their

work. Moreover, they are often involved in other duties; delays in reporting and errors are common. At one health center, the team learned, statistics for the first quarter of the year had not been recorded by the end of July. There are wide variations in the method of recording statistics, no matter how important the institution. Generally, except in the hospitals in Ruhengeri and Butare, staff in the private sector, les formations agréés, perform the best.

In the hospitals and the maternities that the team visited, patients are given a number, and a record is kept for each person. Usually, it is filed by year. The person's name, age, and sex, the dates of admission and discharge, the cause for hospitalization, and, for maternities, the characteristics of the outcome of the pregnancy are recorded. No files are kept in the dispensaries. Only the number of cases is recorded, according to a WHO classification, which includes the number of consultations for the month, the number of prenatal and postnatal consultations, and laboratory examinations.

All this information is sent to the statistical service at the Ministry of Health, where the data are used to prepare a weekly epidemiological bulletin, a quarterly report on morbidity and mortality by prefecture, sex, and age group, and a report on the number of deliveries, live births, still births, and maternal deaths.

Each year, an inventory is taken. Information on the following is gathered:

- the capacity, in number of beds, and the spatial distribution of hospitals, health centers, and dispensaries;
- the number of medical and paramedical personnel, by region and institution;
- epidemiological conditions;
- statistics on morbidity and mortality; and
- data on maternity services, including deliveries and pre- and postnatal care.

The reliability and accuracy of the statistics are doubtful, and the data themselves may be considered mediocre. A sound evaluation of current health conditions in Rwanda is needed. Improvements in the collection of data on infectious diseases and maternal and child health care also must be made. The system for the collection of health statistics is weak for the following reasons:

- Most of the persons in charge of statistics have not been trained. Often, the staff have other duties, and they neglect the collection of health data because they do not understand the importance of the task.
- There is no uniform system for keeping records. Consequently, the quality of the records varies among the institutions.
- The same statistics are recorded several times. As a result, delays and errors occur.
- Data often are recorded before a doctor has made a diagnosis, and sometimes information is left out. For example, in one maternity a mother delivered a baby weighing one kilogram; the baby later died, but the death was not recorded.
- Events that happen at night or on weekends and holidays sometimes are not reported because of a lack of personnel.

2. Immunization

Separate statistics should be collected for the Expanded Program for Immunization, which began in 1978. The objective of this program is the reduction of morbidity and mortality among children between 0 and 6 years and pregnant women. The principal causes of morbidity and mortality among these targeted populations are tuberculosis, diphtheria, tetanus, whooping cough, poliomyelitis, and measles.

The EPI is well supervised. One statistical assistant is responsible for collecting data from the 10 prefectures. Statistics are received each month from the health centers. Each child or pregnant mother who visits a health center for a tetanus vaccination receives a card on which is recorded the patient's name, the parents' names, the date of birth, the commune of residence, and the kinds of immunizations received earlier. A statistical bulletin on activities at the Ministry of Health is issued each quarter and at the end of each year. The WHO expert uses the bulletin to chart the progress of the program.

In February 1981, the EPI was evaluated in a sample survey in nine regions in Rwanda. The evaluation of Kigali was covered under a Belgian project. A sample of 214 children between 3 months and 36 months was selected to measure the coverage of the program.¹

¹ Dr. R. Molouba and A. Rwiginba, Etude de la Couverture Vaccinale dans les 9 Régions Sanitaires du Rwanda, Ministry of Health, Kigali, 1981.

The results show that the program has exceeded its objectives for the third year: coverage of 25 percent for BCG and coverage of 15 percent for measles. In fact, in the program, 53.3 percent of the children had been vaccinated for BCG and 51.4 percent for measles. Another evaluation of the EPI has been scheduled for 1982.

If the collection and evaluation of data for the EPI are satisfactory in comparison with the collection and analysis of other health statistics, it is because a special effort is made to obtain reliable data, and better supervision and organization are provided. The qualifications of the personnel are the same, however.

Recommendations

The following action is recommended to improve the quality of health statistics.

- A survey should be taken to assess the quality of health statistics nationwide, to determine what improvements should be made (and where), and to obtain reliable data on morbidity and mortality.
- Basic training in the recording and maintenance of health statistics should be given to all staff in the statistical service to make them aware of the importance of their work. Furthermore, a course on statistics should be introduced into the curriculum for medical and nursing students.
- Communication among the ministry, prefectures, and health care services could be improved by holding annual meetings at which statistical personnel can discuss their problems.
- The statistical service should be reorganized. Procedures should be simplified and forms standardized so that duplicates can be sent to the prefectures and to the ministry.
- All documents should be in both French and Kinyarwanda, and a standard format should be used throughout the country.

3. Maternal and Child Health and Family Planning

Few family planning (FP) services are available in Rwanda, and those that exist are not officially recognized. It is, therefore, difficult to find records on family planning activities.

Three pilot family planning centers--one each in Kigali, Ruhengeri, and Butare--were established during the Second Plan period (1978-1981). Only in Butare, at the birth control clinic operated by the National Institute of Health, are women able to obtain advice on contraceptives and services (pills and IUDs). At one time, Rwandan women had access to Depo Provera--the preferred method of contraception--but, as in other places, supplies of the product are no longer available.

The clinic in Butare has records on 700 women. A form is completed for each woman. Staff record the patient's name, the commune of residence, the name and occupation of the woman's husband, her age and parity, the number of living and dead children, the age of the last child, and the woman's gynecological history and accepted method of contraception. (See Appendix D.) The records are sent each quarter to the ONAPO.

The hospital in Kigali has reported that approximately 700 women have accepted a method of contraception. Staff contend that when Depo Provera became unavailable, many of the women changed to the pill or an intrauterine device. These reports cannot be verified because the hospital has no records. In Kigali, as in the rest of the country, contraception can be provided only on the woman's request and only by a doctor.

There are reports of family planning activities at the hospitals in Ruhengeri, Kigeme, and Gahini. Sterilization is not permitted as a method of contraception, although some operations have been performed discreetly for this purpose.

The team believes that approximately 2,000 Rwandan women are protected by a contraceptive method at this time. The women prefer Depo Provera, which is not widely available (the ONAPO has a small supply). Their preference for the pill or an IUD varies from one area to another. Supplies can be obtained from pharmacies, but there are few such drugstores in Rwanda. Moreover, prices are too high for the average person.

If a family planning program is implemented, the government will want to measure the program's demographic and social impact. But to do so, it will have to reorganize the recordkeeping system, train personnel, and standardize the recording forms. It also will have to improve the processing and analysis of data.

The government intends to integrate family planning activities into the existing MCH structures. MCH activities are unevenly distributed. In 1979, approximately 77,650 deliveries--approximately 30 percent of the estimated births--were medically attended.¹ Of the deliveries in approved private hospitals, 12.8 percent were classified as "difficult";

¹ Ministry of Public Health, Rapport Annuel 1979.

the percentage in the government hospitals was 16.1. Perhaps the number of complicated births is high because women who are expected to have difficult deliveries are asked during the prenatal visit to deliver at a hospital. The maternities and dispensaries report lower rates (11.7 percent and 4.9 percent, respectively).

The rates for stillbirths are relatively low: 7.4 percent in government hospitals, 6.3 percent in approved hospitals, 5.7 percent in maternity clinics, and 3.4 percent in dispensaries.

Records indicate that in 1979 maternal mortality peaked at 5.7 percent in public hospitals, was 3.6 percent in approved private hospitals, and was negligible in maternities and dispensaries. One cannot be certain that these figures are reliable. Given the quality of health statistics in the country and the poor standard of health care, one can presume that the data are not accurate and that the figures are probably low.

For the next plan the government intends to strengthen maternal and child health care at its health centers. It is hoped that with the adoption of a uniform, detailed recordkeeping system, the quality of health statistics will improve. The system in the hospital in Ruhengeri could be a model for the rest of the country.

A useful survey is being conducted at the maternity in Nyundo, where a detailed form is completed for each delivery. The survey will provide additional information on maternity histories. However, because it is a small sample, it does not represent the entire country. The survey should be extended to a representative sample of health care institutions in Rwanda.

It is particularly interesting that most pregnant women make prenatal visits and arrange for postnatal visits as well. In 1979, 437,171 prenatal visits were recorded for 217,287 women (85 percent of the births), and 544,834 postnatal visits were recorded for 100,635 women (40 percent of the births). More than two-thirds of all the births were in dispensaries. (See Tables III-2 and III-3.)

The file that many health care institutions keep on pregnant women could be used as a sampling frame for a survey on the quality of MCH care and women's perceptions of the service.

Recommendations

As part of an evaluation of MCH activities, the following tasks should be completed:

Table III-2

MÉDECINE PRÉVENTIVE: CONSULTATIONS PRÉNATALES DANS LES HÔPITAUX PUBLICS ET AGRÉÉS, 1979

<u>Secteur Public</u>	<u>Nombre de Femmes Inscrites</u>	<u>Nombre de Consultations</u>	<u>Moyenne Hebdomadaire</u>	<u>Secteur Privé</u>	<u>Nombre de Femmes Inscrites</u>	<u>Nombre de Consultations</u>	<u>Moyenne Hebdomadaire</u>
Kigali	3,875	9,942	191	Rutongo	752	1,532	29
Butare	1,127	3,242	62	Gahini	1,760	4,235	81
Nyanza	3,748	5,667	109	Kabgayi	4,449	6,953	134
Gisenyi	2,242	4,243	82	Kibogora	2,794	4,722	91
Byumba	190	3,618	70	Kigeme	3,321	9,960	192
Ruhengeri	2,586	5,198	100	Mibirizi	2,623	7,869	151
Rvamagana	8,835	30,960	595	Mugonero	2,332	4,188	81
Kibungo	948	3,986	77	Remera-Rukoma	1,569	3,605	69
Kibuye	6,614	10,734	206	Kirinda	3,073	6,924	133
Muhororo	2,240	3,715	71	Kiziguro	1,945	3,211	62
Bushenge	3,409	3,512	68	Shyira	2,081	3,981	77
				Rwinkwavu	644	1,252	24
TOTAL	<u>35,814</u>	<u>84,817</u>	<u>1,631</u>	TOTAL	<u>29,044</u>	<u>61,321</u>	<u>1,179</u>

Table III-3

MEDECINE PREVENTIVE: CONSULTATIONS DES NOURISSONS DANS LES HOPITAUX

<u>Secteur Public</u>	<u>Nombre D'enfants Inscrits</u>	<u>Nombre de Consultations</u>	<u>Moyenne Hebdomadaire</u>	<u>Secteur Privé</u>	<u>Nombre D'enfants Inscrits</u>	<u>Nombre de Consultations</u>	<u>Moyenne Hebdomadaire</u>
Kigali	1,469	7,743	149	Rutongo	920	1,689	32
Butare	-	-	-	Kargayi	1,687	4,351	84
Nyanza	237	1,971	38	Remera-Rukoma	1,184	4,412	85
Syumba	185	3,523	68	Kigeme	749	8,308	160
Gisenyi	-	-	-	Mibirizi	720	18,640	358
Ruhengeri	1,954	14,343	276	Kibogora	-	-	-
Rwamagana	1,330	3,240	62	Kirinda	839	6,581	127
Kibungo	1,168	7,051	136	Mugonero	527	6,324	122
Murororo	237	3,717	71	Shyira	225	1,873	36
Bushenge	500	1,701	33	Nemba	338	601	12
Kibuye	1,914	23,165	445	Rwinkwavu			
				Gahini	408	6,043	116
				Kiziguro	83	4,873	94
TOTAL	<u>8,994</u>	<u>66,454</u>	<u>1,278</u>	TOTAL	<u>7,680</u>	<u>63,695</u>	<u>1,225</u>

- An inventory should be made of the current services. The quality of those services should be determined, and the reliability of the data that are collected should be evaluated.
- A survey should be conducted of women's perceptions of MCH services.
- The survey in the Nyundo maternity should be extended systematically for a representative sample of the country as a whole.

B. Basic Data on the Population

Two ministries oversee the collection of data on population: the Ministry of Planning and the Ministry of Internal Affairs. The General Statistical Office and the National Bureau of the Census are housed in the former; the Bureau of Statistics and Administrative Censuses is housed in the latter.

There is a general shortage of personnel trained in demography and statistics. A demographer heads the National Bureau of the Census, but he is concerned primarily with administrative matters. An expert has been recruited through the UNFPA to analyze data from the census.

1. Vital Statistics and Civil Registration Systems

Laws were passed in September 1963 and February 1964 that made civil registration compulsory. To date, full compliance with the law is not evident.

The function of the Bureau of Statistics and Administrative Censuses is to register the population over 16, deaths, births, changes in residence, and marriages.

The personnel at the central office in Kigali have received no special training in statistics, and space and equipment are limited. There is a correspondent in each of the country's 143 communes who compiles monthly tables and forwards them to Kigali.

The central service summarizes the reports and prepares a paper on demographic conditions which is included in the annual report issued by the Ministry of Internal Affairs. The chapter contains a breakdown of the population, by sex, prefecture, and commune, on the first and the last days of the year, and a series of tables that show the number of births and deaths and the number, by month and sex, of immigrants and emigrants.

The General Statistical Office in the Ministry of Planning has several branches. One, the Bureau of Demographic and Social Statistics, collects data on the state and movement of the population for publication in the Statistical Bulletin. It operates a regional network also. One person in each of the 10 prefectures collects from the correspondents of the Ministry of Internal Affairs the same information on the population.

The Ministry of Justice collects information on marriages and divorces.

The system for collecting data on population is complicated because three ministries are involved. However, the coverage and the completeness of unit registration are surprisingly good in Rwanda, compared with other sub-Saharan countries, given the limited supervision, the lack of trained personnel, and the lack of equipment.

There is virtually no communication among the ministries, the prefectures, and the communes because there is a lack of transportation. Few supplies are available. The calculating machines are inadequate, and there are no typewriters. Documents have not been standardized. Work is done by hand on plain paper.

In analyzing the results of the 1978 census, statistical personnel estimated that approximately 42 percent of live births and 25 percent of all deaths are registered in Rwanda. Probably less than 20 percent of infant deaths are registered. Additional registration systems were completed between 1972 and 1975. With the data from these systems it will be possible to obtain more reliable statistics.

Training programs have been set up for the civil registration employees who work in the communes and prefectures. These persons are learning how to use the registration systems and how to collect and use statistical information.

Conditions in Rwanda favor the establishment of a systematic civil registration system that could provide important information on demographic characteristics and trends in population throughout Rwanda and in the regions. The information could be used to design and conduct other surveys and to study migration. To date, the quality of data from civil registration systems and administrative censuses has been acceptable, compared with the results of the last census. But the data are valuable only if they are analyzed. Valid analyses of the information could be done if trained personnel were available.

2. Censuses and Surveys

The National Bureau of the Census was established in July 1977. It conducted the first general census on population and housing. The director is a demographer.

The UNFPA has provided experts to supervise fieldwork and to process and analyze data. It also has contributed financial assistance. In addition, one computer and seven computer terminals have been provided to process data. It is hoped that this equipment will be used to set up a calculation center for population-related operations, such as the collection and analysis of current vital statistics and current statistics on migration, and the use of demographic surveys to project population growth.

At this time, staff are codifying the census. A list of tabulations has been prepared. It is hoped that the calculations will be ready by the end of 1981 and that analysis will be completed by the beginning of 1982. The results should provide important information on the status of the population.

It is impossible to calculate a reliable rate of natural growth using data from the census. The data on deaths during the 12 months that preceded the census do not seem to be accurate. This impression was reinforced by the results of an analysis of a sample of one-tenth of the census.

It is hoped that this gap will be bridged by the demographic survey scheduled for August 1981. This survey will provide data on migration, as well as other information.

None of the surveys that have been conducted has provided a reliable data base for the evaluation of basic demographic parameters. Even the results of the census--the best figures available--are not the kind of information that is needed to develop sound economic and social policies for Rwanda.

The strengths and weaknesses of the system for the collection of demographic data are summarized below.

- The General Statistical Office is the hub for all statistical activity, but the staff's experience in designing and executing surveys is limited. Furthermore, there are not enough trained personnel to perform analytical studies.
- The quality and accuracy of population statistics are poor. Much must be done to improve the completeness and validity of current vital statistics and data on migration.
- The General Statistical Office operates through regional offices in each of the 10 prefectures. The regional offices have an insufficient number of trained personnel and a shortage of equipment. Vehicles for transportation, calculating machines, and a variety of office equipment are needed.

- The Bureau of Statistics and Administrative Censuses employs correspondents in each of the communes who have neither statistical training nor equipment. Training and equipment should be provided to strengthen these branch groups and enable them to supervise the reporting of vital statistics and data on migration.
- The shortage of persons trained to do statistical work is an obstacle to improving the quality of collected data. More people should be trained at the intermediate level.
- The ministry needs demographers and statisticians to analyze the data and to supervise the general organization.
- There is a lack of transportation, printing equipment, documentation, machines such as computers, and paper. The quality of the data collection effort is impaired as a result.

C. Research on Population Dynamics

In Rwanda, the balance between the population and the food supply is precarious. Another famine is likely. Despite these dire conditions, few institutions have shown an interest in research on population growth and its effects on economic and social development. In fact, very few institutions in Rwanda are capable of conducting such research.

There is only one university in Rwanda. It is located in Butare, 130 kilometers from Kigali. No demographic research has been done at the university, although occasionally students participate in projects or pilot studies on population. Some professors have conducted their own research with external financial support.

In June 1981, a group of professors created the Center for Economic and Social Research (CRES). It is part of the Faculté des Sciences Economiques, Sociales et de Gestion. The professors and researchers on the faculty automatically become members of the center. Others are permitted to work at the center for brief periods.

A sociologist-anthropologist has been appointed director of the CRES. Research will be financed by the university and with outside funds. One demographer who was trained in Louvain, Belgium, and an economist work at the center. The CRES intends to conduct a project on population and development with the help of the USAID.

A professor prepared a proposal for a study on family planning, but he left Rwanda recently for four years of training in the United States. A course in demography has been introduced for students of economics,

sociology, and geography. The Department of Geography prepared maps of three prefectures (Butare, Gikongoro, and Kibuye) for the 1978 population census.

1. African and Mauritian Institute for Statistics and Applied Economics

The African and Mauritian Institute for Statistics and Applied Economics (IAMSEA) is a training center for interregional activities. It began operations in 1976. It is financed through the FAC, the French equivalent of the AID, and the European Development Foundation (FED).

The director of the IAMSEA is a Rwandan, but most of the teachers and researchers are French. Approximately 12 Rwandans have graduated from the IAMSEA. Eight more are expected to graduate next year. The IAMSEA offers intermediate-level training in statistics. A student who completes the training becomes an ingénieur des travaux statistiques (ITS). The course lasts three academic years. It includes a five-month internship.

Training in demography (30 hours in the second year and 10 hours in the third year) is offered.

The IAMSEA has a data processing unit. Each year, with the cooperation of various ministries, it conducts a survey to train students in fieldwork. Five surveys have been conducted since 1977.¹ They are:

- Urban Survey Kigali (Enquête Urbaine Kigali), 1977;
- Agricultural Survey (Enquête Agricole), 1978;
- Household Budget Consumption Nutrition Survey, 1979;
- Socioeconomic Survey, Butare-Gisenyi (Enquête Socioéconomique: Butare-Gisenyi), 1980; and
- Agricultural Survey (Enquête Agricole), 1981.

At least two of the surveys, the Urban Survey Kigali and the Socioeconomic Survey in Butare-Gisenyi, have provided data on population. Next year, a survey on markets in Rwanda is planned.

¹ See bibliography attached to this report.

The IAMSEA is anxious to receive funds for research in Rwanda. It also is seeking grants to train students from Rwanda and other countries.

2. National Office of Population

The ONAPO was created by a décret-loi (No. 3) on January 16, 1981. It replaced the Scientific and Advisory Council for Socio-Demographic Problems attached to the Ministry of Social Affairs.

One of the objectives of the ONAPO is "to study all matters related to the growth of the population and its impact on socioeconomic development." The organization will, in fact, become the principal institution in Rwanda engaged in research on population. On the staff are a demographer, who was trained at the University of Montreal, and a geographer.

It is too early to assess the capacity of this new institution to promote demographic research in the country. More trained researchers are needed. Equipment and other material assistance should be provided.

Recommendations

The following tasks should be completed to improve instruction in demography and research in population dynamics.

- The ONAPO should be given the funds, equipment, and personnel it needs to become the central organization for research on population dynamics in Rwanda.
- More demographers and statisticians, as well as other social scientists, should be trained to conduct research in Rwanda. With additional trained and skilled personnel, the country can execute and analyze the results of its own demographic projects.
- Relations should be established between the ONAPO and similar foreign institutions (e.g., the National Office of Population and Family Planning (ONPFP) in Tunis).
- Short courses in demography should be introduced into the curricula of the Faculties of Medicine and Agronomy at the University of Butare.
- The best approaches to sensitizing youth to Rwanda's demographic problems should be studied.

- Research by the IAMSEA and the CRES should be encouraged and supported.
- Contact with researchers in other countries should be encouraged. Participation in conferences and access to documentation should be promoted.
- Documents on population and development in relation to family planning should be collected to establish a library at the ONAPO.

The Population Policy of Rwanda

The Government of Rwanda has been aware of the population problem since the early 1970s. In response to increased density--a consequence of high annual population growth--and slowed socioeconomic development, it has adopted dirigistic policies to control population, despite pronatalist traditions and the strong influence of the Catholic Church.

Recognizing that population control is a sensitive issue, the government has sought to introduce gradually the concept of family planning. As a first step, in 1974, it established the Scientific and Advisory Council for Socio-Demographic Problems in the Ministry of Social Affairs. Its intention was to involve all political leaders in considerations of population policy and to sensitize these persons to the relationship between demographic growth and economic development. The aim was to help Rwanda's leaders to understand the consequences of a policy of no intervention, to realize how precarious the balance is between the available supply of food and the population. With this approach, the government hoped to avert the catastrophe that would be inevitable if no action were taken.

Positive results were achieved. The National Office of Population was created in January 1981. As stated in the enabling legislation, the objectives of the ONAPO are to:

- study all matters in relation to population growth and its effect on socioeconomic development;
- sensitize the population to the demographic problems of the country in a program of information, education, and training that respects the person, his or her moral and religious beliefs, and the couple's right to choose to bear or limit the number of children;
- ensure that good conditions prevail wherever family planning services are offered;

- study how family planning can be integrated into primary health care services and to propose to the MOH the best approach to achieving integration;
- propose solutions to balance production with population growth; and
- help design and institute programs in demography at educational levels.

It is hoped that the ONAPO will receive the resources it needs to achieve these goals.

The Third Plan should indicate clearly that the government intends to promote birth spacing to improve maternal and child health. The government has already pointed out (in the Second Plan) that the size of the population should be compatible with the resources of the country. And the president has made it clear in several statements that a family planning program is a necessity and that all reversible methods of contraception, in addition to information on their side effects, should be made available to the population so that each couple is free to determine the size of the family.

Implementing an MCH/FP Program

A. Demographic Impact of an MCH/FP Program

At this time, the Government of Rwanda does not want to quantify the objectives of its demographic program in terms of reduced fertility. What might be the results of a moderate program to space births?

For the purpose of this report, the authors examined the projections of population made by the GOR and by the U.N. The team believes that the rate of growth of the population has been underestimated and it has used the RAPID¹ model, rather than the projected figures, to illustrate how unchecked population growth affects social and economic development.² RAPID was used to answer two questions:

¹ Resources for Awareness of Population Impact on Development.

² The Futures Group, Rwanda: The Effects of Population Factors on Social and Economic Development, Washington, D.C., January 1981.

1. Can Rwanda attain its social and economic development goals if the current level of fertility and the current rate of population growth are not checked?
2. If the development program includes measures to slow population growth, how, if at all, will the attainment of the goals and the social and economic progress of Rwanda be affected?

Three population projections based on alternative fertility assumptions were used: continuing the current high rate of fertility, achieving a total fertility of 4 in 2002 and 3 by 2027, and achieving a total fertility of 3 in 2002 and 2 in 2027.

These assumptions would be too high if a program as moderate as that planned by the GOR were implemented. The authors have, therefore, taken a lower assumption, using the two projections described below. The two projections assume an increase in life expectancy to 53 years in 2002 and 60 years by 2027 and no net international migrations. (The projections begin in 1977 to correspond with the government's planning periods.) Projection A assumes continuing high fertility as the fertility rate drops gradually from 6.9 in 1977 to 6.4 in 2002 and 5.8 in 2027. Projection B assumes a decline in the rate of fertility to an average of 5 in 2002 and 3 by 2027.

For 1977, the base year for the projections, the following demographic parameters were used:

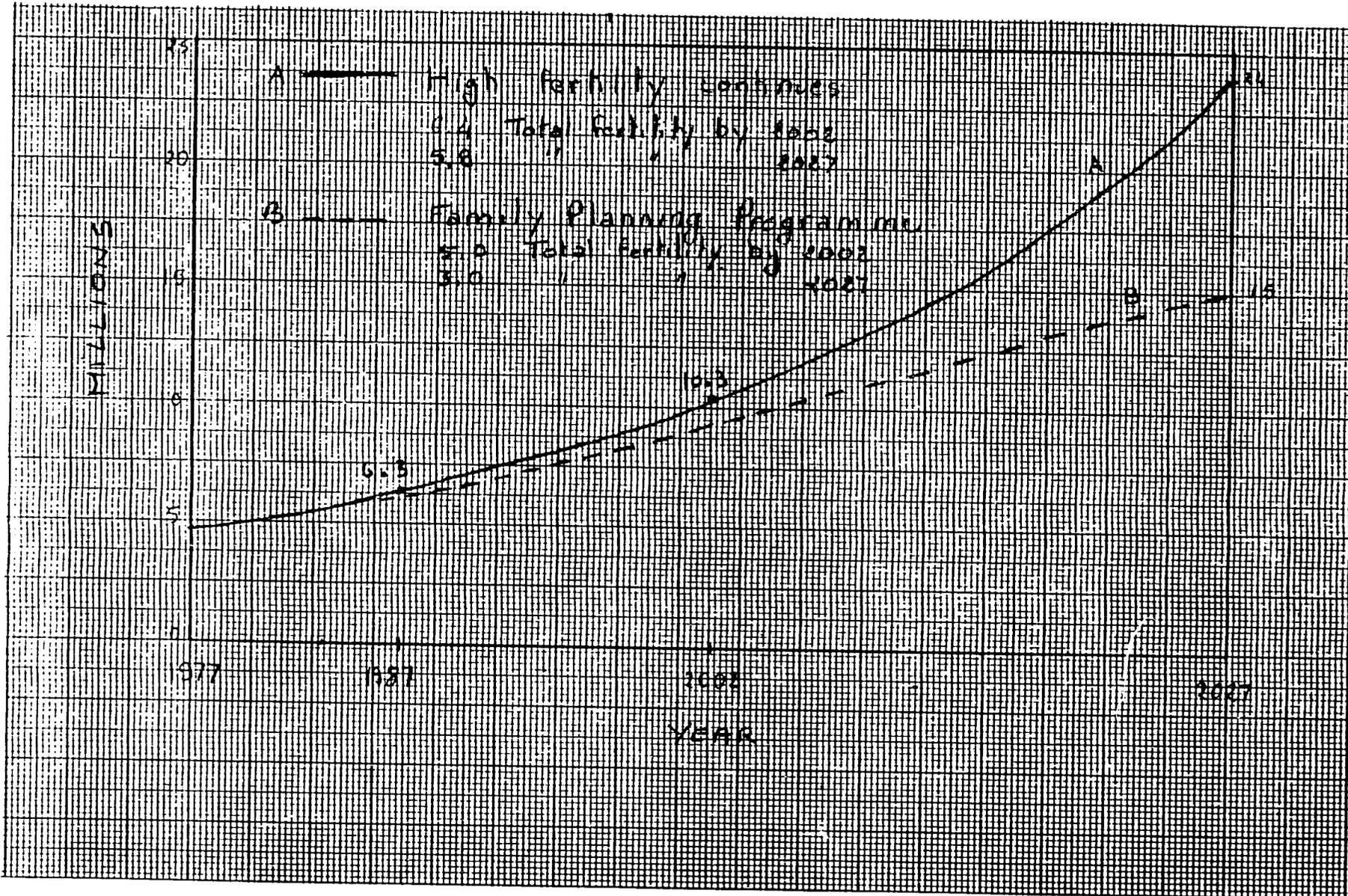
Life Expectancy	46.6 Years
Total Fertility	6.9 Live Births
Birth Rate	50/1,000
Death Rate	19/1,000
Annual Growth Rate	3.1 Percent
Total Population	4.7 Million

These parameters seem to be acceptable, given the estimates derived from the census data, although they may be slightly underestimated. This should be kept in mind.

Under Projection A, the population will double by the end of the century, to 10.3 million. It will reach 24 million by 2023. Under Projection B, the population will reach between 9 million and 10 million in 2002, and increase to 15 million by 2027. These increases will produce a slight change in the pyramid, with a favorable balance between the active and inactive population; however, a replacement-level fertility of 2 in 2027 will not be achieved. (See Graph III-2.)

Graph III-2

POPULATION GROWTH UNDER TWO
FERTILITY ASSUMPTIONS, 1977-2027



For the period 1982-2002, Projections A and B will result in the following changes for the demographic measures in 2002:

<u>Demographic Measures</u>	2002	
	<u>Projection A</u>	<u>Projection B</u>
Birth Rate	50/1,000	40/1,000
Death Rate	15/1,000	15/1,000
Annual Growth	3.5 Percent	2.5 Percent
Total Fertility	6.4 Live Births	5 Live Births
Life Expectancy at Birth	53 Years	53 Years.

At the end of the next plan, in 1987, the indicators would be:

<u>Demographic Measures</u>	1987	
	<u>Projection A</u>	<u>Projection B</u>
Birth Rate	50/1,000	47/1,000
Death Rate	17/1,000	17/1,000
Annual Growth	3.3 Percent	3.0 Percent
Annual Births	318,300	297,181
Total Population	6,366,000	6,323,000.

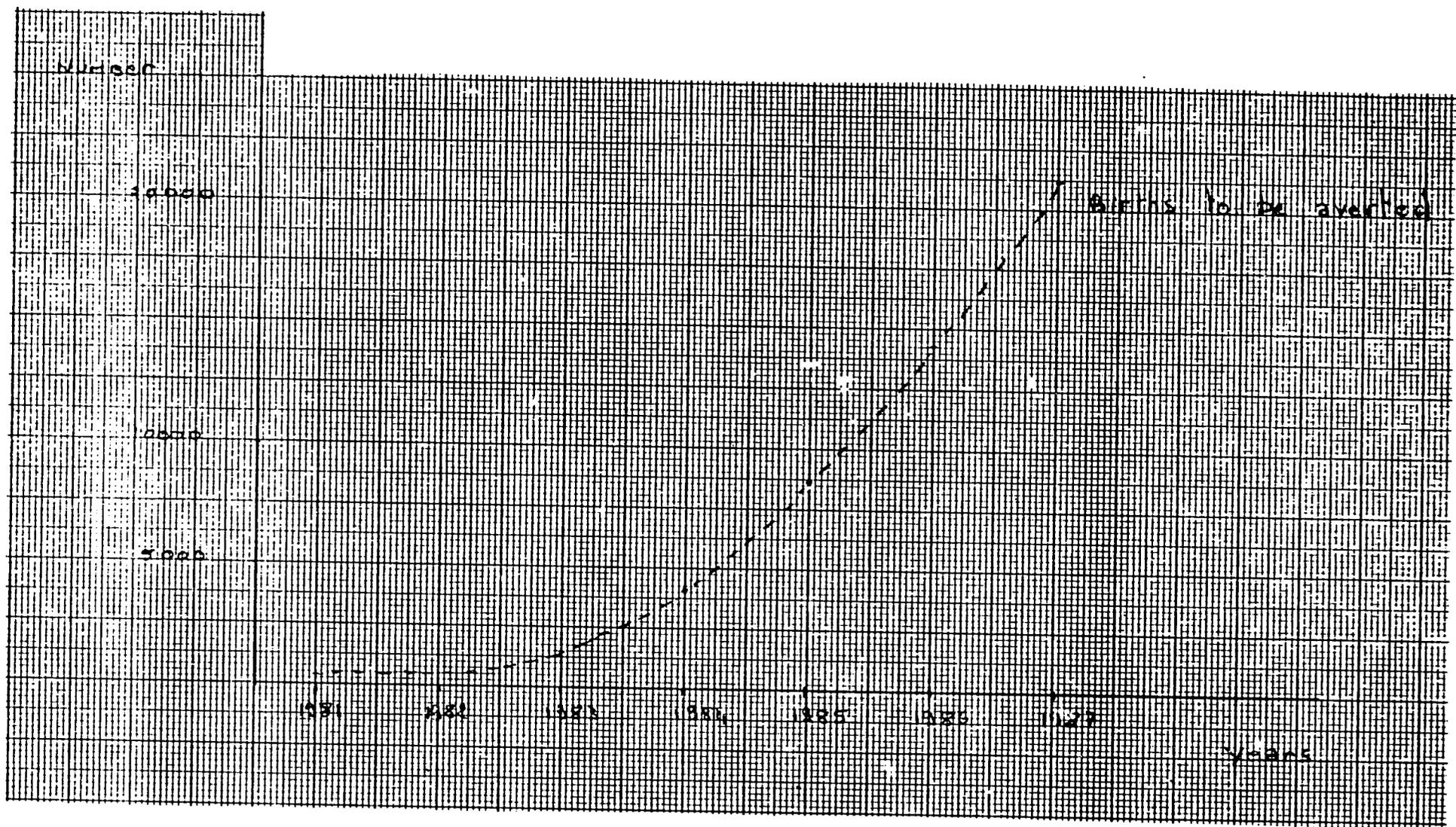
Thus, 21,119 births would be averted in 1987 as a consequence of family planning activities in the preceding years. (See Graph III-3.) The estimated number of births in 1982, at the beginning of the plan, would be 270,000. This figure corresponds to estimates for current conditions in which no contraceptives are used.

In the two projections, the population would increase to the following levels between 1982 and 1986:

<u>Year</u>	<u>Projection A</u>	<u>Projection B</u>	<u>Difference</u>
1982	5,428,000	5,428,000	-
1983	5,602,000	5,596,000	6,000
1984	5,781,000	5,769,000	12,000
1985	5,966,000	5,948,000	18,000
1986	6,163,000	6,133,000	30,000
1987	6,366,000	6,323,000	43,000.

Graph III-3

BIRTHS TO BE AVERTED DURING THIRD PLAN



The number of births in the same period would be as follows:

<u>Year</u>	<u>Projection A</u>	<u>Projection B</u>	<u>Difference</u>
1982	271,400	271,400	-
1983	280,100	278,680	1,420
1984	289,050	284,988	4,062
1985	298,300	289,667	8,633
1986	308,150	293,770	14,380
1987	318,300	297,181	21,119.

To estimate how many acceptors would be required during the next five years to achieve the objectives, the authors used a methodology developed by the Population Division of the U.N. (The methodology is described in Manual IX, "The Methodology of Measuring the Impact of Family Planning Programs on Fertility." A number of assumptions have been made which are not repeated here. The interested reader should refer to Manual IX.) The method involves the determination of the number of acceptors required to reach a number of protected women of reproductive age (15-49) who will avert the number of births required to reach the objectives. (See Graph III-4.)

In applying the method, it is assumed that contraception is 100 percent effective, that users are distributed uniformly during the year, that all averted births are a result of family planning activities, and that the number of FP users as of October 1 of any year represents the average number over the period from April 1 of the same year to April 1 of the following year. In other words, the number of births prevented in 1983 will be the same as the estimated number of users as of October 1, 1982. It is assumed that, in the absence of a FP program, acceptors will not have practiced family planning and will have been exposed to the risk of pregnancy. It is also assumed that the rate of fertility of the acceptors will have remained constant and that it will be the same as the marital fertility rate for women 15-49, which is calculated to be 250 per 1,000 (the general fertility rate was estimated to be 237 per 1,000 in 1978).

To obtain the number of users as of October 1, the authors estimated first the number of women who must be protected by a contraceptive method to avert the number of births (see Table III-4) determined from the marital fertility rate of 250 per 1,000. The number of women to be protected as of October 1 is shown in Table III-5.

A family planning program in Rwanda should provide intrauterine devices, oral contraceptives, condoms, jellies, and Depo Provera. For practical purposes, it is assumed that the IUD and Depo Provera have the same effectiveness. The same is assumed of the pill and secondary methods.

Graph III-4

NUMBER OF NEW ACCEPTORS, BY YEAR

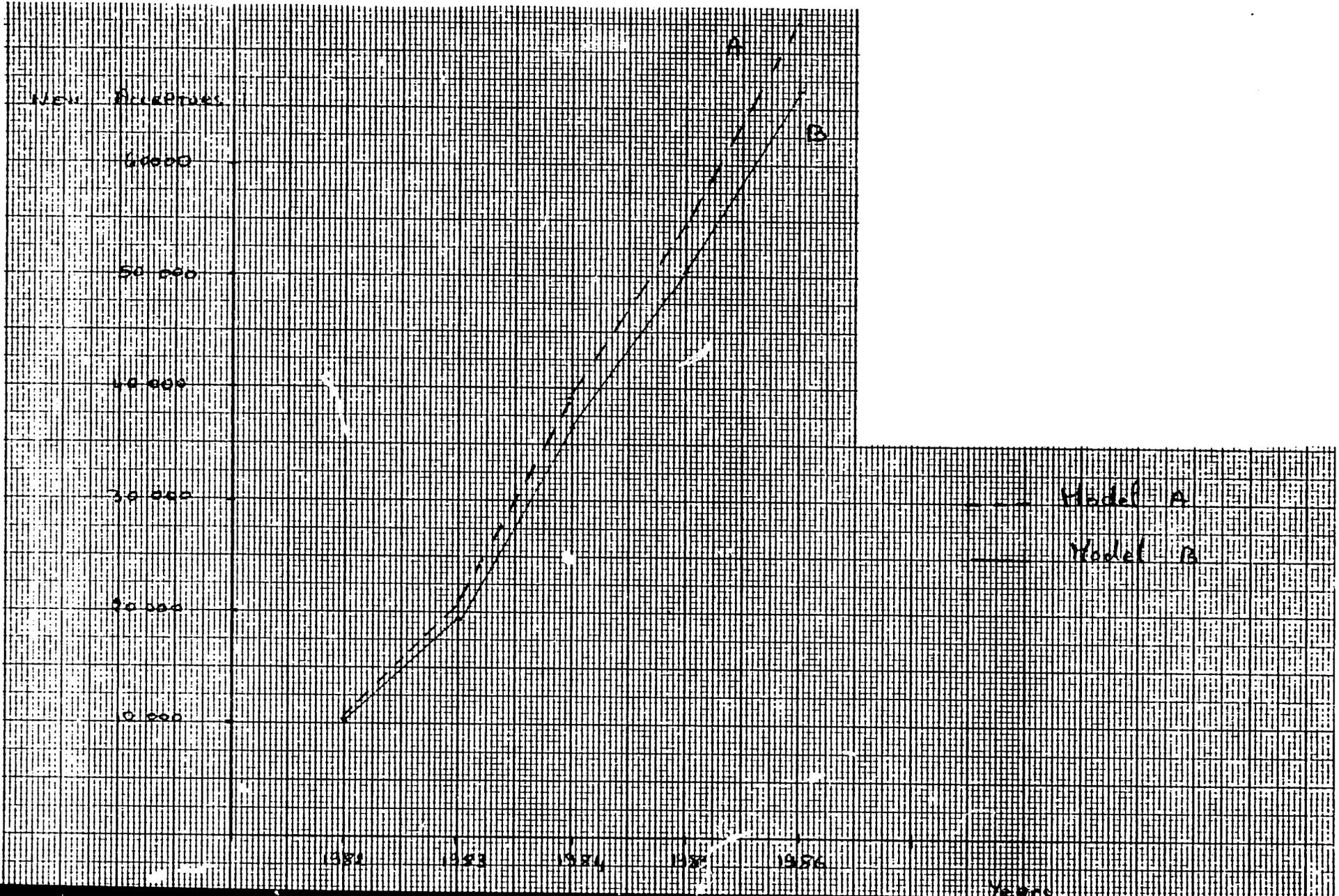


Table III-4
NUMBER OF BIRTHS TO BE AVERTED BY FP PROGRAM

<u>Year</u>	<u>Number of Births To Be Averted</u>
1982	-
1983	1,420
1984	4,062
1985	8,633
1986	14,380
1987	<u>21,119</u>
Total Births To Be Averted During The Third Plan	<u><u>49,614</u></u>

Table III-5
WOMEN TO BE PROTECTED BY FP,
AS OF OCTOBER 1

<u>Year</u>	<u>Number of Women (15-49) Protected As Of October 1</u>
1982	5,680
1983	16,248
1984	34,532
1985	57,520
1986	84,476

The retention rates (see Table III-6) used here are for Tunisia. They are applicable to a country where the retention rate for IUDs is high and the effectiveness of the pill is low. (The assumptions are appropriate for Rwanda, where illiteracy is high.)

An assumption was made about how the women who are protected are distributed by methods. The following distribution was used for Model A and Model B:

<u>Method</u>	<u>Percent Model A</u>	<u>Percent Model B</u>
Pill	25	18.5
Secondary Methods	25	18.5
IUD	10	11.0
Depo Provera	40	52.0.

The women protected are distributed by the methods shown in Table III-7.

By applying the retention rates shown in Table III-6, the authors obtained the number of acceptors (see Table III-8). They assumed that the acceptors do not shift from one method to another, that acceptance occurs uniformly during the calendar year, and that protection, for both the pill and secondary methods, lasts for an average of six months during the year of acceptance. In addition, the authors assumed that all women receive supplies to cover one menstrual cycle only, and that the supplies are used correctly.

From the calculations, one might conclude that a large proportion of women accepts the pill and secondary methods rather than the IUD and Depo Provera. To present an alternative, the authors have supposed that women are distributed differently, as in Tables III-9 and III-10.

Other alternatives could be developed to determine what would be the best strategy for Rwanda. The two models presented in this chapter depend heavily on acceptors of the pill and secondary methods, which are not efficient in terms of births averted; they give little importance to the IUD, which is one of the most efficient methods of contraception. The number of acceptors required to achieve the objectives is high. However, the numbers projected for the first years are modest, and there is a rapid increase in later years, after the program has become established. If the government wants to promote a family planning program that will succeed in reducing fertility, it must develop family planning activities and services rapidly and energetically in the next several years. At the same time, it must promote a widespread information and education program.

To improve the calculation of objectives for the Fourth Plan (1987-1992), the government will need more information on FP activities in the

Table III-6
RETENTION RATES FOR PILL AND IUD

<u>Number of Months After Acceptance</u>	<u>Retention Rates (Per 100 Accepters)</u>	
	<u>IUD</u>	<u>Pill</u>
0	100.0	100.0
4.5	87.0	60.8
15	71.2	36.2
27	54.6	20.4
39	44.9	13.1
51	34.0	8.0

Source: Office National du Planning Familial et de la Population, Enquête sur la Continuation des Méthodes Contraceptives: DIU-Pilule, Tunis, 1973.

Table III-7
WOMEN PROTECTED, AS OF OCTOBER 1, BY FP METHOD
Model A

<u>Methods</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Pill	1,420	4,062	8,633	14,380	21,119
Secondary Methods	1,420	4,062	8,633	14,380	21,119
IUD	568	1,625	3,453	5,762	8,448
Depo Provera	<u>2,272</u>	<u>6,499</u>	<u>13,813</u>	<u>23,008</u>	<u>33,790</u>
TOTAL	<u>5,680</u>	<u>16,248</u>	<u>34,532</u>	<u>57,520</u>	<u>84,476</u>

Table III-8
NUMBER OF NEW ACCEPTERS, BY FP METHOD
Model A

<u>Methods</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Pill	3,113	6,437	12,429	17,895	24,153
Secondary Methods	3,113	6,437	12,429	17,895	24,153
IUD	869	1,542	2,884	3,796	4,879
Depo Provera	<u>3,481</u>	<u>6,161</u>	<u>11,534</u>	<u>15,125</u>	<u>19,577</u>
TOTAL	<u>10,576</u>	<u>20,577</u>	<u>39,276</u>	<u>54,711</u>	<u>72,762</u>

Table III-9
WOMEN PROTECTED, AS OF OCTOBER 1, BY FP METHOD
Model B

<u>Method</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Pill	1,050	3,005	6,388	10,641	15,628
Secondary Methods	1,050	3,005	6,388	10,641	15,628
IUD	630	1,787	3,798	6,327	9,292
Depo Provera	<u>2,950</u>	<u>8,451</u>	<u>17,958</u>	<u>29,911</u>	<u>43,928</u>
TOTAL	<u>5,680</u>	<u>16,248</u>	<u>34,532</u>	<u>57,520</u>	<u>84,476</u>

Table III-10
NUMBER OF NEW ACCEPTERS, BY FP METHOD
Model B

<u>Method</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Pill	2,310	4,762	9,200	13,242	17,871
Secondary Methods	2,310	4,762	9,200	13,242	17,871
IUD	965	1,685	3,173	4,161	5,384
Depo Provera	<u>4,520</u>	<u>8,020</u>	<u>14,988</u>	<u>19,665</u>	<u>25,453</u>
TOTAL	<u>10,105</u>	<u>19,229</u>	<u>36,561</u>	<u>50,310</u>	<u>66,579</u>

country. Some useful data can be obtained by evaluating the program after two years. Results could be checked against assumptions.

If a family planning program is implemented, the ONAPO should be required to study the distribution of acceptors, by FP method and region, to conduct a small follow-up survey to determine retention rates for different methods, and to conduct a fertility survey to measure and establish an accurate level of marital fertility in Rwanda. The results of the surveys will be useful in setting specific but reasonable objectives for the next plan. The objectives would be based on the results of earlier activities in the FP program and on a better knowledge of the characteristics of the target population.

B. Statistics for a FP Program

Family planning activities will have to be followed to identify a strategy to develop the program efficiently and to measure its effectiveness. Information on the acceptors will be needed. To ensure that suitable, sufficient data are available, the government will have to design a recordkeeping system and train personnel to collect, record, and file statistics. This effort can be divided into three phases: a preparatory phase, an experimental phase, and extension.

1. Preparatory Phase (1981)

The government must decide which institution should be the central statistical agency. The team recommends that the ONAPO be placed in charge of statistical operations. The staff there could supervise closely the FP program and evaluate its activities.

Sometime in 1981 the demographer who is in charge of the Division of Study, Evaluation and Research should be trained to manage the statistical service at the ONAPO. This person should spend one month in Tunisia at the Division of Population in the National Office of Family Planning to learn how to keep records and how to collect data on FP activities; how to calculate objectives and to compare objectives with results; how to measure the impact of the program on fertility; how to analyze program activities; and how to train personnel to keep records.

An adjoint-statistique should be recruited by the ONAPO to help the demographer collect data and prepare statistics for analysis. (An ITS from the IAMSEA would be an appropriate candidate.)

The demographer and his assistant would design the forms on which data are recorded. They also would train three persons to keep records

in the three reference hospitals which will provide family planning services in 1982. The three employees need not be from the statistical section; they could be among those who provide FP services (e.g., a doctor or a midwife trained in FP statistics at the ONAPO).

2. Experimental Phase (1982)

If the activities described above are completed by the end of 1981, the basic structure for keeping statistics will be in place and, as soon as FP activities begin in the three reference centers, data can be collected and reports sent every month to the ONAPO.

During the first year of activities (1982), the statistical system should be tested. Each woman who comes for FP services should be given a card with a personal number. A separate file on each client should be kept at the center. (See Exhibit III-1, Fiche Individuelle.)

A register should be kept also. One line should be used for each woman. A copy of the register should be sent every month to the ONAPO. (See Exhibit III-2, Registre d'Activité de Planning Familial.)

To study the demographic characteristics of the acceptors, a third form (see Exhibit III-3, Fiche Statistique) will be needed. A separate form should be completed for each new acceptor.

The statistical service at the ONAPO should receive every month a copy of the register of activities and copies of the forms on the demographic characteristics of new acceptors. The data should be verified and printed in a quarterly bulletin. Each year, a report should be issued that contains a summary and analysis of FP activities.

In 1982, and while the program is being tested in the three centers, the statistical documents should be finalized and the personnel for the seven other centers should be trained at the ONAPO. Between 1981 and 1983, 10 persons should be sent to Yaoundé, Cameroun, to receive training as an adjoint-statistique. These persons will become délégué régionaux. As the program expands, the demographer will assume additional responsibility for research activities. When this happens, a statistician with an interest in economics will have to be recruited to head the statistical service. This person will be responsible for organizing the collection of data, training personnel, and providing refresher courses; he also will provide regular analyses of the FP activities and identify the objectives of FP activities. In addition, he should be required to define the objectives for the Third Plan and program the FP activities that will be required to achieve those objectives.

OBSERVATIONS PARTICULIERES

OFFICE NATIONAL
DE LA POPULATION

Fiche Individuelle No.

Préfecture _____

Commune _____

Centre de _____

Médecin responsable _____

1. Nom et Prenoms _____

2. No. de la carte de soins _____

3. Date de la lère visite _____

4. Adresse

Commune _____

Colline _____

5. Age de la femme _____

6. Profession du mari _____

7. Nombre d'enfants vivants _____ Décédés _____

8. Date des dernières règles _____

9. Nombre de mois ecoules

depuis la dernière grossesse _____

1er Examen gynécologique: Normal Oui Non

Anomalies: exocerviaite _____ fibrome _____

Métrite ou annexité _____ cancer _____

Autres anomalies _____

Grossesse _____ Si oui, âge _____

2ème Examens gynécologique complémentaires _____

Methode adoptée

A. Appareil intrauterin Date de l'insertion _____

Type _____

B. Autres méthodes _____

Exhibit III-1a

-43a-

CONSULTATIONS ULTERIEURES

Date des visites 1	Date de dernières règles 2	Grossesse (Ecrire oui où non où suspect) 3	Appareil intra-uterins			Autres méthodes contraceptives		Observations 9
			Expulsion spontanée 4	Retrait Oui où non raison 5	Réinsertion	Contraceptif choisi 7	Quantité fournie 8	

Exhibit III-1b

Exhibit III-1c

Appendix

FICHE DE MATERNITE ABREGEE

IDENTIFICATION DE LA PATIENTE: 1. No. d'hospitalisation _____ 2. Date d'admission _____
 jour mois année
 3. Nom de la patiente _____ Nom du mari _____
 4. Adresse _____

IDENTIFICATION CODEE

5. Nom du centre _____ et numéro:

9	1	0

 1-3
 6. Numéro de l'étude: _____ 4-4
 7. No. (rang) de la patiente dans l'étude: _____ 7-11
 8. Date de l'accouchement:

 jour mois année 12-17

ANTECEDENTS OBSTETRICAUX

9. Age de la patiente: (années révolues) _____ 21-23
 10. Niveau d'instruction de la patiente: (nombre d'années scolaires complètes) 0) 0 1) 1-2 2) 3-4 3) 5-6 4) 7-8 5) 9-10 6) 11-12 7) 13-14 8) 15+ _____ 24
 11. Age au premier mariage (union): (années révolues) _____ 25-26
 12. Nombre total de naissances vivantes: _____ 27-28
 13. Enfants actuellement vivants: nombre de garçons (8 ou plus = 8) _____ 29
 nombre de filles _____ 30
 14. Durée d'allaitement de la dernière naissance vivante: 0) n'allaitait pas 1) <3 mois 2) <6 3) <9 4) <12 5) <15 6) <18 7) <21 8) 21 mois ou plus _____ 31
 15. Nombre total d'enfants mort-nés: (8 ou plus = 8) _____ 32
 16. Résultat de la dernière grossesse: 0) pas de grossesse antérieure 1) enfant vivant, à terme, encore en vie 2) enfant vivant, à terme, décédé 3) enfant vivant, avant terme, encore en vie 4) enfant vivant, avant terme, décédé 5) mort-né 6) avortement provoqué 7) avortement spontané 8) autre _____ 36
 17. Nombre de mois depuis la fin de la dernière grossesse: (98 ou plus = 98) _____ 37-38
 18. Procédé contraceptif essentiellement utilisé avant cette grossesse: 0) aucun 1) DIU 2) pilule/injectable 3) ligature des trompes 4) vasectomie 5) condom 6) retrait/rythme 7) mousse/diaphragme/gelée 8) autre _____ 39

DONNEES MEDICALES SUR LA GROSSESSE ACTUELLE

19. Affection prénatale principale: 00) aucune 02) placenta praevia 08) hémorragie antepartum 10) toxémie pré-écléptique 11) éclampsie 14) infection des voies urinaires 29) anémie 35) béance du col 79) diabète 98) autre _____ 41-42
 20. Nombre de césariennes antérieures: _____ 44
 21. Durée estimée de la grossesse: (calculée en semaines révolues à partir du premier jour des dernières règles) _____ 46-47
 22. Déclenchement du travail: 0) pas en travail 1) spontané 2) spontané, renforcé par rupture artificielle des membranes (RAM) 3) spontané, renforcé par drogues 4) spontané, renforcé par RAM et drogues 5) provoqué par RAM 6) provoqué par drogues 7) provoqué par RAM et drogues 8) autre _____ 50

En cas de grossesse multiple, enrégistrer l'information de l'accouchement le plus difficile aux questions 23, 24, 27, 29 et 30, et remplir une Fiche de Naissance Multiple pour chaque enfant.

23. Présentation au cours du travail: 0) occipito-antérieure 1) occipito-postérieure ou occipito-transverse 2) siège décomplété, mode des fesses 3) siège décomplété, mode des pieds 4) siège complet 5) fœtus en face

24. Mode d'accouchement: 0) spontané 1) forceps à la vulve 2) ventouse 3) forceps à la partie haute ou moyenne 4) rotation manuelle 5) siège 6) césarienne 7) embryotomie 8) autre _____ 54
 25. Principale complication de l'acc.: 0) aucune 1) travail prolongé ou arrêté 2) placenta praevia 3) hématome rétroplacentaire 4) insuffisance contractile de l'utérus 5) hypercontractilité utérine 6) hémorragie 7) rétention placentaire 8) autre _____ 56
 26. Accoucheur ou accoucheuse: 0) personne 1) infirmière 2) sage-femme qualifiée 3) étudiante infirmière ou sage-femme 4) personnel paramédical 5) étudiant en médecine 6) médecin généraliste 7) spécialiste gynécologue-accoucheur 8) autre _____ 58
 27. Poids à la naissance: (en grammes) _____ 60-62
 28. Sexe du (ou des) nouveau-né(s): nombre de garçons (indiquer le nombre pour chaque sexe) nombre de filles _____ 63
 29. Cotation d'APGAR: _____ à une minute _____ 80
 9) pas faite (8 ou plus = 8) _____ à 5 minutes _____ 81
 30. Principale complication fœtale ou néonatale: 0) normal, ou mort-né sans pathologie évidente 1) souffrance fœtale au cours du travail 2) malformation mineure 3) malformation majeure 4) détresse respiratoire 5) isoimmunisation 6) infection néonatale 7) traumatisme 8) autre Pour les codes 21, 31, 71, 81, spécifier _____ 67
 31. Mort du fœtus/nouveau-né: 0) vivant 1) antepartum, un enfant 2) antepartum, deux ou plus 3) intrapartum, un 4) intrapartum, deux ou plus 5) postpartum, un 6) postpartum, deux ou plus 7) combinaison 8) autre _____ 68
 32. Principale complication des suites de couches: 0) aucune 1) fièvre exigeant traitement 2) saignement exigeant traitement 3) infection urinaire 4) mastite 5) phlébite 6) lâchage de suture 7) décès (remplir le Rapport de Mortalité) 8) autre _____ 70

ETUDES PARTICULIERES

33. _____ 73
 34. _____ 74
 35. _____ 75

CASES A REMPLIR AU MOMENT DE LA SORTIE

36. Stérilisation tubaire: 0) aucune 1) avant l'acc. 2) pendant la césarienne 3) au moment de l'acc. 4) le jour même de l'acc. 5) 1 à 2 jours après l'acc. 6) 3 à 4 jours après l'acc. 7) 5 à 9 jours après l'acc. 8) 10 jours ou plus après l'acc. _____ 77
 37. Nombre d'enfants ultérieurs désirés: (8 ou plus = 8) _____ 78
 38. Procédé contraceptif prévu ou donné: 0) aucun 1) DIU 2) pilule/injectable 3) ligature des trompes 4) vasectomie 5) condom 6) retrait/rythme 7) mousse/diaphragme/gelée 8) autre _____ 79
 Signature (lisible) _____ 1 80

République du Rwanda
OFFICE NATIONAL DE LA POPULATION

FICHE STATISTIQUE

Centre: _____
Fiche remplie par _____

Mois:
Année

Jour de l'acceptation						
No. de fiche individuelle						
Nom de la Femme						
Méthode adoptée						
Age de la femme						
Nombre d'enfants vivants						
Nombre d'enfants décédés						
Nombre de mois écoulés depuis la dernière grossesse						
Commune de résidence						

Exhibit III-3

3. Extension Phase (1983-1986)

By the end of the Third Plan (1982-1986), the statistical system should be in full operation. A statistical service at the ONAPO should be supervising the collection of FP statistics in each of the FP centers. If a family planning center is established in each of the 143 communes, it will be necessary to employ statistical assistants (délégués régionaux) to collect statistics in each prefecture.

By 1986, the statistics on FP activities will have become too difficult to handle manually. More sophisticated equipment will be needed. (For example, a small computer may be needed to process surveys on population.)

If sophisticated equipment is available, staff will be able to analyze data systematically and publish and distribute their results to other ministries and interested agencies.

The ONAPO should be responsible for providing appropriate training. Each FP center should have a trained statistical assistant. The ONAPO should aim to maintain a file on each FP center. The file should contain information on the physical characteristics of the center, the personnel who participate in FP activities, the kinds of contraceptives that are distributed, and the demographic characteristics of the acceptors. A follow-up study of the maternity histories of women who deliver in health care institutions would be useful if such histories are taken routinely.

C. Research Program

The Division of Studies, Evaluation and Research was set up in the ONAPO to:

- study and evaluate the impact of population growth on socio-economic development;
- evaluate the impact of activities in FP centers on demographic conditions to improve planning;
- elaborate, with other interested institutions, development projects which would diminish socio-demographic problems;
- conduct research and surveys on population; and
- help develop a program of information, training, and education in population which can be introduced into the curricula at all levels of the educational system.

The achievement of these ambitious objectives would make the ONAPO the central organization for demographic research in Rwanda. It is reasonable to expect that the ONAPO will develop the capacity to achieve these goals, if it receives assistance in establishing solid structures and recruiting trained personnel.

A demographer who was trained at the University of Montreal is in charge of the Division of Studies, Evaluation and Research. He seems to be the right person for the position, although he lacks practical experience. He should be given the opportunity to be trained in Tunisia in the Division of Population (Statistical and Research Services) in the ONPFP, where he can learn about the practical aspects of his work.

Another demographer is expected to join the ONAPO in September 1981. He was recruited from the Department of Demography in Louvain, Belgium. A third demographer, as well as other social scientists, such as an economist, a statistician, and a sociologist, will be needed to conduct important studies and research.

Equipment and support staff should be provided as soon as possible.

The ONAPO should collaborate with other research institutions in Rwanda (e.g., the CRES, the IAMSEA, the Bureau of the Census, the Division of Statistics) and coordinate projects and organize seminars on population problems and demography.

At the ONAPO, the research and evaluation program can be divided in two parts: evaluation and research directly related to the FP program, and general research on population dynamics.

1. Evaluation and Research for the FP Program

An evaluation of the activities of the FP centers should be based on the data that have been collected systematically, field surveys, and analyses of records on acceptors.

Statistics on the FP program should be analyzed in a yearly report published by the ONAPO. The report should include tables that show the number of acceptors by method and at each center. Results should be evaluated against objectives in terms of births averted and percentage of women of reproductive age who are protected by contraception.

The demographic characteristics of acceptors should be analyzed routinely to follow the evolution of the distribution of acceptors by method and by age and parity. Records on maternity histories should be collected from the maternities. The information can be useful in improving maternal and child health care.

During the preparatory phase of the program (1981), the Division of Studies, Evaluation and Research should give priority to the four studies described below.

- An inventory of all research and surveys on Rwanda's population conducted in or outside the country. The results of the studies should be analyzed. The methodologies should be described and the quality of the research assessed.
- An evaluation of all FP activities in Rwanda before the FP program. This study would involve the quantitative estimation of the number of women who practiced or are practicing family planning in Rwanda and their socio-demographic characteristics. The objective would be to list the sites where FP services are available, describe the methods that are offered and which are favored by the women, and identify what can be done to improve the services. Little information is available on the practice of contraception in Rwanda. A Rwandan professor in sociology intended to evaluate FP activities, but he left the country for training in the U.S. His project began, however, before he left Rwanda. A questionnaire was designed and a pretest was performed which has produced interesting results for the hospital in Kigeme, the health center in Kansi, and the Centre Universitaire de Santé Publique (CUSP) in Butare. The work should be completed. The ONAPO could supervise the project.
- An analysis of the records on 700 acceptors. The records are kept in Butare at the Clinique du Contrôle des Naissances. It would be worthwhile to interview the 700 women to determine how they regard the services and the methods they were offered.

In 1982, after the research staff have acquired some experience, it would be useful to conduct a national survey to establish attitudes toward and the knowledge and practice of family planning in Rwanda. This KAP survey would be the first of its kind in Rwanda. Some surveys show that there is a general ignorance of FP methods but that people are becoming more and more aware of the problem of overpopulation.¹

The ONAPO would like to obtain more detailed data on fertility. It would, the team thinks, be interesting to perform the prevalence survey on FP methods which Westinghouse Health Systems (WHS) is promoting in many other countries. Rwanda would profit from the experience and technical assistance of WHS. For example, the WHS could help train local personnel in the organization, supervision, and processing of a national survey.

¹ Information can be found on the subject in a study of women's status, a survey among married school teachers, and a nutrition survey in Gisenyi. See the bibliography attached to this report.

The WHS questionnaire consists of five sections:

- Socio-Demographic Characteristics (age, education, and occupation);
- Fertility History (pregnancies, number of children alive and dead, breastfeeding, desired family size);
- Fertility Regulation (knowledge, attitude, and practice of FP);
- Availability (where to go for FP and health services, distance to a center, preferences for services); and
- Family History (marital-union patterns and partner's background).

The results of a survey of this kind could be used to chart the evolution of the FP program and its impact on women. They would be a reliable data base.

The ONAPO would be able to perform its own surveys if its staff were well trained. The women who were trained to conduct interviews for the 1978 census and the 1981 demographic survey could be employed as interviewers. Data processing could be done in Rwanda on the computer at the National Bureau of the Census, if technical assistance were provided. It is expected that the demographic survey will have been processed by the end of 1982. The computer will be available at that time for other surveys on population.

Toward the end of the Third Plan, after the personnel at the ONAPO become more experienced, it will be possible to evaluate FP activities in the first two years and their effect on fertility in Rwanda. It would be interesting to conduct at the same time a follow-up survey on FP methods. Retention rates for the country could be estimated and used to calculate the objectives for the Fourth Plan (1987-1992). This survey could be done with the assistance of a consultant. A questionnaire and documents could be adapted from those used in the follow-up survey in Tunisia in 1973. The sample could be drawn from the records on file in the FP centers.

2. Research on Population Dynamics

Special attention should be given to those areas in Rwanda where density is particularly high and increasing rapidly. A small-scale survey could be designed by the ONAPO or another institution, such as the

CRES, to study communes where the density is greater than 400 inhabitants per square kilometer. This analysis of the relationship between high density and socioeconomic problems could be programmed for 1982.

National Survey on Fertility

The ONAPO has expressed an interest in carrying out a national fertility survey. At this time, given the number of staff (and their experience) and the fact that a demographic survey has been scheduled for August 1981, it would be premature to organize such an important project. However, in two years, it would be of great interest to the country, and, if a national fertility survey were undertaken that conformed to the World Fertility Survey (WFS), comparisons could be made among countries. Such a study would provide the basic data that are needed to understand fertility in Rwanda, as well as other demographic indicators.

The survey would contribute to the knowledge of the demographic characteristics of the population. It would provide all the data the government needs to set demographic parameters and execute demographic policies. It would yield numerical data that are indispensable to socioeconomic planning during the intercensal period. Such information would be especially useful in developing the Fourth Plan. In addition, methodologies could be developed and tested that might be useful in other censuses and demographic surveys.

The immediate objectives of the survey would be to:

- collect data on fertility, nuptiality, mortality, and migrations;
and
- identify the explanatory variables of population fertility and migrations.

The coordinating body of the project would be the ONAPO. It would collaborate with the Division of Statistics in the Ministry of Planning.

The project would last three years. Technical assistance would be provided by staff who conduct the World Fertility Survey or by other experts who have been involved in this kind of work in other African countries.

A consultant would supervise the execution of the survey, and several international experts would help to design the sample, conduct the fieldwork, and process and analyze the data.

All documentation and all questionnaires would be provided by the WFS.

Apart from the core questionnaire, the survey would include modules on family planning, factors other than contraception that affect fertility, economic variables, general mortality, and the influence of child mortality on fertility. Rwanda would benefit from the software at the offices of WFS. The results of the survey would be comparable to the results of 43 other surveys which have been made all over the world.

In addition to data on fertility, the survey would provide useful information on prenatal and maternal mortality, the importance of sterility and sub-fecundity, marital patterns, and the extent of polygamy.

A questionnaire also would be administered to men to obtain information on their attitudes toward family planning and fertility.

Now that the country has had a census, there is a suitable sampling frame, and trained interviewers are available.

Vehicles would be needed.

The initial contact with the World Fertility Survey should be made at the beginning of 1982 to ensure that fieldwork can begin in 1983.

The results of the survey should be available by the end of 1984. They can be used to prepare the Fourth Five-Year Plan (1987-1991).

Recommendations

The following action should be taken to develop a program in maternal and child health and family planning.

A. Population Policy

It should be made clear in the Third Plan (1982-1986) that an MCH/FP program will be initiated in the country during the next five years.

The Fourth Plan would specify the country's current demographic objectives and a quantitative estimation of the family planning activities that will have to be performed to achieve the objectives between 1987 and 1991.

B. FP Statistics

The ONAPO should be the central office for FP statistics. It should supervise data collection, evaluate family planning activities,

and publish yearly reports that contain analyses and tables showing the number of acceptors by method and center.

The ONAPO should be responsible for defining the demographic objectives for socioeconomic planning. Periodically, it should analyze the demographic characteristics of acceptors, by method and region (and age and parity), and the maternity histories of women who have delivered in maternal and child health care institutions.

The demographer at the ONAPO should be trained in statistics and research for FP programs. Training should take place in Tunis before the end of 1981.

The ONAPO should aim to keep a central file on acceptors, the number and kinds of contraceptives distributed, infrastructure, and information and training programs.

Additional staff (one statistician, two demographers, and the regional delegates) should be recruited to help implement the FP program in statistics and research.

The ONAPO should be responsible for training all the personnel who keep records on FP activities.

Assistance should be provided to the ONAPO in the form of equipment, machinery (e.g., typewriters and calculators), and vehicles.

Before the end of 1981, the documents needed to collect statistics should have been designed, and the three persons who are responsible for family planning services in the three pilot centers should have been trained at the ONAPO.

The ONAPO's need for a computer for statistical analysis and research should be considered.

C. Research and Evaluation for the FP Program

The ONAPO should be the central organization for the evaluation of the family planning program. It also should coordinate research on population.

1. 1981

Family planning activities in Rwanda should be evaluated. Current and terminated activities should be examined. This kind of study will show how the program has progressed. It will be possible to determine how many health care institutions are providing family planning

services and how many women have accepted a contraceptive method. In addition, it will be possible to identify the health facilities where family planning services are available and the methods which women prefer.

It would be useful to complete the survey designed by the Rwandan professor from Butare.

The records at the Clinique du Contrôle des Naissances in Butare could be used to analyze the socio-demographic characteristics of the 700 acceptors. It might be possible to interview some of the women to obtain their opinions about the family planning services they have received.

2. 1982

It has been suggested that a nationwide KAP survey be conducted in Rwanda before the program begins. The prevalence survey on FP methods which was designed by Westinghouse Health Systems would be a suitable survey to perform in Rwanda because technical assistance would be available and an international comparison could be made.

3. 1984

It will be necessary to evaluate the family planning program two years after it has begun. The evaluation will show either that the program should be continued or that its objectives should be reviewed. The demographer at the ONAPO should conduct the evaluation with the assistance of an international expert.

The ONAPO's demographer will also help to administer a follow-up survey of the acceptors in 1982-1983. The survey will yield data on retention rates for the contraceptive methods used in Rwanda. The data will be used to program the objectives and to assess the efficiency of the program.

D. Research on Population Dynamics

1. 1981

An inventory should be made of research on population in Rwanda. It would be useful to gather all the information in Rwanda on population and to analyze the quality of the methodologies and the results.

2. 1982

A small-scale survey in high-density areas would yield some data on the relationship between the density of population and socioeconomic problems. (Such a survey could be carried out in selected representative communes where the density is greater than 400 inhabitants per square kilometer.)

3. 1983-1984

A national fertility survey should be carried out in Rwanda during the next plan to obtain accurate and detailed data on fertility. Such data are not available at this time.

The survey would provide basic data on family planning, mortality, and migrations. All such data are indispensable in socioeconomic planning. The survey will have other benefits, too. For example, local personnel will develop a capacity to conduct national surveys, to analyze the demographic situation, and to identify the explanatory variables of population fertility and migration.

There are no reliable data on general mortality and child and infant mortality in Rwanda. A national fertility survey could provide the data base that is needed to better understand the health situation in the country.

The team strongly recommends that Rwanda use the experience and expertise of the World Fertility Survey, located in London. The organization can provide questionnaires, documentation in French, and technical assistance in sampling design, training, fieldwork, data processing, and analysis. In addition, it can provide information on 43 other countries in Africa and around the world that can be used to make international comparisons.

IV. A SOCIAL ANALYSIS

Scope of Work

A social analysis was made to determine how well family planning would be accepted by the population in Rwanda. Because one cannot understand the present without a knowledge of the past, life in Rwanda today was examined in relation to traditional society and conditions under the colonial powers from the turn of the century until 1962.

Methodology

An anthropologist accompanied the team when it visited government officials in Kigali and health facilities in three major regions of the country. Alone, the anthropologist spent four days interviewing rural families in four different communes near Nyabisindu, 100 kilometers south-east of Kigali. Government documents, including several recent socioeconomic studies, and professional historical, anthropological, and sociological literature were consulted.

One should be aware that the analysis which follows is by no means definitive. The experience of the anthropologist in Rwanda was episodic, and the study was difficult to do in the time available and with fragmentary, incomplete documentation.

Objectives and Target Population

One objective of the project is to provide assistance in MCH/FP to all levels and categories of the population. To the extent that such assistance will have an impact on the problem of overpopulation, it will benefit all Rwandans. The extent of the impact, furthermore, will depend on the number of Rwandans who participate in family planning. Certain people will be reached sooner and more easily than others. For example, people who live in or near the few urban centers in the country, such as Kigali, Butare, and Ruhengeri, not only find it easy to obtain services; they also appear to be predisposed to accepting birth control. Generally, the frequency of visits to health centers depends on the distance (up to 15 kilometers) that patients must travel. (Usually, patients walk.) Because the project aims to centralize health delivery and information systems, it will be difficult to ensure the even distribution of services throughout the country. In fact, it will be years before an adequate network of health centers is established in all 143 communes.

There is no reason to assume that any individual or group of persons will be affected negatively by the project. Women and children will, however, be the principal, immediate beneficiaries of the project. (One intention is to produce healthier women and fewer and healthier children.)

All at-risk women and their children are immediate targets, with the entire population the ultimate beneficiary. Thus, the idea of a minimum number of participants is not appropriate. One must recognize, however, that the poor in Rwanda, the number of whom is bound to increase, may be reluctant to avail themselves of services, either because they feel rejected by society or because they are ashamed of their poverty.

These considerations aside, the extent to which the population at large accepts FP services and limits the frequency and number of births will depend on a wide variety of social, economic, religious, and sexual conditions, traditions, and practices.

Traditional Social Structure

Before it fell under the domination of the colonial powers, Rwanda developed a highly complex socio-political and economic structure. The Tutsi succeeded in imposing a monarchical system on much of central, southern, and eastern Rwanda. Society was stratified into three distinct and preferentially endogamous classes of different racial and ethnic origins (Tutsi, Hutu, and Twa, in that order). Organization was based on patrilineal descent.

All Rwandans belonged to a named clan, of which there were 15. These clans had no corporate functions. The members of several clans did enjoy, however, certain privileges and held roles in society. In a few cases, marriage between members of different clans was prohibited.

The umulyango, the largest group after the clan, consisted of all descendants in the male line who could be traced from a common ancestor. In the north and northwest, the umulyango was a corporate, exogamous group of Hutu which controlled land and marriage and exercised judicial authority over the members. In the center and south, where the Tutsi maintained political control, the inzu was the major corporate group, and the umulyango had vague functions. The inzu, the next smaller group, contained at most four generations.

In extending their control militarily over much of present-day Rwanda, the Tutsi developed a political and administrative system that combined three independent power groups: chiefs of the army, chiefs of the grass, and chiefs of the land. All were subject to the divinely sanctioned power of the ruler, the mwami. Until the latter part of the nineteenth century, the

armies, of which there were many (new armies were created at the beginning of each new reign), were the basis for the organization of the national society. All men had to belong to one or another army. The Tutsi were supposed to be fighting men, the defenders of Rwanda, whereas the Hutu and Twa were to provide support. The chiefs of the grass were responsible for taxes on cattle, and the chiefs of the land were responsible for taxes on produce and corvée. The latter also settled disputes over land. The chiefs of the army and grass were always Tutsi; chiefs of the land could, theoretically, be Hutu, but, apparently, few in this group held the position.

All Rwandans were subject to a chief of the army, and most Tutsi were subject to a chief of the grass as well. The Hutu were subject to a chief of the grass if they had cattle. As cultivators, they paid duty to a chief of the land. In all cases, apparently, the relationship was between superiors and inferiors, which implied a personal bond of obedience and loyalty. Not only the individual man, but his family, too, was bound, because the authority of the head of an inzu or ruko was absolute.

These kinds of ties were characteristic of social relations generally. Much has been made of the relationship which is said to be the basis for Tutsi domination of the Hutu. Known as ubuhake, this particular relationship between patron and client was based on the lending of cattle--the most important form of wealth in Rwanda--and pasture. Tutsi would establish such relationships with each other, not necessarily because they needed cattle, but because they wanted a powerful patron. Hutu would seek such relationships with Tutsi for both cattle and protection. Similar arrangements were made to obtain land for crops. In this relationship, the exchange of land was based on the payment of produce (amaturu) or two days of labor (ubuletwa).

It would seem that for all Rwandans the key to success, or even survival, was the acquisition of powerful patrons who could be played off one against the other. Justice was swift and severe, whether meted out by the chiefs or the mwami, and it was applied not only to the wrongdoer, but frequently to his family as well, in accordance with the idea of corporate responsibility. Members of a family were always in danger of losing all their property, if not their lives.

In theory, and although the mwami claimed preeminent domain, land belonged to the person who cleared it, and to his descendants in the male line, for as long as it was occupied or cultivated. With the development of a centralized monarchy--and control--and increasing pressure on the land, other forms of tenure and other kinds of economic relationships (e.g., land rental and hired labor) were established. The importance of these arrangements in the past is not clear. It is believed, however, that there was considerable economic differentiation, with the wealthy, cattle-owning Tutsi chiefs on the top and the landless, wage-laboring Hutu and Twa on the bottom (cf. Vidal).

Given Rwandan society and the high rate of mortality during the pre-colonial period, it is not surprising that large families were considered to be not only desirable, but essential to survival. Large families were important for defense, and they lent authority to the head of the family. Moreover, children were the principal source of labor; they produced goods directly for the family, and helped to fulfill the family's obligations to the patron. Fertility was a prime virtue in a wife (husbands were and are presumed to be fertile), who had to produce for her husband and his family. By producing many children, a woman could be assured of help in the house and in the field, and of support in old age. Women who had seven children received special attention. However, girls whose breasts did not develop or who did not menstruate were drowned (Kagame, p. 301).

Marriage was very much a family affair. The groom's family paid to the bride's family a bride-price (inkwano): a cow (or goats, when a cow was not available), hoes, and beer. There seem to have been no preferential forms of marriage, except among the Hutu in the northwest, who favored marriage with the matrilineal cross-cousin or a woman in the first descending generation of the same group. Although historians do not agree that the clans were exogamous (cf. Kagame, p. 96, and d'Hertefeld, p. 50), both the umulyango and inzu were so.

Girls marrying for the first time were expected to be virgins. Those who became pregnant before marriage were supposed to be killed, and even if the father of the child or some other male agreed to marry the young woman, the child was killed at birth and buried outside Rwanda (Kagame, p. 300).

Girls married young and were taken into their husband's families. They were under the control of both their husbands and parents-in-law. A bride was considered to be married not to her husband alone, but to his family also, and it was considered normal for a wife to have sexual relations with her brothers-in-law and even (though this seems to have been less common) with her father-in-law. Both men and women valued sexual intercourse highly. Supposedly, a man considered it his right to have intercourse as frequently as he desired, and it was the duty of his wife to satisfy his desires. Intercourse was not prohibited following the birth of a child and, in fact, was required on most important occasions.

A family--normally, a married couple and their unmarried children--settled in a homestead (rugo) surrounded by hedges. A second wife (polygyny was common, especially among older men) might occupy a house within the same homestead, but usually she lived in a separate homestead. These homesteads were scattered in the hills and, in most regions, were surrounded by banana groves and cultivated fields. Nowhere were homesteads grouped together into villages.

The sexual division of labor favored the males. The women did most of the agricultural work, cared for the young children, and took care of the house. The men did the heavier seasonal agricultural work, took care of the animals, performed services for their patrons, and fulfilled their military obligations.

Children, particularly girls, were important sources of labor. Girls helped to care for younger children and worked in the fields. Young boys guarded animals. In the early stages of the domestic cycle, children were a burden, and not an asset, but they soon became essential to the economy of the family. Cooperation among members in the inzu made it easy to cope with the problems of children too young to work.

Property was inherited only by males, though exceptions were made by Tutsi close to the court in the absence of male heirs. A man was supposed to divide his lineage and other property among his sons (the division was not necessarily equal), and to choose one to succeed him as head of the family. Although women did not usually inherit property, the males to whom they were related (brothers-in-law, sons, brothers, or fathers) provided for their support if they were widowed or divorced.

Generally, boys were instructed by their fathers, and older male relatives and friends; girls were instructed by their mothers. Given the intimacy of life, children must have learned the significance of sexual relations when very young. But parents then did not educate their children directly in sexual matters. (Nor do they now.) It was left to relatives and near contemporaries to broach the subject. Boys had access to certain married female relatives (premarital virginity was not required for boys), and girls assembled regularly in groups to weave mats and to practice certain manipulations of the genitals to prepare for marriage (gukuna).

Although fertility was highly valued, population growth seems to have been slowed by famines, generally high mortality rates, and such practices as abstinence from sexual intercourse during periods of mourning and prolonged breastfeeding (as long as two years) which, together, resulted in the reasonable spacing of children.

The Effects of Colonial Rule

The effect of colonial rule was varied and great, and it continues to be felt. To gain control over the country, the colonial powers extended, bureaucratized, and demilitarized the Tutsi monarchy while simultaneously exaggerating and rigidifying class differences between the Tutsi and the Hutu. Gradually, the old system, in which families were obliged to provide

produce, labor, and services to chiefs and patrons, was replaced by a new system that required individuals to be responsible for the taxes (corvée) they owed to the state. The patron-client relationship of ubuhake, which had played such an important role in the Tutsi's domination of the Hutu, was abolished finally in 1954.

Justice in precolonial Rwanda was dispensed at the whim of arbitrary authorities, even though the Tutsi had had a principal role in codifying the law. A western-style judiciary replaced this system based on personal relationships and status.

A western educational system was introduced, primarily to educate the Tutsi as a ruling class. Eventually, Rwandans learned the importance of education, and today they regard it as a means to advancement.

To cope with increasing demographic pressures and recurrent famines, one colonial ruler, Belgium, diversified and increased the agricultural productivity of the country. Pasture in villages was opened to the cultivation of new and easily stored crops, such as manioc, potatoes, and sweet potatoes, to guard against famine. A market economy and cash crops such as coffee were introduced to meet the increasing costs of administration. New European techniques to control erosion, monocropping, and weeding were promoted, lands were reforested, primarily with eucalyptus, and roads were built. To complete this work, the government used forced labor. Its system, which was patterned on the custom of providing labor for land (ubuletwa), was extended to all adult males.

Christian, and particularly the Catholic, missions have enjoyed much influence in Rwanda, especially where they have been long established. A recent study by the IAMSEA showed that 96.9 percent of the population in suburban communes around Butare is Christian (93.9 percent Catholic); the figure for the country as a whole is approximately 50 percent. The missions have affected not only religious doctrine, but the provision of health care and education, nutrition, and familial and interpersonal relationships as well (for a study of Christian and Western influence, consult, for example, Justin Kalibwami's Le Rwanda face a son avenir).

The introduction of Western medicine and sanitation, which led to a decline in mortality, seems to have had a significant affect on the rate of population growth.

Rwanda Today

Rwanda is primarily an agricultural country; production remains at the subsistence level. Urbanization and industrialization are being introduced slowly. Important changes in social relations, expectations, and attitudes

have occurred. Patrilineal descent groups still exist, but they no longer enjoy significant control over land and interfamilial relations, although there is evidence that they continue to be important in the north (cf. Freedman). Most land holdings, it seems, are no longer obtained through inheritance, and most are not entailed. The buying and selling of land are increasing. If this trend continues, the results may be greater inequalities in land holdings and the creation of an enlarged class of landless peasants. For example, in an area where some families have no land at all, a man was found who increased to 12.5 hectares the 3.5 hectares he inherited from his father. He did this by purchasing additional land. There is a potential for corruption and abuse in Rwanda because all sales of land must be approved by the burgomaster of the local commune.

The patron-client relationship is no longer legal, but there is evidence that it still survives in altered form (cf. Saucier). It is impossible to estimate how important a role it plays in Rwanda's socioeconomic structure. One can say with certainty, however, that the old system in which the lineal heads manipulated their ties to various administrative officials and other powerful patrons has been replaced by an impersonal bureaucracy in which the responsibility of the individual is paramount.

Intrafamilial relations are changing as land becomes more scarce. The heads of households are being deprived of the economic resources they need to exert their authority, and relations between husbands and wives are being altered. As one observer has remarked:

...the figure of the father has lost some of its prestige and authority, principally because the father can no longer adequately solve the economic problems which fall within his competence. The position of the mother, however, seems to have grown in importance--or perhaps it always was as important before, in spite of what certain authors say--principally because of her complementary economic role and her role as principal agent of socialization of the children. Catholic marriage has stabilized matrimonial unions, but a goodly number of spouses continue to lead lives parallel to each other (Charest, p. 136).

The educational system, which reaches approximately one-half the children at the lowest levels, also has affected Rwandan society. It has helped to create expectations of advancement and has widened the gulf between uneducated parents and their children.

Age at marriage is rising for both men and women, apparently because men are having difficulty paying the appropriate dowry and establishing a separate household. The dowry is supposed to be paid by the time of the birth of

the first child, lest the child belong to the wife's family. Apparently, this does not always happen. The number of "unofficial" marriages--unions for which no dowry is paid--is increasing. In some regions, the unofficial marriage is reported to be the most common form of union.

Illegitimacy is also increasing, even in the countryside, where it has, apparently, reached significant proportions. It is not possible to provide accurate figures for the country as a whole, because communal records make no distinction between children born of polygamous marriages (which are illegal) and "fatherless" children. Indeed, a review of the records of a commune in the north showed that approximately one-half of all births in a single year were illegitimate. And a doctor in a prefectural hospital has reported that two-thirds of the women seeking contraception are unmarried.

As one might expect, attitudes toward illegitimate children are changing. An unwed woman and her child are no longer killed, and, according to one informant, although a man once would have been expected to marry the woman whose child he fathered, he would not accept the responsibility today.

The study of the suburban communes in Butare and Gisenyi indicates that polygyny, which once was widespread, is more common in the north, and at an earlier age, than in the south. One explanation for its continued popularity in the north is that men want to increase the number of their offspring. In the south the incidence of polygyny seems to be associated with the ownership of a higher than average number of land holdings or widely separated holdings. (This statement is based on fragmentary evidence.) Polygyny also is reported to be common in the prefecture of Kibungo, where many recent immigrants have gone. The continued popularity of polygyny in the north and southeast is a subject worthy of further study.

It is mentioned frequently that distrust, insecurity, and fear of violence are common among those who live in the collines. These emotions cannot be quantified, but they may be attributable to specific (but uncommon) social phenomena.

Attitudes Toward Family Planning

Given the history and characteristics of Rwandan society, can one conclude that family planning will be accepted by the masses? Any conclusion would have to be tentative. No surveys have been taken to try to identify the population's attitudes toward family planning. Opinions vary widely. For this analysis, the author consulted the literature on traditional practices and several recent studies that touch on the subject, and discussed the

problem with a variety of government officials and medical practitioners. Unsystematic interviews were conducted with 11 persons and their families and a group of bystanders in four communes near Nyabisindu (Muyira, Ntyazo, Rukondo, and Karama) to try to determine how the rural population feels about family planning.

Government officials seem to be convinced that the population is so imbued with the traditional notion of having large families that it would resist all efforts to encourage contraception. Some believe that the only possible approach would be to stress the health advantages to the mother and child of spacing births. Those who provide medical care to women and staff in nutrition centers claim that women are ready to accept family planning but that men are yet to be convinced of its value. The results of interviews in the collines, however, seem to indicate that people are highly conscious of the demographic problem and of the need to limit births. But the men, not the women, stressed this.

Men are concerned that little land is available to give to their sons. Women are concerned about having children to support them, particularly in old age. The attitude of the men is understandable; none of the conditions that once favored large families (need for defense, authority, and labor) obtains today. Surprisingly, the population has strong opinions about how to limit births. Some feel that all but one of the female children in a family should be required to become nuns. Others believe that couples should be sterilized after they have produced two or three children. The men who were interviewed for this analysis said that two to four children is the ideal maximum number of children. One large group of poor adults said, however, that six is best. For younger men in the same group, four was given as the ideal.

Generally, the spacing of children by three or four years (or, as one couple stated, by five years) is favored by both men and women. An elderly woman who was interviewed felt that women should have as many children as God will give them. If there are too many, this woman said, the children can get jobs elsewhere or emigrate from Rwanda to other countries.

Parents are very reluctant to advise their children, and couples with many children are reluctant to advise those in their own or their children's generation, to limit births. Moreover, even if couples do feel free to give advice, they are limited because they have almost no knowledge of contraception. One widespread misconception is that sterilization is the only effective method of contraception. Few Rwandans will accept sterilization; thus, few will accept family planning. It is generally agreed that young people cannot abstain from sexual intercourse. The problem of alcohol and men's fear that their wives will leave them are also cited as reasons not to practice contraception. Indeed, traditional attitudes and sexual practices seem to have changed very little, if at all.

Many Rwandans are haunted by the experience of high infant mortality, and they cannot accept the possibility that their families may be decimated. One informant reported that a prefect's public discussion of family planning provoked laughter among the majority who were present. In fact, he estimated that only 10 percent of the people really understand family planning.

The pervasiveness of the different attitudes toward family planning is not known. Nor can one predict how these attitudes might change during and after the project. It is worthwhile to try to identify the factors which might contribute to the acceptance of a family planning program in Rwanda, as well as those which might militate against it. The two most important conditions that favor the voluntary limitation of births are decreased significance of the lineage (and the positive advantages of large families) and pressure on the land. More so than women, men feel the effects of these phenomena. They are concerned about their ability to feed, clothe, and educate their children, as well as provide them with an adequate inheritance of land.

One might surmise that the more educated the person, the greater is the desire to limit births; however, comparative data from Africa do not support this supposition, and, in fact, they suggest that births increase among women who have had only a primary education (cf. Ware). Only secondary education seems to be associated with a decline in fertility, which probably is related to other socioeconomic factors of more importance than education itself.

Barriers to Birth Control

Birth control is opposed for many reasons, none of which is equally pervasive among the population. The barriers to the acceptance of family planning are summarized below.

1. For women, there are still advantages to having a large number of children. For example, children can help women with their work and ensure their support in old age.
2. Both men and women love children, and they consider it imperative to perpetuate the family. Moreover, although couples differ over the ideal number of children, the notion of the large family persists because mortality is high.
3. Some fear that the unrestricted distribution of contraceptives will corrupt sexual mores, particularly of youths.
4. The Catholic Church is opposed to all but the so-called "natural" methods of birth control. As a result, some Rwandans

refrain from practicing the more effective methods. Others fear that they will contract cancer or become permanently sterile if they use Depo Provera pills, or an IUD. One cannot say that the Church instills these fears, despite its opposition to birth control. Rwandans' fears stem more, it seems, from their xenophobia and suspicion that attempts are being made to give them drugs that are considered to be dangerous or which are prohibited in Europe and the United States.

5. Religious opposition may be indigenous. The cults of Kubandwa and Nyabingi seem to be anti-Western, and the members of the latter pray to a goddess of fertility (cf. Vidal).
6. Access to facilities and instruction is limited. Not only are distance and lack of transportation problems; Rwandans must cope with crowding, lack of medicine, and insufficiently qualified personnel at the health centers. These conditions discourage patients from attending clinics. Moreover, the poorest people are reluctant to take advantage of any facility. This subject was raised in a recent socioeconomic study of a development project in Rwanda. The authors of that study remarked:

The institutions of social assistance are paradoxically much more frequently solicited by households of average circumstances than by the poorest:

- A mother is ashamed to present her undernourished and poorly swaddled baby at the "Ecole des Parents."
- According to our informants, the distributions of foodstuffs in periods of famine are only made to "those whose are on the list." They do not know how to get themselves put on it.
- Whether it is because they are ashamed to receive in their own home, or because they are embarrassed to show themselves in ragged clothes, or, finally, because they feel too unimportant, poor peasants hesitate to approach others for advice or information: "We don't know whom to approach."
- Even modest monetary contributions for services of multiple value can erect impenetrable barriers to the most deprived.

Poor peasants make the greatest efforts "in order not to be noticed." They insist on the fact that they pay their tax, that they participate in umuganda, that "they discuss the problems of the

colline" in their cell. To the extent that they do not succeed, for reasons which are more than evident, in fulfilling certain norms (baptism, schooling of their children, marriage customs . . .), they tend to blame themselves, to feel like "failures" or to hide their misery rather than to appeal to the understanding and solidarity of others (Pfeiffer and Grosser, p. 66).

7. It is commonly believed that a desire to limit family size increases as economic status improves and as children become (or are viewed as) more of an economic burden than a resource. The results of the 1979 studies in urban centers conducted by the National Pedagogic Institute seem to bear this out (see Etude Socio-culturelle pour l'Education en Matière de Population). But one must recognize that, for the vast majority of the population, economic prospects are declining, not improving. To illustrate the severity of the crisis, one need only point to ownership of land. Land is becoming more scarce. At this time, the average holding is one hectare per family. This holding will be subdivided several times for the next generation. The poor will not necessarily continue to reproduce themselves on the same scale, but they will have no positive incentive to husband their resources for specific goods, services, and goals. Consequently, until the economic prospects of the population at large improve, the goals of the family planning program will not be reached. Unfortunately, given the current trend in population growth, it is not likely that rural Rwandans' economic status will improve appreciably.

Need for the FP Program

One should not conclude that the proposed family planning program is not worth implementing. On the contrary, the need for family planning in Rwanda is overwhelming. Given the barriers to large-scale acceptance of contraception, a flexible and comprehensive approach is needed. An effective channel of communication also is essential. Throughout the country, Rwandans listen to the national radio, which is felt to be authoritative. However, because Rwanda does not have a village structure, it is difficult to organize people for group discussions of particular broadcasts, as is done, for example, in the Congo.

Development and family planning are interrelated. The concept of grouping information programs in these subjects for representative individuals is logical, but the programs still would not reach directly the majority of the population.

It has been proposed that instruction in demographic problems be provided in the last years of primary school and that specific information on family planning be provided in secondary school. Again, only a small percentage of the population would be reached.

There seems to be no single solution to the problem of communicating information to those who need it. A way must be found to communicate information on contraception and to carry the family planning message more directly to the collines, and in particular to the young before they marry. An eighteen-year-old woman suggested that teenage girls, almost none of whom would be in school, could best be reached by instructors sent to weekly mat-weaving sessions (gukuna). These neighborhood gatherings are still a regular feature of life on the collines.

The health workers who will deliver contraceptive information and services must be selected carefully, and be well-motivated and well-trained. Not only must they believe in the value of birth control, but they also must be sensitive to the needs, concerns, and fears of the people they are helping. Rwandans will not accept contraception if they believe it is being imposed on them for the benefit of the State. Health workers must offer family planning as a service that will bring significant health and economic benefits to the user.

Proposed Social Research and Training

Intensive, long-term studies are needed to understand the social processes in rural Rwanda, and, indeed, in all other sectors of the country, and to identify the role these processes play in determining the attitudes and behavior of the population.

Social research is crucial to any analysis of the effects of a family planning program, and the results might suggest how such a program could be made more effective. Simple random surveys of attitudes, income, or land holdings, for example, might be useful, but they would not be adequate. Because there are significant differences among the regions, several investigations would be needed. Studies should be conducted in at least three regions. Three students of anthropology or sociology from the national university in Butare could be selected for additional training in anthropology. This training, which would last for one or two years, would be at the masters level. Upon completion of the program, the trainees would return to Rwanda to perform intensive research in the different regions. The experience they acquire in the field would be an additional qualification for a doctoral degree.

The position of social science research director should be established in the ONAPO. The position should be occupied by an anthropologist, or a sociologist with anthropological training. This person would

coordinate and supervise the activities of the fieldworkers and arrange for other necessary studies.

Additional studies could be carried out under the auspices of such research organizations as the Center for Economic and Social Research, in Butare, and the IAMSEA, in Kigali.

The requirements for specific assistance in social science research are summarized below.

1. Three persons would be selected for training.
2. Training would last between one-and-one-half and two years.
3. Graduates in anthropology or sociology would be trained in anthropology in a masters-level program. Subsequent fieldwork would be performed in Rwanda. This fieldwork could lead to a doctoral degree.

V. MATERNAL AND CHILD HEALTH AND FAMILY PLANNING SERVICES

V. MATERNAL AND CHILD HEALTH AND FAMILY PLANNING SERVICES

Background

Maternal and child health services were organized separately under the Belgian United Nations mandate. Following the independence of Rwanda, they were integrated into the general health service of the Ministry of Health. Although MCH services are primarily the responsibility of the MOH, other agencies are involved. The Ministry of Social Affairs, for example, operates most nutrition centers and all the communal centers for development and permanent training (CCDFPs). The Electrogas Agency provides water. The Red Cross provides training and services. Various church organizations operate hospitals and health clinics. Several organizations have been created to administer bilateral and multilateral foreign aid from several European countries, and the family of U.N. organizations often cuts across ministries. Church-related private organizations which are registered and controlled by the MOH provide approximately 50 percent of all health services. The MOH often provides staff, supplies, and supervision for these services. There are no private groups, such as the family planning associations (FPAs) associated with the International Planned Parenthood Federation (IPPF), in Rwanda.

Family planning services are acceptable in Rwanda only as a component of maternal and child health services. Because rapid population growth is constraining economic and social development, and, in particular, decreasing the amount of arable land, the Government of Rwanda has begun to consider the need to limit births. Although the government's official policy is to encourage the spacing of children to protect the health of mothers and children, the decision is left to the families concerned.

Health Profile

Rwanda is a small, less developed country in central Africa. It has hilly terrain and, because of the elevation, a mild climate. The country is overpopulated; malnutrition is prevalent. Arable land is scarce in this nation where 96 percent of the population is engaged in agriculture. Most of the tropical diseases prevalent in Africa are unimportant. The exceptions are malaria and intestinal parasites. The population is homogeneous. One language is spoken. All parts of the country can be reached by car in less than one day.

In 1980, the University Research Corporation (URC) compiled the most important demographic statistics on Rwanda. These statistics are listed in Table V-1.

Table V-1
DEMOGRAPHIC STATISTICS, RWANDA, 1980

Population (1980) ¹	5.12 million
Crude Birth Rate ²	50/1,000 Population
Crude Death Rate ²	19/1,000 Population
Rate of Natural Increase ²	3.1 Percent
General Fertility Rate ³	218.7/1,000 Women 15-49
Total Fertility Rate ³	7.1
Infant Mortality Rate ³	127/1,000 Live Births
Preschool Mortality Rate ⁴	27/1,000 Children 1-4
Maternal Mortality Rate ⁵	4.5/1,000 Live Births
Percent Population Under 5 ⁶	17 Percent
Percent Population Under 15 ⁶	47 Percent
Population of Women 15-44 ¹	22 Percent

¹ Source: Rwanda, National Census Bureau; based on Preliminary Results of the 1978 General Population Census.

² Source: Population Reference Bureau, World Population Data Sheet 1980.

³ Source: Rwanda, General Statistics Office, Demographic Study of 1970.

⁴ Source: World Bank, World Development Report 1980, August 1980.

⁵ Source: Rwanda, Ministry of Health, 1979 Annual Report; aggregated statistics from hospitals and maternities.

⁶ Source: United Nations, Demographic Estimates and Projections for the World, 1980 Estimate as Assessed in 1978.

Rwanda's health services are reasonably well developed. The country's demography is changing, despite the poor economic progress. As is shown in Table V-2, the population has increased rapidly because of the relatively stable high birth rate and the steadily declining death rate.

Although all statistics for Rwanda should be considered estimates, because there is a lack of trained statisticians and records are incomplete, they are adequate to define the nation's major health problems. The 10 principal causes of inpatient deaths between 1974 and 1978 are listed in Table V-3. The major kinds of communicable diseases reported in Rwanda in 1979 are listed in Table V-4. The data reveal how vulnerable mothers and children are, and they indicate in particular the need for improved MCH/FP services. The incidence of neonatal and obstetrical deaths, measles, gastroenteritis, malnutrition, pertussis, pneumonia, and helminthiasis should decline following the implementation of a good MCH/FP program.

Health Resources and Planning in Rwanda

The Ministry of Plan developed the Third Five-Year Plan (1982-1986) on which the information in the following section is based. The team was able to confirm the accuracy of the MOP's data when it observed Rwanda's hospitals, health centers (HCs), dispensaries, nutrition centers, CCDFPs, and training institutions.

A. Facilities

There are three reference hospitals at Kigali, Butare, and Ruhengeri. Each has between 300 beds and 500 beds. All are moderately well staffed and equipped, according to the standards for LDCs. The hospital in Butare is attached to the medical school of the University of Butare. The hospital in Ruhengeri contains some fine equipment and buildings which were donated by France. The three hospitals offer X-ray, laboratory, surgical, and specialists' services.

Eight of the 10 prefectures have hospitals. The team visited one hospital to observe its busy prenatal clinic and laboratory. The laboratory can analyze urine, blood counts, and smears for tuberculosis and malaria. There is no running water at this facility. At another hospital the team observed a busy gynecological service. Two expatriate doctors work at this facility. A nutrition clinic is being constructed.

The MOH operates five hospitals. There are 14 private rural hospitals. One private hospital which the team visited has approximately 100 beds, provides laboratory, surgical, and obstetrical services, and operates

Table V-2
ESTIMATES OF DEMOGRAPHIC INDICATORS

	Period					
	<u>1950-1955</u>	<u>1955-1960</u>	<u>1960-1965</u>	<u>1965-1970</u>	<u>1970-1975</u>	<u>1975-1980</u>
Crude Birth Rate	52.6	51.7	50.6	49.9	49.7	49.6
Crude Death Rate	<u>31.3</u>	<u>28.5</u>	<u>25.8</u>	<u>23.4</u>	<u>21.2</u>	<u>19.3</u>
Annual Growth Rate	2.1	2.3	2.5	2.7	2.9	3.0

Source: United Nations, Demographic Estimates and Projections for the World: 1980 Estimate as Assessed in 1978.

Table V-3
TEN PRINCIPAL CAUSES OF INPATIENT DEATHS, 1974-1978

Cause of Death	Number of Deaths					5-Year Total
	1974	1975	1976	1977	1978	
Neonatal (All Causes)	692	615	530	849	644	3,330
Measles	165	260	608	582	821	2,438
Pneumonia	229	180	247	288	280	1,224
Gastroenteritis	254	192	310	210	252	1,218
Malnutrition	238	221	226	250	167	1,102
Malaria	50	64	235	286	306	941
Tuberculosis	236	112	146	101	99	694
Other Respiratory	39	52	69	84	39	283
Obstetric (All Causes)	43	34	19	-	48	144
Helminthiasis	<u>7</u>	<u>7</u>	<u>63</u>	<u>-</u>	<u>28</u>	<u>105</u>
TOTAL	<u>1,963</u>	<u>1,747</u>	<u>2,471</u>	<u>2,754</u>	<u>2,700</u>	<u>11,479</u>

Source: Rwanda, Ministry of Health, 1978 Annual Report, p. 49.

Table V-4
COMMUNICABLE DISEASES REPORTED IN RWANDA IN 1979

<u>Disease</u>	<u>Number of Cases</u>
Malaria	137,047
Influenza	73,630
Measles	61,094
Diarrhea/Dysentery (Amebic 10,232)	39,156
Pneumonia	31,911
Whooping Cough (Pertussis)	16,223
Gonorrhoea	14,720
Chicken Pox (Varicella)	13,440
Cerebrospinal Meningitis	5,187
Syphilis	5,175
Recurrent Fever	4,292
Hepatitis	2,205

Source: Rwanda, Ministry of Health,
1978 Annual Report, pp. 49-51.

a physiotherapy service. It has not had a functioning X-ray service for more than one year.

There are special hospitals in Rwanda for patients who have tuberculosis, or who are physically or mentally handicapped.

B. Health Centers

There are 84 health centers located in 74 of the 143 communes. These have 0-68 beds; usually, 15-20 beds are for obstetrics or for temporary use by patients with acute illnesses or victims of accidents. These health centers have a dispensary, a maternity, and usually nutrition services. Pre- and postnatal, well-baby, and family planning services may be offered. There are facilities for lectures (community learning). The health centers are the headquarters for the commune. They may be operated by the MOH, a private organization, or a combination of private and public agencies. The health centers treat 100 or more patients every day.

C. Dispensaries

Dispensaries vary throughout Rwanda. They may be government-run, or operated by a private agency or a mix of public and private organizations. Some seem to be very busy. The team found one which was closed during normal business hours.

The number and quality of staff, service, and supplies vary from one dispensary to another. Most dispensaries will be upgraded to health centers or downgraded to sanitary posts during the next five-year plan period.

D. Sanitary Posts

Sanitary posts have been established in a dozen places. Staffing is variable, as is the facility itself. Sanitary posts are largely voluntary and self-supporting. The GOR expects to establish one post in each sector. The sanitary agents, who function at the most basic level, are health educators, and they may diagnose illness and engage in preventive medicine. At this time, they are not permitted to treat patients or administer medications.

IV. A SOCIAL ANALYSIS

E. Pharmacies

It is stated in the Five-Year Plan that the quantity of available medicine is insufficient, that deliveries are uncertain, and that, in some seasons, medicines are unavailable and the patient load declines precipitously. The African Development Bank (ADB) is expected to assist the OPHAR, the MOH central supply system, in improving the procurement, storage, distribution, and accountability of medicines and supplies. The OPHAR is, wisely, restricting its stock to approximately 250 pharmaceuticals. (Its list is based on the WHO's list of essential drugs.) The GOR is trying to develop a system of community pharmacies to make medicines available in the collines. At this time, one or two such pharmacies are in operation.

F. Requirements

There are 4,050 hospital beds and 3,093 beds in other health facilities in Rwanda; the total is 7,143 beds. The WHO recommends three beds per 1,000 population; Rwanda has slightly more than one bed per 1,000 population. The next five-year plan calls for eight new hospitals and 1,127 new beds.

As Table V-5 shows, there are 143 communes, 74 of which have a health center. Sixty-nine communes have no health center.

In each commune there are approximately 10 sectors; the total number is approximately 1,500. The government plans to establish a health post in each sector. A schedule for the construction of these facilities has not been prepared.

Staff

A. Doctors

There is only one doctor per 35,000 people. Rwanda has 149 doctors; approximately one-third are expatriates. Most Rwandan doctors were trained at the University Medical School in Butare, although some were trained abroad. All work for the MOH. There are no private practices. Medical assistants perform the duties usually done by doctors.

Table V-5
BESOIN EN CENTRES DE SANTE

<u>Préfecture</u>	<u>Nombre de Communes</u>		<u>Besoin en Centre de Santé</u>	
	<u>Total</u>	<u>Avec CS</u>	<u>Nombre</u>	<u>%</u>
Byumba	17	3	14	82
Kibungo	11	4	7	64
Ruhengeri	16	6	10	62
Cyangugu	11	5	6	55
Gikongoro	13	7	6	46
Kibuye	9	5	4	44
Gisenyi	12	7	5	42
Butare	20	13	7	35
Gitarama	17	11	6	35
Kigali	<u>17</u>	<u>13</u>	<u>4</u>	<u>23</u>
TOTAL	<u>143</u>	<u>74</u>	<u>69</u>	<u>48</u>

Source: Annex 1.

B. Nurses A-1 (ESSI)

Nurses at the A-1 level train for three years in Butare at the Enseignement Supérieure de Science Infirmière (ESSI). Eighty-six have completed the ESSI program. Training was discontinued recently because the rate of attrition reached 100 percent. Attrition has been attributed primarily to marriage.

C. Medical Assistants A-2

These personnel are polyvalent nurses who have completed a four-year program in the diagnosis and treatment of disease. Their training follows three years of secondary school and six years of primary school.

D. Nurse-Midwives A-2

Nurse-midwives A-2 specialize in obstetrics. They receive the same training as medical assistants A-2. There are 651 nurse-midwives in the A-2 category. They probably will provide most of the family planning services.

E. Auxiliary Nurse-Midwives

The 297 auxiliary nurse-midwives in this category have completed nine years of basic (primary and secondary) education and a two-year training program.

F. Aides for Nurse-Midwives

In this category are 390 nurse-midwife aides. Training for this category of health personnel varies. It may consist of three years of formal training or only practical experience.

G. Others

There are 236 other health personnel in Rwanda. They are social assistants, sanitary agents, pharmacists, x-ray and laboratory technicians, and vaccinators.

H. Distribution in the MOH

The MOH employs 1,809 people (see Table V-6). Fifty percent of the doctors are located in two cities, Kigali and Butare. Fifty percent of the A-1 nurses, more than 50 percent of the A-2 nurses and medical assistants, and 128 doctors work in hospitals. In the MOH, 1,019 employees work in hospitals; 790 work in peripheral health facilities. If the planned hospital facilities are constructed, this imbalance could become greater.

I. Distribution in Health Centers

The desired staffing for the health centers where many of the family planning services will be provided is as follows: nurse A-1, 1; nurse A-2, 2; nurse A-3, 3; social assistant, 1; nutritionist, 1; vaccinator, 1; and statistician, 1.

J. Requirements

Tables V-7 and V-8 illustrate the theoretical shortages of personnel in some categories. The number of A-2 nurses for family planning is adequate, as is the number of doctors required to meet minimum needs for health care services.

Maternal and Child Health

Approximately 86 percent, or 217,000 of the 253,000 pregnancies that occurred in 1979 followed at least one prenatal consultation. (See Tables V-9 and V-10.) Approximately 30 percent of the consultations took place in hospitals; 70 percent were held in peripheral health facilities.

Approximately 25 percent of the women who visited a MCH center, or 20 percent of all pregnant women, delivered at a MCH facility. Because the number of obstetrical beds is limited, most normal deliveries occur at home. Approximately 46 percent of the 86 percent of women who sought prenatal care in 1979 (40 percent of all pregnant women) returned for care following the delivery of their children.

Given these figures, there is reason to be optimistic about reaching the targeted female population with family planning information at prenatal and postpartum sessions.

Table V-6
 DISTRIBUTION DU NOMBRE DE PERSONNEL MEDICAL
 ET PARAMEDICAL, PAR CATEGORIE
 ET PAR PREFECTURE, 1979

<u>Préfecture</u>	<u>Médecins</u>	<u>ESSI</u>	<u>A2</u>	<u>A3</u>	<u>Aides</u>	<u>Autres</u>	<u>Total</u>
Kigali	42	21	179	93	78	83	496
Butare	37	23	102	61	61	56	340
Gitarama	8	9	49	30	49	20	165
Gibuye	9	7	42	28	40	18	144
Muhengeri	11	8	65	7	29	16	136
Gibungo	11	4	52	17	36	11	131
Gisenyi	9	2	55	24	26	5	121
Gyangugu	9	4	38	13	37	9	110
Gyumba	10	5	47	16	17	6	101
Gikongoro	<u>3</u>	<u>3</u>	<u>22</u>	<u>8</u>	<u>17</u>	<u>12</u>	<u>65</u>
RWANDA	<u>149</u>	<u>86</u>	<u>651</u>	<u>297</u>	<u>390</u>	<u>236</u>	<u>1,809</u>

Source: Ministry of Health, Annual Report, 1979.

Table V-7
BESOINS ANNUELS EN PERSONNEL MEDICAL ET PARAMEDICAL
DE 1980 A 1986

<u>Catégories</u>	<u>Minima</u>	<u>Maxima</u>	<u>Moyenne</u>	<u>Sortants Garantis</u>
Médecins	17	27	22	18 ¹
Infirmiers(ères) A1	30	31	30	-
Infirmiers(ères) A2	42	52	47	73
Infirmiers(ères) A3x	69	81	75	40
xx	107	110	109	40
Assistantes Sociales	17	23	20	70 ²
Laborantins	18	18	18	?
Nutritionistes	12	xxx	xxx	?
Vaccinateurs	20	20	20	?
Statisticiens	21	21	21	?
Agents Sanitaires	213	213	213	?
Pharmaciens	17	17	17	?

¹ Plus 4 médecins en moyenne revenant tous les ans jusqu'à 1985 de bourses à l'étranger.

² Les assistantes sociales ne sont pas seulement occupées par les services sanitaires.

Table V-8

BESOIN THEORIQUE GLOBAL ACTUEL EN PERSONNEL MEDICAL
ET PARAMEDICAL DANS LES HOPITAUX (SIT. 1980)

Categorie de Personnel Médical et Paramédical	Encadrement Minimum			Total	Effectif Existant	Besoins Immédiats
	Hôpitaux Ruraux	Hôpitaux Préfecteur	Hôpitaux de Référence			
Médecins	80	58	45	183	128	55
Infirmières A1	48	30	27	105	41	64
Infirmières A2	160	100	90	350	380	-
Infirmières A3	192	120	108	420	349 (180)	71 (240)
Assistantes Sociales	16	10	9	35	37	-
Laborantins	<u>48</u>	<u>30</u>	<u>27</u>	<u>105</u>	<u>17</u>	<u>88</u>
TOTAL	<u>544</u>	<u>348</u>	<u>306</u>	<u>1,198</u>	<u>952</u>	<u>278</u>

Table V-9

INSCRIPTIONS NOUVELLES AUX CONSULTATIONS PRENATALES ET DE NOURISSONS,
PAR TYPE D'INFRASTRUCTURE SANITAIRE ET PAR PREFECTURE, 1979

Préfectures	Inscriptions aux Hôpitaux		Inscriptions Péripheriques		Inscriptions Totales		
	Prénatales	Nourissons	Prénatales	Nourissons	Prénatales	Nourissons	%
Butare	4,875	237	16,470	17,229	21,345	17,466	82
Byumba	2,135	268	17,888	6,032	20,023	6,300	32
Cyangugu	8,826	1,220	6,396	3,628	15,222	4,848	32
Gikongoro	3,321	749	8,598	17,984	11,919	18,733	157
Gisenyi	6,563	462	15,330	1,789	21,893	2,251	10
Gitarama	6,018	2,871	17,781	8,877	23,799	11,748	49
Kibungo	12,187	2,906	8,065	1,080	20,252	3,986	20
Kibuye	12,019	3,280	6,614	1,914	18,633	5,194	30
Kigali	4,627	2,389	30,094	10,219	34,721	12,608	36
Ruhengeri	<u>4,377</u>	<u>2,292</u>	<u>25,193</u>	<u>15,209</u>	<u>29,570</u>	<u>17,501</u>	<u>59</u>
RWANDA	<u>64,948</u>	<u>16,674</u>	<u>152,429</u>	<u>83,961</u>	<u>217,377</u>	<u>100,635</u>	<u>46</u>

Source: Ministry of Health, Annual Report, 1979.

Table V-10

CONSULTATIONS NOUVELLES DANS LES FORMATIONS SANITAIRES
EN 1979, PAR PREFECTURE

<u>Préfecture</u>	<u>Total</u>	<u>Nombre de Consultations</u>				<u>% Consultation: Population Total</u>
		<u>Hôpitaux</u>		<u>Formations Périphériques</u>		
		<u>Nombre</u>	<u>%</u>	<u>Nombre</u>	<u>%</u>	
Butare	455,943	100,039	21.9	355,904	78.1	75.8
Byumba	271,409	51,820	19.1	219,589	80.9	52.2
Cyangugu	138,048	42,145	30.5	95,903	69.5	41.7
Gikongoro	118,606	812	0.7	117,794	99.3	32.1
Gisenyi	273,759	69,993	25.6	203,766	74.4	58.4
Gitarama	329,363	30,840	9.4	298,523	90.6	54.6
Kibungo	221,877	70,492	31.8	151,385	88.2	61.5
Kibuye	167,199	31,248	18.7	135,951	81.3	49.5
Kigali	532,216	203,348	38.2	328,868	61.8	76.2
Ruhengeri	<u>282,278</u>	<u>70,665</u>	<u>25.0</u>	<u>211,613</u>	<u>75.0</u>	<u>53.4</u>
RWANDA	<u>2,790,698</u>	<u>671,402</u>	<u>24.1</u>	<u>2,119,296</u>	<u>75.9</u>	<u>57.9</u>

Source: Ministry of Health, Annual Report, 1979.

Immunization Program

An objective of Rwanda's Expanded Program for Immunization is to decrease the current high incidence of morbidity and mortality from measles, whooping cough, diphtheria, and tuberculosis. Pregnant women are immunized against polio and tetanus even though few cases have been reported. (Cases may be underreported.)

The incidence of various diseases in Rwanda's prefectures is presented in Table V-11.

The WHO gives technical assistance to Rwanda; UNICEF provides vaccines, equipment, and transport. The AID has helped support the cold chain. EPI has progressed well, but it needs to be expanded to cover the entire country. Early evaluations show a precipitous drop in the incidence of measles in covered areas.

There are 120 vaccination centers in 99 communes with a cold chain. Only 67 percent of communes can administer vaccinations at this time. The government plans to establish at least one center in all 143 communes by 1986. The number of vaccinations given for the major diseases in the provinces is given in Table V-12.

Nutrition Centers

Generally, the nutrition status of Rwandans is poor. Rwandans have little knowledge of nutrition. They are the victims of famines which occasionally follow periods of drought, when crops fail, and they are subject to the precarious effects of the imbalance between arable land and population growth. Nutrition centers have been set up to try to improve nutrition. This objective is fulfilled by increasing the food supply and by educating the populace in nutrition. Hygiene and home economics are taught. Rwandans also receive instruction in the use of agricultural techniques and the raising of small animals.

The target population is children six months to five years of age. Only one child per 10 families is selected for the program. Both mothers and fathers are instructed during the first month. For one year, the mothers and their children come once a month for instruction. Growth, however, is charted until the age of five. The family learns how to prepare local foods, how to raise animals, and how to maintain a kitchen garden. In most centers, P.L. 480 food is used in the nutrition education program and is distributed to children with marasmus or kwashiorkor.

A sample of 3,000 children revealed that 39 percent are below the 80 percent weight standard. Another survey of 30,000 children who attended

Table V-11
INCIDENCE ET DISTRIBUTION DES PRINCIPALES MALADIES TRANSMISSIBLES AU RWANDA, 1979

<u>Préfecture</u>	<u>Paludisme</u>	<u>Grippe</u>	<u>Rougeole</u>	<u>Dysenterie</u>	<u>Pneumonie</u>	<u>Coqueluche</u>	<u>Gonocoxie</u>	<u>Varicelles</u>	<u>Oreillons</u>	<u>Siphilis</u>	<u>TOTAL</u>
Butare	31,092	3,739	9,953	8,164	3,356	730	1,031	3,530	1,637	302	63,534
Byumba	7,198	6,064	4,782	6,955	4,052	1,275	842	624	407	306	32,505
Cyangugu	15,040	5,152	6,474	3,829	753	871	792	677	313	97	33,998
Gikongoro	6,536	352	2,776	825	2,382	436	121	522	361	69	14,407
Gisenyi	4,082	18,040	3,669	7,129	2,933	1,578	2,103	1,122	482	371	41,509
Gitarama	19,997	17,056	11,189	3,229	2,772	2,421	1,270	2,522	2,095	219	62,770
Kibungo	24,755	2,958	4,812	5,010	5,088	2,693	861	1,292	1,423	661	49,553
Kibuye	11,167	2,781	3,173	1,563	1,935	641	406	346	25	182	22,219
Kigali	14,805	7,601	6,730	1,080	3,067	3,340	6,530	1,864	818	2,369	48,204
Ruhengeri	<u>2,375</u>	<u>9,887</u>	<u>7,536</u>	<u>1,372</u>	<u>5,577</u>	<u>2,238</u>	<u>764</u>	<u>941</u>	<u>1,433</u>	<u>599</u>	<u>32,722</u>
RWANDA	<u>137,047</u>	<u>73,630</u>	<u>61,094</u>	<u>39,156</u>	<u>31,911</u>	<u>16,223</u>	<u>14,720</u>	<u>13,440</u>	<u>8,994</u>	<u>5,175</u>	<u>401,390</u>

Source: Ministry of Health, Annual Report, 1979.

Table V-12

NOMBRE DE PRIMOVACCINATIONS PREVENTIVES,
PAR PREFECTURE, REALISE EN 1980

<u>Préfecture</u>	<u>B.C.G. 0-11 Mois</u>	<u>Poliomyélite</u>	<u>D.T. Coqueluche</u>	<u>Rougeole</u>	<u>Tétanos Femmes Enceintes</u>
Butare	11,327	17,945	16,822	13,584	3,722
Byumba	7,795	4,318	8,694	11,496	2,480
Cyangugu	1,921	1,604	3,515	5,316	208
Gikongoro	2,080	2,673	4,942	5,977	1,404
Gisenyi	7,857	5,233	7,888	17,671	2,002
Gitarama	13,410	26,625	27,883	39,122	9,286
Kibungo	4,665	11,859	11,018	6,945	2,319
Kibuye	7,797	8,796	10,165	13,144	1,441
Kigali	16,576	26,313	23,538	26,253	2,757
Ruhengeri	<u>35,972</u>	<u>8,490</u>	<u>11,073</u>	<u>29,976</u>	<u>3,199</u>
RWANDA	<u>109,400</u>	<u>113,856</u>	<u>124,738</u>	<u>169,484</u>	<u>28,818</u>

Source: Ministry of Health, RWA/ESD/001, Rélevé Annuel de Vaccination, 1980.

nutrition centers in 1979 showed that 60 percent were within the normal range, 20 percent were below the 80 percent standard (normal), and 20 percent were suffering from a nutritional disease. Protein and calorie deficiencies are most common between the ages of 6 months and 11 months, especially with weaning.

The education of the mother is stressed, as are weaning foods. At the educational meetings, a broad range of subjects in nutrition (e.g., weaning, malaria, sanitation, infectious diseases, immunizations, and family planning) is covered. At this time, discussions are focused primarily on the relationship of family planning to the economy and demography. However, some nutrition centers discuss family planning methods, both natural and artificial. The National Office of Population intends to provide training and materials to ensure that information on contraception is available in all centers.

Nutrition centers usually are part of the Ministry of Social Affairs, with several members of the staff paid by the ministry and some by the commune. Most of the 90 nutrition centers are managed by Catholic Relief Services (CRS) under an agreement with the MOS. Some centers are part of health centers operated by the MOH or by approved private church organizations.

A committee composed of the prefecture's doctor, a medical assistant, a nurse, the religious leader, a social assistant, and the burgomaster supervise the nutrition centers. A monatrice who receives technical assistance from one to four other monatrices administers the centers.

Monatrices are trained for four months at a well-developed training center in Ruhengeri which is operated by the MOS. Technical experts from the Ministry of Health, the Ministry of Agriculture, and other ministries provide assistance in educating the target population in relevant subjects.

The 103 nutrition centers are distributed in 89 communes, as is shown in Table V-13.

Sixty-four percent of the communes have at least one nutrition center. By 1986, all communes should have at least one center. Several such centers are under construction at this time.

Other Health Activities

School health is a neglected subject. A proposal to immunize students at entry and exit has been submitted for consideration.

Industrial hygiene is non-existent. It has been suggested that data on the subject be collected. Accidents are common. To ensure that vehicles are safe and maintained properly, licensing and inspection have been proposed.

Table V-13
DENSITE DU RESEAU DES CENTRES NUTRITIONNELS,
PAR PREFECTURE, 1979

<u>Préfecture</u>	<u>Communes Comptant au Moins un Centre Nutritionnel</u>			
	<u>Nombre de Communes</u>	<u>%</u>	<u>Population</u>	<u>%</u>
Butare	15	75	453,044	75
Byumba	8	47	253,100	49
Cyangugu	4	36	123,705	37
Gikongoro	7	54	197,633	53
Gisenyi	7	58	289,935	62
Gitarama	13	76	462,928	77
Kibungo	6	55	203,341	56
Kibuye	7	78	269,723	80
Kigali	11	64	456,976	65
Ruhengeri	<u>11</u>	<u>69</u>	<u>361,619</u>	<u>68</u>
RWANDA	<u>89</u>	<u>62</u>	<u>3,072,004</u>	<u>64</u>

Source: MINASODEC; current (unedited) statistics.

Several European donors support water sanitation. Only a few urban centers have running water. A considerable effort has been made to cap springs and to protect wells.

Waste disposal is primitive, except in the urban areas, which appear to be clean.

Even urban centers have no central sewage system. Latrines are common in the country, but they are not maintained well.

The MOH continues to concentrate on the provision of curative services. Although lip service is given to primary health care, additional hospital beds are being requested. On the average, a bed is occupied in only 53 percent of all cases. A stay in a hospital averages eight days. Last year, the 24 hospitals and 75 other health facilities in Rwanda provided 60 percent of the population with at least one consultation. At all the health facilities the team visited there were lines of people. One might conclude that Rwandans are interested in Western-style health services and are ready to receive family health services, including family planning.

Conclusions

The MCH program in Rwanda is developing well with technical guidance from the WHO and logistical support from UNICEF. Total coverage with primary health care is the policy of the GOR. The concept is consistent with the policies of the WHO and the AID. As an African LDC, Rwanda has reasonably good facilities and staff. The available MCH services are well patronized. The GOR has developed rational plans to extend coverage to the entire population. With continued assistance from the AID and other donors, the GOR should be able to expand MCH services throughout the country within the next five years. It should be able to provide satisfactory basic MCH services and an acceptable infrastructure for family planning services.

VI. STRATEGY FOR THE IMPLEMENTATION OF NATIONAL MCH/FP PROGRAM

VI. STRATEGY FOR THE IMPLEMENTATION OF NATIONAL MCH/FP PROGRAM

The Government of Rwanda needs, and seems willing to accept, both technical assistance and financial support to develop a national family planning program.

A correct strategy has been developed to implement the MCH program in Rwanda. The program receives some technical guidance from the WHO, and it is supported by the GOR. UNICEF and several European donors, as well as the AID, also offer assistance. Technical guidance from the AID is not needed. Nor is it particularly desired. However, financial support is needed to construct facilities, to purchase equipment and supplies, to improve logistics, and to provide training.

Background: Establishment of the ONAPO

For the last several years, GOR staff have been studying Rwanda's population problem, the principal cause of which is the declining availability of arable land. Other factors, such as high maternal and infant mortality rates, increasing demands for education, and slow economic development, also are being studied.

Rwandans have participated in numerous activities to understand how population affects progress and development. In 1974 they created the Scientific Council for the Study of Socio-Demographic Problems. The CSC is located in the Ministry of Social Affairs. Rwandans attended the Bucharest Population Conference in 1974. In 1977, one of the country's doctors studied family planning in the United States, and, in 1978, a group of government officials toured Tunisia, Mauritius, and Kenya to study conditions in those countries while another group attended a conference in Australia on the "Billings method." Also in 1978, Rwanda completed its first census with assistance from the UNFPA. That same year, Pathfinder, with AID funding, sponsored the African Population Seminar in Kigali. This conference was attended by government officials, church leaders, and health and social workers. Forty Rwandan health and social workers were trained in Tunis, and at Johns Hopkins University, Margaret Sanger, and Santa Cruz, in the United States. In part as a result of these activities, the National Office of Population was established by presidential decree (No. 03/81) on January 16, 1981.

The ONAPO, a semi-autonomous organization in the MOS, is responsible to the president to whom it reports through an interministerial administrative council. Its primary functions are planning, administration, and research and evaluation, and not the execution of programs. The MOH provides family planning services. The MOS, the MOE, and the MOI conduct

IEC activities. The ONAPO coordinates all such activities and develops policy. (See Appendix G.)

Policy on Birth Control

The National Office of Population has been struggling to establish a firm policy on permissible methods of contraception for Rwanda's traditionalist, pronatalist, and half-Catholic society. Following the consultants' visit, it was decided (and confirmed by the president) that both natural and artificial methods of reversible contraception would be offered and that all clients and health staff would be free to select a specific FP method.

Abortions and sterilizations are not permitted, although there are four JHPIEGO laparoscopes in the country. Some tubectomies and vasectomies are done for medical reasons.

Depo Provera has been the most widely used and best liked contraceptive, but the MOH recently banned the drug because of the controversy about its use, much of which stems from the failure of the U.S. Food and Drug Administration (FDA) to approve the product for general use. The technical decisions on contraceptives are made by the MOH. With the appointment of a new secretary of health, there is reason to expect a more favorable review of Depo Provera and a clarification of policy on permissible forms of contraception.

Provision of Services

As decreed by the ONAPO, family planning services either must follow or accompany the provision of relevant information. To ensure that Rwandans are informed properly, the National Office of Population has published, with the assistance of the AID and Pathfinder, a pamphlet on the demographic and economic factors in population. Fifty thousand copies of the publication are in print. A publication on family planning methods is in preparation. This document on natural and artificial methods will be more balanced than earlier presentations, and it will provide more specific information on contraceptive methods and availability.

Family planning services must be voluntary--and the choice of methods free--and they must be offered as a means to spacing children. They should be one among the range of MCH services provided by health staff who are trained in family planning.

Pathfinder has submitted plans to establish three pilot family planning clinics in the reference hospitals at Kigali, Butare, and Ruhengeri. To date, these plans have not been realized. Nonetheless, considerable

contraception by reversible or artificial means can be observed in Rwanda. While in the field, the team learned that there are approximately 1,000 documented users, and it is probable that there are as many as 2,000 users. In Butare, in one clinic alone, there are records on 720 clients that can be analyzed.

Initiation and Development of National Program

A. Pilot Reference Hospitals: Services and Statistics

The team agrees that the GOR should, can, and will begin to provide family planning services in 1981. There are enough trained health workers with sufficient experience with contraceptives that official family planning services can be provided at the three pilot reference hospitals. Unofficial services will continue to be provided in many other health facilities. As soon as the ONAPO and the MOH clarify and publicize the GOR's policy to permit all reversible methods that are technically approved by the MOH, all health facilities that offer family planning services will begin to keep records for analysis. Only those health facilities that have staff who have been trained in family planning by a method acceptable to the MOH and the ONAPO will be permitted to give service.

With the assistance of the demographer on the team, the ONAPO is developing a family planning record form that will facilitate the analysis and evaluation of clinical experience. The ONAPO can receive further assistance to develop this form from the CDC. AID/W can provide for such TDY aid under the central contract for the evaluation of family planning projects.

By 1982, the clinics at the three pilot reference hospitals will be able to produce records on family planning services that will be useful in analysis and decisionmaking. It is likely that clinics in several other facilities also will be able to provide such information. The availability of the records is important, because the ONAPO, the MOH, and the GOR need to be reassured about their policy decisions on the program. Such reassurance will be forthcoming if, initially, services are provided conservatively.

B. Equipment and Supplies

The ad hoc supply of contraceptives and equipment is a constraint on the government, inhibiting its capability to provide services. This problem should be corrected at once. Procurement should be undertaken immediately, and not through the proposed project. USAID/Kigali

and AID/W should encourage either Pathfinder or FPIA to provide at once medical equipment and contraceptives. A generous and rapid response to the GOR's need would benefit the program and have a positive psychological effect.

By 1983, the project should be able to provide the necessary contraceptives and medical equipment through the normal, consolidated procurement channels set up by the Office of Population, AID/W. The supplies and equipment will be under the administration of the ONAPO, but they will be received and distributed by the OPHAR and BUFMAR to regional, government-operated hospitals and private facilities.

Staff from the health facilities come to Kigali to pick up their regular supplies, and they should be able to receive their family planning supplies at the same time. The team visited the supply centers of the OPHAR and BUFMAR. The personnel at the two centers appear to be willing and able to handle the distribution of family planning commodities.

The private sector, which, at this time has no important role in the provision of the commodities, should be stimulated to become an active participant. There are several scattered private pharmacies in Rwanda, but they offer oral contraceptives at prices that range from \$4 to \$7 a cycle. Each sells between one and 10 cycles per month. A reduction in the now high import tax and the provision of information to the public might ameliorate this situation. The team would not consider commercial or community distribution programs at this time.

C. Training

Staff should be trained while pilot services are being initiated. By 1983, there should be a sufficient number of trained staff and sufficient, evaluated experience in providing services to justify expansion to all 10 prefectures. Although only eight of the 10 prefectures have government hospitals, a health center could be used in each of the other two prefectures. Each prefecture should have one doctor and one A-2 nurse-midwife, or one medical assistant, trained in family planning. The doctor must be oriented to and knowledgeable about family planning. Because the doctor will be too busy to meet the demand for family planning services, the A-2 nurse will have to be able to provide the services under the doctor's direction.

D. Evaluation and Plans for the Future

By the end of 1983, enough experience and data should have been accumulated to justify convening a conference on population in Rwanda to evaluate progress, revise the program, and plan for the future. Between

1983 and 1986, enough staff should have been trained and enough facilities should have been developed to have at least one family planning service point in each of the 10 prefectures and three health centers in each of the 143 communes. The GOR's goal is to establish three hospitals in each of the 10 prefectures and three health centers in each of the 143 communes. To be realistic, it may take as many as 20 years to achieve this goal. It is probable that each prefecture will have a government hospital by 1986, and nearly all the communes will have a health center, or at least an up-graded dispensary that can offer family planning services. By the end of the project, there should be at least three major family planning clinics in the three reference hospitals in Kigali, Butare, and Ruhengeri; seven other clinics in prefectural hospitals; and clinics in the 143 communal health centers. These health facilities will be part of the MCH system of the ONAPO. There will be an organized system for the provision of technical guidance and supervision, recordkeeping will be standard, and routine evaluations will be made. It is reasonable to expect that non-government hospitals also will be providing considerable family planning services. Their services either will be integrated into the delivery system of the ONAPO and MOH or provided ad hoc.

At this time, family planning services can be provided only by doctors and A-2 staff who have been trained abroad in family planning. Provision must be made to train staff for all 10 prefectural hospitals and 143 health centers during the project. It must be assumed that the standards for staffing and eligibility requirements for service will be liberalized, as in programs in most countries. As the program in Rwanda progresses, changes will occur. For example, doctors now insert IUDs, and they must prescribe oral contraceptives and Depo Provera also. A supply of oral contraceptives for one to three months is given to a woman only after she has had a physical examination. Some clinics will provide Depo Provera only to women who have had five children. A conservative approach probably can be justified when the program is initiated, but a more liberal approach probably will evolve. One should not be surprised to find auxiliary health workers providing services by the time the project ends. It is not expected that non-health personnel, such as social assistants in nutrition and community development centers, will be permitted to provide contraceptive services. However, at a later date, it is likely that they will be permitted to resupply orals, foam, and condoms. Several hundred additional service delivery points can be established if these persons become involved in the family planning program.

Contraceptive Methods

The quantitative estimation of contraceptive methods is conjectural. An examination of available records at existing clinics and discussions with service providers suggest that 40 percent of acceptors will use Depo Provera, 25 percent will use oral contraceptives, 10 percent will accept IUDs, and 25 percent will turn to secondary methods, such as foam, withdrawal, or natural rhythm. Depo Provera is suitable for use in Rwanda because it tends to increase a mother's supply of milk. Oral contraceptives

have the opposite effect. The use of Depo Provera in a country that is concentrating on nutritional problems is an important consideration. Both doctors and clients are attuned to the use of injectables. Moreover, where doctors are scarce and travel difficult, it is convenient to offer a drug that can be injected once every three months. The team assumes, but has not been assured, that the question about the use of Depo Provera in Rwanda will be settled favorably by 1982. If the use of Depo Provera does not receive official sanction, other methods will be used. The evidence indicates that substitutes will be accepted by both doctors and clients.

Oral contraceptives are acceptable, but the supply is limited and the composition of the products varies. The guarantee of a regular free supply of "Blue Lady" orals should result in increased usage. IUDs are used less than orals. Some doctors have given favorable reports on the use of IUDs, but they have noted problems in obtaining the devices.

Withdrawal is, apparently, a traditional method in common use in Rwanda. Several different versions of traditional contraceptives and abortifacients are available. Studies are being done on the latter, but abortifacients are not expected to be used in the program. The Catholic Church has been active in promoting the Billings rhythm method. The method has been studied, and Dr. Billings has set up a clinic in Rwanda. Information and services are available throughout the country. Church officials report success with the Billings method; they point out the dangers of artificial methods while extolling responsible parenthood. All the medical personnel who were interviewed by the team are skeptical of the Billings method; they say it is too complicated, and therefore too difficult, to use in Rwanda.

The consumption of alcohol and strong male dominance make abstinence during the fertile period problematical.

Natural methods will be included in the program in Rwanda and supported to ensure free choice. Experience shows that failure with natural methods often leads to the use of the more effective artificial methods.

Requirements to Support MCH/FP Services

A. Training

The ONAPO insists--correctly--that family planning services must be provided only by staff trained in family planning to clients who are informed and thus free to select, without pressure or incentives, the method they wish to use. Training at all levels is needed. A description of the kinds of training that are needed follows.

1. Observation Tours (12 Person-Months, \$100,000)

One-month observation tours to such countries as the United States, Tunisia, Indonesia, and the Philippines would provide opportunities for opinion leaders and decisionmakers to acquire essential information about family planning programs. During the five-year project, tours should be arranged for five staff from the ONAPO, two officials from the MOS, three staff from the MOH, and two employees of the MOE. Twelve person-months should be allocated for the activity.

2. Long-Term Training (14 Person-Years, \$280,000)

Some key technical people need long-term (one-year) training. Long-term training should lead to a masters degree in public health.

At the Medical School, all students are introduced to family planning. Three staff at the school should be selected for training. One professor of obstetrics and gynecology and one professor in genito-urinary medicine should study family planning and infertility for one year at an institution such as Johns Hopkins, in Baltimore, Maryland. Infertility is a serious problem of much interest in Rwanda. It must be addressed to ensure that Rwandans have a free choice in planning a family. One professor in MCH should obtain a masters degree in public health; he should concentrate on family planning. An additional slot would provide for attrition.

Four person-years should be allocated for long-term training of staff of the Medical School.

The University Center for Public Health, in Butare, gives all medical students practical clinical and field experience in public health. The practicum lasts two months. The team thinks that this center has the best documented family planning clinic; it provides services to 720 acceptors. The faculty could be important in influencing opinions about public health thinking and the practice of family planning. Five members of the staff of University Center should study one year at an American or foreign school of public health. They should return to Rwanda with a M.P.H. in one of the following disciplines: epidemiology, nutrition, sanitation, or MCH/FP. Both a doctor and a nurse should be trained in MCH/FP. Most family planning services will be provided by nurses.

With an allowance of one slot for attrition, the total number of person-years for this activity is six.

Family planning expertise is needed in the MOH because the ONAPO looks to the MOH for technical guidance. Three MOH staff--a public health

physician, a nurse-midwife, and a social assistant--should receive a M.P.H., with the emphasis on MCH/FP. They would be the nucleus of technical expertise at the national level.

Allowing one slot for attrition, four person-years are needed for this training project.

3. Short-Term, Three-Month Training
(21 Person-Months, \$75,000)

Each of the three reference hospitals should be a regional center of family planning expertise. Each hospital should send one doctor and one nurse-midwife, or a medical assistant at the A-2 level, to Johns Hopkins or a similar institution for three months of training in the techniques and administration of family planning.

Seven persons should be selected for training. An additional slot should be provided for attrition. Each person should be trained for three months.

4. Short-Term, One-Month Training
(25 Person-Months, \$100,000)

Each of the 10 prefectural hospitals needs one doctor and one A-2 nurse-midwife or medical assistant trained in family planning. A brief, one-month, training program in Tunis should be sufficient. Instruction would be provided in French, and it would be consistent with earlier training. The doctors must be knowledgeable about and be willing to accept family planning because they will be responsible for all health activities in the prefectures. They will be too busy with other things to devote much time to family planning; thus, one A-2 nurse-midwife, or one medical assistant, should work full-time in each prefecture to organize and supervise family planning services.

Twenty staff will have to be trained. Allowing for the attrition of five staff, the total would be 25.

5. In-Country Training (500 Person-Weeks, \$50,000)

As soon as a sufficient number of trained staff returns to Rwanda, in-country training should begin. The trained staff will train other Rwandans. It is hoped that this training can begin in 1982. Between 1983 and 1986, one medical assistant and one nurse-midwife should

be trained in family planning in a one-week program in Rwanda. These persons will work in the health centers. The medical assistant needs to be trained because he will be responsible for all activities in the health center. The nurse-midwife usually will be the chief service provider.

If, by 1986, a health center has been established in all 143 communes, 286 staff will have to be trained. Attrition among these workers is high; therefore, provision should be made to train 64 additional staff. It would be reasonable to expect to train 350 persons. Another 150 person-weeks should be reserved for training for staff in the private sector, or for refresher courses.

6. One-Week MCH/FP Evaluation Seminars
(100 Person-Weeks, \$100,000)

The ONAPO plans to conduct a seminar on evaluation after two years, and again in five years. These seminars are needed to correct deficiencies in the program and to measure progress. All aspects of the program, including family planning services, will be evaluated. Approximately 50 people will need to attend the seminar in Kigali. Staff from the GOR, the ONAPO, the MOH, the MOS, and the MOE, representatives of church groups and the media, and prominent citizens should be among the delegates.

B. Contraceptive Requirements

Chapter III contains the probable number of women protected and the number of new acceptors by method. The projections are based on observations and discussions, a review of scanty records, and experience in other countries. No doubt, they will be modified during the project. It is expected that they will be revised each year. The AID should ensure an adequate supply of contraceptives and medical kits because these commodities are essential to the success of the program. The AID has demonstrated its capacity and efficiency in this area.

In 1981, an initial supply of contraceptives and medical kits should be provided for the 4,000 anticipated users. There are an estimated 2,000 users at this time. This supply should be adequate until the commodities for the project arrive. Pathfinder or FPIA could supply orals, IUDs, condoms, spermicides, and medical kits. The ONAPO, the USAID, and AID/W should submit a joint request to the International Planned Parenthood Federation or the UNFPA to supply Depo Provera until the AID is able to do so. To guard against uncertainties, uneven distribution within Rwanda, and storage problems, a supply for approximately twice the estimated number of users should be provided.

If one assumes that 25 percent of the 4,000 will use orals, 25 percent natural methods, 10 percent IUDs, and 40 percent Depo Provera, 26,000 cycles of orals, 800 IUDs, and 12,800 doses of Depo Provera will be needed. If Depo Provera is not accepted by the GOR, the amounts of orals and IUDs should be doubled. Recent experience in Rwanda indicates that when Depo Provera is not available, women can be shifted successfully to orals and IUDs.

Ten thousand condoms should be included as a trial, even though condoms have not been popular in Rwanda in the past. A small amount of spermicidal foam or a limited number of vaginal suppositories should be provided for pilot studies. In addition to the contraceptives, a dozen medical kits should be included. One kit should be distributed to each of the 10 prefectures. The remaining two should be spares for private clinics.

The requirements for contraceptives for the project over the next five years are listed in Table VI-1. The table was constructed from the estimated projection of users of various methods by year. The calculations are multiplied by 2 because it has been assumed that twice the amount used will be required to allow for uneven distribution and problems in the pipeline, and the storage and wastage of commodities. Some clinics (200 are expected to be operating by 1986) will use more than the average or anticipated amount of supplies; thus, all must have on hand more supplies than will be used to prevent spot shortages. Until considerable data on usage are obtained, the figures cannot be adjusted.

Two hundred medical kits should be provided for all the clinics; they will be needed to insert IUDs and to perform physical examinations. In the next five years, provision should be made for supplies for 200 clinics (143 for each commune, 10 for each of the prefectural hospitals, and the remainder for private approved clinics and communes with more than one health center).

C. Other Commodities

The contraceptives and medical kits are needed to provide the projected MCH/FP services. The vaccination program (EPI) needs refrigerators and insulated boxes to complete the cold chain. Needles, syringes, sterilizers, and other similar items are needed to ensure that aseptic techniques are used.

For information and survey work, a variety of items, ranging from pencils and paper to projectors and equipment for workshops in graphics, will be needed.

It is estimated that \$630,000 will be needed to purchase the commodities.

Table VI-1
CONTRACEPTIVE REQUIREMENTS

<u>Year</u>	<u>OC Cycles</u>	<u>IUDs</u>	<u>Doses of Depo Provera</u>
1982	13,000 x 2 = 26,000	1,500 x 2 = 3,000	12,000 x 2 = 24,000
1983	40,000 x 2 = 80,000	2,500 x 2 = 5,000	35,000 x 2 = 70,000
1984	80,000 x 2 = 160,000	5,000 x 2 = 10,000	70,000 x 2 = 140,000
1985	130,000 x 2 = 260,000	7,500 x 2 = 15,000	120,000 x 2 = 240,000
1986	225,000 x 2 = <u>450,000</u>	10,000 x 2 = <u>20,000</u>	175,000 x 2 = <u>350,000</u>
TOTAL	<u>976,000</u>	<u>53,000</u>	<u>824,000</u>

D. Facilities

The team agrees that several more buildings need to be constructed. One thousand or more MOH and MOS staff will need to be trained in domestic programs. Because Rwanda has many development projects that require training, its existing training centers are already busy. To provide for the training of more staff, a modest training center with classroom space for groups of 25 people should be constructed.

The GOR plans to have a health center and a nutrition center in every commune. The centers will be support for the program and the loci for much of the information and many of the services that will become available. The AID cannot build all the 60 health centers which the GOR wants. The construction of four would help the project and encourage the GOR to carry out its plan. Other donors, such as the African Development Bank and the IBRD, are considering the construction or renovation of some health centers. The GOR also should build some facilities.

The MOS will be deeply involved in the dissemination of MCH/FP information, especially through nutrition centers. To encourage the effort, the AID should support the construction of two nutrition centers.

Approximately \$910,000 will be needed for construction.

E. Transportation

Lack of transportation for supervision and logistics has been a major cause of failure of many rural health projects around the world. It is a potential problem in Rwanda, too.

Ten sturdy four-wheel-drive vehicles are needed, one for each full-time MCH/FP supervisor in each of the 10 prefectures. Another eight vehicles are needed by the ONAPO and the MOS to supervise and administer the program and to take surveys in the field. UNICEF can provide an expatriate mechanic to supervise the garage and maintain all vehicles. With funds for spare parts and POL, the government should be able to repair the vehicles and keep them running. The MOH has a large number of Japanese vehicles. Because these vehicles can be maintained in Rwanda, their use in the project is highly recommended.

VII. THE INFORMATION, EDUCATION, AND COMMUNICATION PROGRAM

VII. THE INFORMATION, EDUCATION, AND COMMUNICATION PROGRAM

The health education and IEC component for the national maternal and child health and family planning program consists of five kinds of activities. These are training, group instruction, development of educational materials and audiovisual aids, use of the media, and curricular development.

1. Training

It is planned that group sessions to discuss MCH/FP topics will be held in clinics and hospitals, during community meetings, and at other times throughout Rwanda. The sessions will be conducted by trainers and medical and paramedical personnel. These persons will have to be educated in MCH/FP issues. Current training activities which influence the delivery of services and the acceptance of MCH/FP practices in Rwanda are examined in Chapters V and VI of this report.

2. Group Instruction of Specific Audiences

To convey facts and to develop desired attitudes and opinions on recommended health behaviors in MCH/FP, group instruction should be offered frequently. In Rwanda, group instruction will be provided at the facilities that deliver health services and by community organizations. In this chapter, the authors examine group instruction in Rwanda's centers for communal development and training, nutritional centers, health centers and dispensaries, and hospitals.

3. Development of Educational Materials and Audiovisual Aids

Materials on MCH/FP topics must be developed to supplement both group instruction and counseling of patients. In this chapter, the authors examine facilities both in Rwanda and in neighboring countries that develop, produce, print, and distribute educational and didactic materials.

4. Use of Mass Media: Broadcast and Print

The media can be used to create an awareness among the general population of MCH/FP issues and to stimulate the adoption by motivated persons of specific recommended behaviors and practices. Media facilities and current activities in health in general, and in MCH/FP in particular, are discussed in this chapter.

5. Curriculum Development

The curriculum for the training program for Rwandan health care providers and the curricula for primary and secondary schools should include basic information on demography, reproduction, contraception, child growth and development, and family health needs. This subject, too, is described in this chapter.

Training

Chapter VI of this report contains a detailed description of the kinds of training that will be required to deliver MCH/FP services. (See also Chapter VIII.) Plans to meet both the immediate and future training needs of personnel are elaborated.

Group Instruction of Specific Audiences

Organized efforts to provide group instruction in public health are under way in many communal centers in Rwanda (the CCDFPs), nutrition centers, dispensaries, and hospitals. In some of the programs, the health curricula include information on MCH/FP.

In one prefecture in Rwanda, the medical director, the medical assistant in charge of the expanded vaccination program, and the sanitation technicians lead the sessions in health education. To date, 35 Rwandans have received formal training abroad in public health education. It is hoped that within the next two years, one person in each prefecture will have been trained and designated to coordinate health education efforts in the hospitals, health centers, and dispensaries, and at communal meetings.

A. Communal Centers of Training, Ministry of Social Affairs and Cooperative Movements

Forty-four CCDFPs are in operation in Rwanda. One hundred more are projected for 1982. The staff are paid for by the Ministry of Social Affairs and Cooperative Movements. The commune in which each center is located assumes other expenses.

On an impromptu visit to a CCDFP near Butare, the team found the director (a social worker trained at the School of Social Work in Butare) giving a lecture on obstetrics to a group of 10 men from the hills. The lecture was part of a week-long course at the center. The sector selected

the men attending the course. The participants will be expected to disseminate their new knowledge to their neighbors when they return to the hills.

The center gives one-week courses on a variety of topics--animal husbandry, blacksmithing, carpentry, masonry, communicable diseases, hygiene, obstetrics, reproductive biology, "global view" of contraception, and cooking. Depending on their interests, participants are placed in one of four groups: adult males, adult females, young men, young women. Other instructors from the community are called in to teach those subjects in which the director has no expertise.

If the Ministry of Social Affairs and Cooperative Movements decides to promote family planning, it should take advantage of the CCDFPs. The centers are an appropriate venue for effective instruction in contraceptive methods. In the centers efforts can be made to encourage men to adopt favorable attitudes toward contraception.

B. Nutrition Centers

The 103 nutrition centers in Rwanda are under the aegis of the Ministry of Social Affairs and Cooperative Movements, although they receive funds from a variety of sources. The centers frequently are located near health facilities, but in separate buildings. They are "schools for parents"; 62,000 parents have enrolled their children in the facilities.

The parents must select the one child in the family who is most in need of nutritional care. The family pays 50 francs (RWF) (U.S.\$0.55) a month to the center. In exchange, the center provides group instruction in nutrition, animal husbandry, gardening, cooking, prenatal education, reproduction, and public health. In addition, the center supplies P.L. 480 supplementary foods (milk, flour, and oil). Some centers offer vaccinations and deworming medicines. Each week for eight weeks parents bring their children to the center. Thereafter, they must return to the center once a month for three years. A mini-examination is administered at the end of three years to test the parents' nutritional knowledge, and a certificate is awarded that confirms the family has completed the course. The courses are taught by monatrices who have completed a six-month apprenticeship in a nutrition center and a four-month intensive course at the Nutrition Training Center in Ruhengeri.

The team visited a nutrition center in southeast Rwanda. There, the members observed a course that was being taught outdoors to 30 parents who held their children in their laps. Two of the center's monatrices were in the hills conducting home visits and holding group discussions. The monatrice who accompanied the team on its tour of the center said that no methods of contraception are taught at this time, but instruction in the Billings method will be introduced next year. Catholic Relief

Services sells, at cost, flanellograph didactic materials on the Billings method to nutrition centers. A doctor from a Seventh Day Adventist hospital told the team that family planning is taught at nutrition centers run by the SAWS. A pamphlet on all the contraceptive methods is shown to women who visit SAWS centers.

C. Health Centers and Dispensaries

The health centers and dispensaries are supposed to contain a community learning center, a nutrition center, an outpatient clinic, an inpatient unit, a maternity ward, and facilities for ante- and postnatal visits. In fact, few centers and dispensaries are developed to this degree.

In the late 1960s, the Ministry of Health sent out a circular that informed the hospitals, health centers, and dispensaries that they were to provide a 15-minute health-education lecture once a day. To assist in this effort, the MOH sent the text of its weekly radio broadcast to each hospital, health center, and dispensary, with instructions that the text should be incorporated into a talk given in Kinyarwanda. Some group instruction is offered in most health centers and dispensaries, but because of patient loads and understaffing, the instruction is sporadic. (It is not unusual to see four men carrying a patient in a stretcher on their shoulders to a nearby health center. There is a continual flow of patients who require urgent care. It is not surprising that curative, and not preventive, efforts are the primary focus.)

The team observed no group-instruction sessions when it visited health centers and dispensaries throughout the country. The members did note that patients spend many unstructured hours in open-air waiting rooms before they see a medical assistant or nurse. Women who spend two days in a health center or dispensary after delivery sometimes receive individual instruction in the care of the newborn, but such instruction seems to be provided only when the staff have a free moment. Some health centers, especially private, church-affiliated facilities, schedule health-education sessions several times a week. The schedules are posted on bulletin boards.

A variety of topics is discussed in these classes. At one session the group might discuss the importance of seeking prenatal consultation; at another, it might talk about family planning, the anatomy and physiology of reproductive organs, or alcoholism, which is a serious health concern in Rwanda. One medical assistant at a private health center where such sessions are held stated that few women accept family planning methods as a result of the lectures. He said this was because both the lectures and the concept of family planning are new to Rwandans.

In all the health centers the team visited, there appears to be a lack of didactic and audiovisual materials, primarily because there is a lack of funds. The Ministry of Health, through the WHO Basic Sanitation Project, hopes to distribute soon to health centers throughout the country such didactic tools as felt flanellographs and pasteups.

In addition to their curative work at the health centers and dispensaries, medical and paramedical staff attend community meetings in their areas both in the prefectures and the communes, and frequently they give health-education talks.

D. Hospitals

In each of the three pilot hospitals that employ doctors, nurses, and social workers who were trained in 1979 in the United States, structured group instruction in maternal and child health is offered, although there is a lack of educational materials to supplement the instruction. At Kigali General Hospital, nurses teach classes in prenatal education, but they do not discuss family planning methods following the birth of a child. (A woman who wishes to practice birth control must request a consultation with one of the doctors at the hospital. The doctor explains the various methods to the woman.) In the MCH section in Ruhengeri Hospital, a group of women from one sector attends health classes one day a month. The class in family planning is offered in October. Telling women about family planning only once during the year is not, apparently, an effective way to convince women to adopt a contraceptive method; acceptance is quite low. Family planning also is taught by a social worker in the prenatal classes offered at the hospital.

At the University Public Health Center in Butare, a woman who requests a prenatal consultation must attend first a talk on one of several MCH topics, including family planning. A medical assistant or a social worker gives the lecture. In this center, the talks seem to have an impact; there have been 720 family planning acceptors since 1978.

In two other hospitals that the team visited, family planning is taught in prenatal classes also. In none of the hospitals does there appear to be any discussion of contraception during the several days a woman remains on a maternity ward after delivery.

Development of Educational Materials and Audiovisual Aids

Health education materials on MCH/FP generally are not widely available in Rwanda. There are, however, several facilities both in Rwanda and in neighboring countries that can develop, produce, print, and distribute materials.

A. Facilities for Development and Production of Health Education Materials

1. Ministry of Health, Office of Health Education, Art Section, Kigali

The Office of Health Education employs an artist who draws and hand-colors posters and develops flanellograph pasteups and brochures (the latter are adapted to the customs of different regions) on water filtration, basic sanitation, worms, and other subjects. The posters on water filtration are on display in government offices and health centers throughout Rwanda. The Art Section also has a darkroom.

If the Ministry of Health decides to promote family planning in hospitals, health centers, and dispensaries, the Art Section in the Office of Health Education should be enlarged and stocked with adequate supplies. It could help to produce and distribute throughout Rwanda materials on MCH/FP.

2. Health Centers

Some health centers, it is reported, have facilities to develop health-education materials. The team did not find evidence of such facilities while in the field.

3. Université Radiophonique de Gitarama

The Université Radiophonique de Gitarama is a well-equipped center that produces and sells to the public slide shows (and accompanying commentaries) on a variety of health themes. The slides are drawings and photographs of settings in Rwanda. Family planning methods, fetal development, hygiene, pregnancy, infant care, and weaning practices are among the topics for which slide shows have been prepared. The prices of the series of slides vary between \$5 and \$8. Records are kept on sales of slide shows; approximately 10 shows on family planning methods have been sold since November 1980. The center will develop new slide shows and slide tape shows on request. If drawings are used, a slide show (with 20 slides) can take two months to develop. If photographs are used, a longer period is required.

4. Nutrition Training Center, Ruhengeri

The monatrices' four-month curriculum (see Appendix J) at the training center in Ruhengeri includes training in the production of visual aids. Upon entering the classroom where students are trained to produce visual aids, one sees first a poster of a uterus. Students who are training to become monatrices must learn how to draw the uterus for the classes in human reproduction which they will give when they return to the nutrition centers. The center could use more visual aids on MCH/FP subjects.

5. University Center for Public Health,
National University of Rwanda

The staff artist in the Health Education Section has developed posters, drawings, and flannelgraph pasteups for the classes in prenatal care and nutrition. Additional health-education materials, as well as supplies to develop health-education materials, are needed. All the medical and paramedical students who are completing two-month internships at the center would benefit from the materials.

6. ORINFOR

ORINFOR, Rwanda's Office of Information, is equipped to produce short films. Laboratory processing is done in Paris.

7. National Pedagogic Institute, Ministry of
Higher Education and Scientific Research

The National Pedagogic Institute (IPN) trains secondary school teachers for all secondary schools in Rwanda. Students receive instruction in the use of audiovisual techniques.

Health-education materials should be provided to supplement the curriculum in MCH/FP. Such materials would be useful in training personnel enrolled in the Nutrition and Public Health Section in the IPN. The students later will occupy positions in Rwanda's ministries.

8. Workshop for the Production of Visual Aids,
BUFMAR, Kigali

BUFMAR, the Office for the Training of Medical Personnel, conducts a small workshop in the production of health-education materials. The handicapped individuals employed in this workshop prepare flanello-graph pasteups on nutrition subjects, in addition to health posters on good nutritional habits and nutrition during pregnancy. The health posters are adapted from models in Zaire and Burundi; the language is changed and the posters are redrawn to reflect the Rwandan setting. The posters are printed by Kabgayi Press and hand-colored in the workshop. The posters are sold in the main warehouse, where church-related health centers that are members of the Bureau purchase pharmaceutical products. If the government launches a promotional campaign in family planning, it should consider commissioning the workshop to produce educational materials on family planning. If this is done, however, care should be taken to avoid provoking the opposition of the predominantly Catholic membership.

9. Workshop, Kibuye Agricultural Project

This Swiss project produces materials on nutrition and, according to one source, information on family planning and demography.

10. Workshop, Frères des Hommes,
Séminaire de St. Paul, Kigali

According to one source, the Seminary of St. Paul is beginning to produce health-education materials.

11. Pilot Project, MCH Health Center, Kiribizi

From the mid-1960s until 1973, the World Health Organization assisted the MCH center in Kiribizi in developing MCH materials. The materials were developed in Rwanda by an artist, pretested, and sent to Belgium, where they were produced. In addition, the International Planned Parenthood Federation paid for films and slides for the center. The new director of the center would like to resume these activities.

B. Printing Facilities

1. Imprimerie de Kabgayi

This large printing house is located one hour outside Kigali, on the road to Butare. It has nine monotype Heidelberg letterpresses and four Heidelberg offset presses. Much of the folding, gluing, and binding is done by hand. Kabgayi Press prints newspapers and materials for commercial establishments and the government ministries; it also fills private orders.

In 1980, the approximate cost to produce a single one-color, 18" x 24" poster was 10-12 RWF (U.S.\$0.11). Two- and three-color posters also can be produced. It takes between one and two months to fill an order; delivery is more prompt during the slack period, February to May. In the warehouse, there are ample stocks of varieties of paper.

2. Université Radiophonique de Gitarama

This facility does offset printing.

3. Imprimerie de Kigali

Kigali Press prints and binds. It can fill printing orders quickly. Its prices are among the most expensive in Rwanda.

4. Imprimerie de l'Education Nationale, Kicukiro

This facility has modern equipment to print school-learning materials. It will print materials for other ministries at advantageous prices. The printing requirements of the MOE take precedence.

5. ORINFOR

ORINFOR has a silk screen printing workshop for the production of posters. It does not have an offset press.

C. Distribution Facilities

1. Documentation Center, Kigali

The documentation center, located on the second floor of the BUFMAR pharmaceutical warehouse, sells leaflets, pamphlets, clinic forms, books, and posters. The BUFMAR workshop produces health posters on tuberculosis, nutrition, and worms which are sold at the documentation center. A booklet on the Billings method, printed in Kinyarwanda (the local language), is the only literature on contraceptive methods available here. Leaflets and brochures on nutrition and maternal and child health are purchased from the Bureau d'Etudes et de Recherche pour la Promotion de la Santé, Kanzu, Mayumbe, Zaire; these sell well. (There is a six-month to two-year wait for delivery after an order is placed.) In contrast, the turnover on books on other public health topics is slow.

2. Catholic Relief Services, Kigali

The nutrition centers throughout Rwanda buy flanellographs (U.S.\$4.20), pasteups for flanellographs (U.S.\$3.30), posters, flip charts, and nutrition brochures from CRS. They pay for these materials with the money they receive from clients, the commune, or other donors. CRS buys the materials from the At lier de Mat riel Didactique, in Bousiga, Burundi, and from the workshop in Zaire. The agency sells them at cost.

CRS would be a useful channel through which to distribute educational materials on MCH/FP.

3. United States International Communication Agency, Kigali

In its film library, the United States International Communication Agency (USICA) stocks six animated, 10-minute health films--all of which are in heavy demand. The films are borrowed by ministries, schools, and private groups from all over Rwanda, and, although damaged, they are booked back to back. Only one of the films is on maternal and child health. A borrower must fill out a form describing the film's intended audiences; the form is destroyed when the film is returned to the USICA's library.

One hundred copies of a film catalogue were produced and sent to all Rwandan secondary schools in October 1980.

Given current borrowing patterns, one could conclude that if up-to-date films on MCH/FP were placed in the library, they would be used widely throughout the country. The borrowing forms, if they were kept and tallied, would be useful in identifying the films that different groups use and in determining how the films are used.

4. Office of Health Education, Ministry of Health, Kigali

The Office of Health Education in the Ministry of Health recently received 31 health films from Canada. The films will be loaned to medical and paramedical schools. One of the films was filmed in Ruhengeri, Rwanda.

5. Film Library, ORINFOR

There are some films on public health and maternal and child health in the film library of ORINFOR. The library will loan a film to anyone, providing the film is shown free of charge.

Use of Mass Media

There is no television in Rwanda; therefore, this discussion is limited to the use of radio broadcasting facilities and newspapers.

A. Radio

The radio broadcasting station controlled by ORINFOR covers all of Rwanda and broadcasts in shortwave and frequency modulation. A recent survey of 1,200 households in Butare and Gisenyi revealed that more than 40 percent of the households interviewed own radios.¹ ORINFOR estimates that there are 150,000 radios in the country, with an average of two listeners per radio.²

Radio, generally, is acknowledged to be extremely effective in the diffusion of news and ideas of interest to Rwandans. For example, when

¹ African and Mauritian Institute for Statistics and Applied Economics, Enquête Socio-Economique: Butare-Gisenyi, Rwanda, April 1980.

² UNFPA, Report of Mission on Needs Assessment for Population Assistance: Rwanda, Report No. 26, New York, June 1979, p. 79.

agricultural competitions are held, the radio commentator describes the merits of the winning entry (a cow). The public, it is said, listens avidly to such commentaries. A Rwandan in a rural area knows when a program of interest to him will be broadcast. If he does not own a radio, he makes a point of going to a neighbor's house to listen to the program.

The radio, apparently, greatly influences public opinion in Rwanda. This was demonstrated in the 1978 campaign to encourage all Rwandans to participate in the first population census. Initially, people were skeptical of a census; they worried that the individual enumeration of goods and property could be used against them. But, during the three-month radio campaign, Rwandans learned about the census, about its purpose and its benefits to Rwanda. It is said that the general population was convinced of the validity of the census, of the importance of participating in the census, and of enumerating goods accurately as a result of the radio campaign.

People respect what they hear on the radio. To emphasize or to prove a point during a discussion with friends, people will say that the radio said such and such.

The Office of Health Education broadcasts a 15-minute program, "Our Health," in Kinyarwanda every Friday at 6:30 p.m. The theme for each week is selected from the questions which listeners mail to the station. The program is followed by a broadcast by the Red Cross. The two organizations try to coordinate the content of their programs so that related themes are discussed on the same day. A summary of the program is broadcast each Sunday at noon. The text of the broadcasts is sent to all hospitals, health centers, and dispensaries. The Africa Regional Bureau of the WHO sends 30-minute taped health programs which are broadcast in French.

The Ministry of Education has distributed FM radios to schools, and twice a week there are broadcasts to the schools. Sometimes the broadcasts deal with health subjects.

Several times during the stay in Rwanda, the members of the team were told about songs and poems on the radio that carried a family planning message: that parents should have only the number of children they can support adequately. Everyone thinks that ONAPO is responsible for these messages. In fact, the songs and poems were submitted spontaneously to the radio by people in Byumba, a town in the north.

If an active campaign to promote family planning is undertaken, the radio would be a valuable tool for sensitizing and educating the Rwandan public in demographic and family planning matters. Talk-shows, songs, and poems could be broadcast. The radio programs could be followed up effectively, in both the prefectures and the communes, with organized group discussions led by the persons who have attended the ONAPO's training sessions in demography and family planning.

B. Newspapers

Only 23 percent of the population is literate, but two newspapers are printed biweekly, and they are said to be influential in Rwanda. They are INVAHO (U.S.\$0.25), which is printed by ORINFOR, and KINYAMATEKA, which is printed by a group of Catholics. INVAHO has the most readers because it is topical. Both newspapers publish articles on health, in addition to the texts of radio talks. Major articles which will appear in INVAHO are announced on the radio. The publicity generates sales.

Curriculum Development

Primary education in Rwanda is free and compulsory. However, there is neither a sufficient number of schools nor a sufficient number of teachers to enroll all children in school, even though the schools operate in two-day shifts, with half the children attending classes in the morning and the other half attending sessions in the afternoon. Whereas 64 percent of children of primary school age are enrolled in primary school, only 2 percent of children of secondary school age are enrolled in secondary school.¹ Girls account for 46.0 percent of the primary school enrollment.² Of those students who go beyond primary school, 6.8 percent enter the five- to six-year secondary school program, which prepares students for teaching careers and the university. The remaining 10 percent enter one of two post-primary schools: the Section Familiale (Family Section), for female students, or the Centre d'Education Rurale et Artisanale au Rwanda (Center for Rural and Artisanal Education), for males. The objective of the post-primary establishments is to prepare young men and women for rural life by providing practical instruction in agriculture, animal husbandry, nutrition, family education, etc.

At the secondary level, female students comprise 23.0 percent of the enrollment. Females constitute only 12.4 percent of the enrollment in post-secondary institutions.³

The educational system is being reformed, in part because of the high rate of primary school dropouts and in part because it is felt that both the primary and secondary school curricula are ill-adapted to the needs of

¹ World Bank, World Development Report, Washington, D.C., August 1981, p. 178.

² UNFPA, Report of Mission on Needs Assessment for Population Assistance: Rwanda, Report No. 26, New York, June 1979, p. 11.

³ Ibid.

the rural population, who acquire no practical skills. The reform will extend primary schooling from six years to eight years, with the last two years devoted to the acquisition of practical skills. Double shifts in schools will be phased out. After primary schooling, a small number of students who have been scheduled to attend secondary school will be oriented toward a program in the humanities. The majority of students will be oriented toward a three-year training program. By the time they graduate, they will have acquired practical skills that have been adapted to the rural environment in which they live.

Reading and writing are emphasized in the first three years of primary school. In the next three years, an effort is made to reinforce this knowledge and to introduce new subjects, such as hygiene. In the last two years, when practical skills are taught, instruction in nutrition and child care is provided.

If the government decides to actively promote family planning to slow the country's growth rate, family life education should be introduced not only at the secondary level, but also in the primary grades.

Traditionally, discussions of such demographic phenomena as birth rates, death rates, fertility, and migration have been incorporated into geography courses in secondary schools. Human physiology and sexuality are taught only in medical schools. Some educational authorities have suggested that when human physiology and sexuality are introduced into the curriculum for secondary schools, only natural science teachers and doctors should be asked to teach the courses. This suggestion, which has appeared in various teacher-opinion surveys, implies that teachers in other disciplines are reluctant to teach a subject related to sexuality and human physiology. The same educational authorities also have suggested that the courses should be introduced at the end of the first cycle of secondary education, to students between the ages of 15 and 16.

In the opinion of the team, family life education will only have an influence on desired and eventual family size if sufficient numbers of young Rwandans are exposed to such concepts as the desirability of spacing children and having only the number of children a family can support. Given the large number of primary school dropouts and the rather small number of Rwandans who advance to secondary school, a family life education program cannot be taught only at the secondary-school level. To ensure that such a program has an impact, other steps must be taken. For example, primary school teachers should be taught how to teach family life education; family life education concepts should be integrated into the revised curriculum; and family life educational materials which are geared to the primary school population should be produced to supplement the curriculum.

It is reported that the Ministry of Education is interested in collaborating with the ONAPO in population activities. An effort should be made to pursue this matter.

Strategy for IEC

To implement an effective IEC program in MCH/FP, concerted efforts must be made to provide training and group instruction, to develop educational materials, to use the media, and to improve curricula. These efforts must be coordinated under the aegis of the ONAPO, in close collaboration with the Ministry of Health, the Ministry of Social Affairs and Cooperative Movements, the Ministry of Education, the Ministry of Youth, and the Ministry of Information. A well-defined IEC program in MCH/FP will heighten the appreciation of the demographic challenge facing Rwanda and the need for informed policies.

Group instruction in MCH/FP should be scheduled in health centers, dispensaries, hospitals, CCDFPs, and nutrition centers. Group instruction in hospitals and health centers should be provided during the prenatal and the postpartum periods. The persons who are selected to provide this information must be trained in group instruction techniques and in specific aspects of maternal and child health care and family planning.

An IEC expert at the ONAPO could coordinate efforts, in collaboration with his counterparts in the Ministry of Health and the Ministry of Social Affairs and Cooperative Movements. This person should first receive extensive training in communications theory in a one- to two-year course, such as that offered at Stanford. During the time this person is away, a public health education consultant could be attached to the ONAPO to assist with the initial IEC efforts. When the Rwandan IEC expert returns to the ONAPO, he would assume responsibility for coordinating MCH/FP training in Rwanda for the group instructors (the training would take place in CCDFPs, nutrition centers, etc.) and for working with the media, producing graphics and other materials on MCH/FP, organizing a resource center, evaluating IEC activities, and collaborating with the ONAPO's curriculum specialist (who will review and revise curricula to include information on MCH/FP and organize refresher courses for teachers).

Short-term training at communications workshops (for example, the workshops at the University of Chicago or the University of Connecticut) should be offered to other Rwandans involved in IEC activities in the Ministry of Health, the Ministry of Social Affairs and Cooperative Movements, the Ministry of Information, the Ministry of Education, and the Ministry of Youth. (Additional short-term communications training in Rwanda for trainers may be necessary if sufficient numbers of trainers cannot be sent abroad to workshops.) When they have completed their training, these persons, in addition to disseminating information throughout the geographic areas to which they have been assigned, will become the trainers of the persons responsible for group instruction at the CCDFPs and the nutrition centers. They also will train the staff at health centers who have been designated to provide health education. In the group

of persons selected to provide group instruction, there probably will be social workers, medical assistants, and monatrices.

The purpose of the training will be to ensure that subjects in MCH/FP are introduced into all group instruction sessions now held in CCDFPs, nutrition centers, MCH sections in hospitals, health centers, and dispensaries.

A consultant firm such as International Training in Health (INTRAH) could develop a curriculum for this in-country training during a three- to six-month consultancy in Rwanda. The curriculum should include instruction in the use of audiovisual aids (i.e., how to run a projector). The brochure developed by the ONAPO to sensitize Rwandans to their demographic situation should be used. The consultant firm also could offer pilot in-country training to the persons who will be providing group instruction in the various centers near the three reference hospitals and at nearby health centers.

When a sufficient number of personnel has been trained, the ONAPO should develop an accord with the Ministry of Health and the Ministry of Social Affairs and Cooperative Movements, and a circular should be sent to all health facilities that stipulates that a 15-minute session in family planning methods and the importance of childspacing will be provided two or three times each week.

Too few educational materials in MCH/FP are being produced to support instructional efforts. Much of the necessary infrastructure for production is in place. What is lacking is the money for production and, in some instances, persons skilled in certain aspects of production.

A Rwandan artist with proven technical ability and a sensitivity for the Rwandan culture should be sent to a graphic arts school for one year to learn how to produce graphics, photographs, and slide shows. (Several schools in the United States would be appropriate, including the school of graphic arts in Richmond, Virginia, the Rhode Island School of Design, and the Parsons School of Design.) When he returns to Rwanda, the artist should be attached to the ONAPO and work closely with his counterpart in the Ministry of Health. It would be his responsibility to design for the ONAPO educational materials which are imaginative, reflect the Rwandan setting, and demonstrate the artist's knowledge of modern graphics techniques.

The development, pretesting, production, and distribution of free MCH/FP educational materials must be initiated. These activities should be supervised by the ONAPO's IEC expert.

Appropriate materials available in Rwanda and abroad should be ordered. The materials that must either be ordered or produced are pasteups of family planning methods (for flanellographs); simple leaflets (with little text and many photographs and drawings) that explain family planning methods; brochures (for use in training programs in medical and

paramedical schools) with detailed explanations of family planning methods, and their advantages and disadvantages; slides and films for motivational talks; and posters.

A resource center should be organized at the ONAPO to distribute these materials. Slide and film projectors, tape recorders, and a camera should be kept in the center and used by ONAPO staff in community outreach projects. A library of films on MCH/FP and other visual aids should be ordered and loaned free to the public. Reference books on demography and MCH/FP should be available in the resource center. The IEC expert should arrange for the free distribution of materials produced by the ONAPO for BUFMAR, CRS, and other organizations.

The ONAPO's audiovisual equipment should be maintained in good working order. An ONAPO technician should be trained in the maintenance and repair of the equipment. The technician should learn how to clean and repair films. An eight-month course entitled "Entretien et Réparation du Matériel Electromédicale" ("Maintenance and Repair of Electromedical Equipment") is offered in French in Lome, Togo. The WHO has sent two Rwandans, who completed their training at a technical school in Rwanda, to this course. The organization intends to send several more Rwandans next year.

The trained IEC expert at the ONAPO will be responsible for working with the media. He should arrange for radio talk shows on population and song and poetry contests. All entries would have as their theme the need to space children. The winning entries would receive wide publicity. Summaries of the radio broadcasts should be sent to all the health centers and hospitals in the pilot areas. Arrangements should be made with the persons who have been trained at the ONAPO to lead follow-up group discussions in the prefectures and communes after each radio broadcast. Taped radio broadcasts in French from international family planning organizations should be ordered and broadcast on the Rwandan radio.

All texts of the radio broadcasts should be sent regularly to INVAHO for publication. The ONAPO should periodically prepare articles for the newspaper. In addition, the ONAPO should produce a newsletter twice a year that contains information on current and projected activities. The newsletter should be distributed to all government ministries, CCDFPs, nutrition centers, hospitals, health centers, training institutions, etc. The curricula of all Rwandan medical and paramedical training schools should be reviewed. Information on MCH/FP should be incorporated into the curricula.

A curriculum specialist attached to the ONAPO for two years could review and revise the curricula. With the help of the ONAPO's IEC expert, the curriculum specialist could organize refresher courses for professors at the training institutions to prepare them to teach the revised curricula.

The curricula for primary and secondary schools also should be reviewed. Family life education should be integrated into the curricula. Refresher courses for the teachers who will be expected to teach the revised curricula should be held. Teachers in the schools surrounding the pilot areas should be retrained first.

A member of the faculty of the National Pedagogic Institute should be sent to the United States for two years of specialized training in school health education. Before a candidate is selected for training, a consultant who is a professor of public health should be attached to the IPN for three months. He should assist in the selection of the candidate and advise the IPN on the implementation of its training program in public health and nutrition. When the faculty member returns to Rwanda, it will be his responsibility to teach public health and nutrition at the IPN and to ensure that population and family life education are integrated into all teacher-training courses at the IPN.

The specific requirements for training, consultation, and material assistance are summarized in Exhibit VII-1.

Exhibit VII-1

REQUIREMENTS FOR SPECIFIC ASSISTANCE IN IEC

I. Training

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
A. <u>Long-Term</u>		
1	2 Years (1982-1983)	<u>IEC Expert, ONAPO.</u> To be trained in communications theory, with special emphasis on communications in family planning; masters degree to be awarded upon completion. (Stanford)
1	1 Year (1982)	<u>Graphic Artist, ONAPO.</u> To be trained in modern graphics techniques, photography, slide-show production. (Rhode Island School of Design)
1	8 Months (1982)	<u>Technician (Maintenance and Repair of Equipment), ONAPO.</u> A graduate of a Rwandan technical school, to be trained in maintenance and repair of electrical equipment, with emphasis on audiovisual equipment. (Course in the Maintenance and Repair of Electrical Medical Equipment, Lome, Togo)
1	1-2 Years (1982-1983)	<u>School Health Education Expert, National Pedagogic Institute, Butare.</u> To be trained in public health, with special emphasis on school health education, maternal and child health, family planning, and demography; masters in public health to be awarded on completion.
B. <u>Short-Term</u>		
30	3 Weeks (1982-1983)	<u>Communications Trainers.</u> Rwandan officials in various ministries who are active in dissemination of MCH/FP information to attend three-week workshops in the U.S. on communications theory.
300	1 Week 1982-1984)	<u>Providers of Group Instruction at CCDFPs, Etc. Monatrices,</u> social workers, and medical assistants charged with providing group instruction at various centers to undergo one week of training in FP information and education.

Exhibit VII-1, cont.

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
150	3 Days (1983-1984)	<u>Professors at Medical and Paramedical Training Institutions.</u> Professors at Rwandan medical and paramedical training institutions who will teach the revised MCH/FP curricula to participate in a three-day training course.
200	3 Days (1983-1984)	<u>Primary and Secondary School Teachers.</u> Primary and secondary school teachers who will teach the revised curricula incorporating family life education to participate in a three-day refresher course. The first group of teachers trained will be from schools near reference hospitals.

II. Consultants

<u>Number</u>	<u>Kind of Consultant</u>	<u>Duration of Stay</u>	<u>Scope of Work</u>
2	Experts in training attached to ONAPO	6 Months (1982)	Design family planning information and education training module for use in domestic training of persons responsible for group instruction in CCDFPs, nutrition centers, hospitals, health centers, and dispensaries. Provide domestic pilot training for persons responsible for group instruction in centers near three reference hospitals and area health centers where family planning services will be offered initially.
1	Expert in public health education attached to ONAPO	2 Years (1982-1983)	Conduct IEC activities at ONAPO while Rwandan IEC ONAPO counterpart receives training in U.S.
1	Curriculum specialist attached to ONAPO	2 Years (1984-1986)	Review and revise existing curricula in medical and paramedical training institutions to incorporate MCH/FP subjects, conduct refresher courses in curricular revision for professors at training institutions; review and revise primary and secondary school curricula to incorporate family life education component; and conduct refresher courses in revised curricula for teachers.
1	Professor of public health to be attached to IPN, Butare	3 Months (1982)	Assist in selection of IPN faculty member who will attend public health school in U.S.; advise IPN on implementation of curriculum in public health and nutrition, and resources available.

Exhibit VII-1, cont.

III. Material Assistance

<u>Cost</u>	<u>Description</u>
\$200,000	Funds for the production and pretesting of family planning educational materials to be distributed throughout Rwanda at no cost (ONAPO).
100,000	Funds for the production and pretesting of MCH educational materials to be distributed throughout Rwanda free of charge (Ministry of Health).
50,000	Funds for purchase of equipment and supplies for existing graphic arts workshop (if request for funds from WHO not granted) (Ministry of Health).
30,000	Funds for audiovisual materials for resource center, ONAPO: --3 slide projectors (manual; metal) --3 film projectors (<u>not</u> automatic feed) --3 tape recorders --3 screens --2 cameras and auxiliary camera equipment --20 slide shows on MCH/FP and demography --20 films on family planning and demography.
8,000	Funds to purchase films on MCH/FP and nutrition to be placed in USICA library.
5,000	Mailing costs, ONAPO.
15,000	Funds for educational aids for Ministry of Health hospitals, health centers, and dispensaries in reference hospital areas: --20 blackboards --20 racks for holding leaflets, pamphlets, brochures --20 folding tables --20 flip charts (blank, for use in group instruction).

N.B.: List to be elaborated by Office of Health Education, Ministry of Health.

Exhibit VII-1, cont.

<u>Cost</u>	<u>Description</u>
\$ 10,000	Funds for educational aids, equipment, and materials for production to supplement existing MCH/FP visual aids and production of materials at University Center for Public Health in Butare. <u>N.B.:</u> List to be elaborated by director, University Center for Public Health.
10,000	Funds for educational aids, equipment, and materials for production to supplement existing MCH/FP visual aids and production materials at Center for Nutritional Education in Ruhengeri. <u>N.B.:</u> List to be elaborated by the director of the Center for Nutritional Education.
10,000	Funds for educational aids, equipment, and materials to supplement existing MCH/FP visual aids and production of materials at National Pedagogic Institute in Butare. <u>N.B.:</u> List to be elaborated by director of the National Pedagogic Institute.

VIII. TRAINING

VIII. TRAINING

To ensure the availability and quality of services in Rwanda, the development of an information and education system, and the evaluation of demographic phenomena, staff must be trained to deliver MCH/FP services, to use IEC techniques in family planning activities, and to collect and analyze data on family planning projects.

The staff of the National Office of Population must be trained to do all these tasks. Other staff, too, must be trained. The first will be drawn from the areas surrounding the three reference hospitals in Kigali, Ruhengeri, and Butare. Later, staff from the hospitals, health centers, CCDFPs, and nutrition centers in the seven other prefectures will be selected for training.

In the pages that follow (see Exhibits VIII-1, VIII-2, and VIII-3), the authors describe the kinds of domestic and foreign-based long- and short-term training that are needed to establish a systematic family planning program in Rwanda.

A list of medical and paramedical training institutions and a description of the kind of graduates they produce are provided in Exhibit VIII-4.

Exhibit VIII-1

TRAINING FOR POLICYMAKERS AND MCH/FP HEALTH CARE PROVIDERS

1. Observation Tours

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
		<u>Observation tours</u> to countries with established family planning programs (the authors recommend the U.S., Tunisia, the Philippines, and Indonesia) should be arranged for Rwandan policymakers in the following ministries:
5	1 Month	ONAPO;
2	1 Month	Ministry of Social Affairs and Cooperative Movements;
3	1 Month	Ministry of Health; and
2	1 Month	Ministry of Education.

2. Long-Term Training

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
1	1 Year	An <u>obstetrician-gynecologist</u> from the Medical School, National University of Rwanda, Butare, is to be trained in the delivery of family planning services and infertility.
1	1 Year	A <u>genitourinary specialist</u> from the Medical School, Butare, is to be trained in the delivery of family planning services and infertility.
1	1 Year	A <u>professor of MCH</u> from the Medical School, Butare, is to be trained in public health and to receive a masters in public health (M.P.H.).
+ 1		An additional candidate from the Medical School, Butare, should be trained to compensate for any attrition that may occur.

Exhibit VIII-1, cont.

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
1	1 Year	A <u>professor of epidemiology</u> at the University Center for Public Health, Butare, is to receive a M.P.H.
1	1 Year	A <u>professor of nutrition</u> at the University Center for Public Health, Butare, is to receive a M.P.H.
2	1 Year	<u>Professors of MCH/FP</u> at the University Center for Public Health, Butare, should be trained at a public health school in the U.S. and receive a M.P.H.
1	1 Year	A <u>nurse-midwife</u> at the University Center for Public Health, Butare, should be trained at a U.S. public health school and receive a M.P.H.
1	1 Year	A <u>professor of sanitation</u> at the University Center for Public Health, Butare, should be trained at a U.S. public health school and receive a M.P.H.
+ 1		An additional candidate from the University Center of Public Health, Butare, should receive training for a masters in public health to compensate for any attrition that may occur.
1	1 Year	A <u>public health physician</u> at the Ministry of Health should be trained in MCH/FP at a U.S. public health school and receive a M.P.H.
1	1 Year	A <u>nurse-midwife</u> at the Ministry of Health should be trained in MCH/FP at a U.S. public health school and receive a M.P.H.
1	1 Year	A <u>social worker</u> at the Ministry of Social Affairs and Cooperative Movements should receive training in health education at a U.S. public health school and receive a M.P.H.
+ 1		An additional candidate from the Ministry of Social Affairs and Cooperative Movements should receive training for a M.P.H. to compensate for any attrition that may occur.

Exhibit VIII-1, cont.

3. Short-Term Training

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
3	3 Months	<u>Doctors</u> from each of the three reference hospitals in Rwanda are to receive extensive training in family planning at the Johns Hopkins University Medical Center. This training will prepare the doctors to be regional experts in family planning.
3	3 Months	<u>Nurse-midwives</u> from each of the three reference hospitals in Rwanda are to receive extensive training in family planning at the Johns Hopkins University Medical Center. This training will prepare them to be regional experts in family planning.
+ 1		An additional candidate should be trained at Johns Hopkins to compensate for any attrition that may occur.
10	1 Month	<u>Doctors</u> from each of the prefectural hospitals are to receive training in family planning in Tunisia
10	1 Month	<u>Nurse-midwives</u> from each of the prefectural hospitals are to receive training in family planning in Tunisia.
+ 5		Additional candidates should receive training in Tunis to compensate for any attrition that may occur.

Exhibit VIII-1, cont.

4. In-Country Training

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
		Seminars on family planning should be held for the following categories of health service providers:
143	1 week	<u>Medical assistants</u> in charge of health centers;
143	1 week	<u>Nurse-midwives</u> at health centers; and
64	1 Week	<u>Additional candidates</u> who should attend these seminars to compensate for any attrition that may occur.
50	1 Week	<u>One seminar in the evaluation of MCH/FP programs</u> should be held in 1983.
50	1 Week	<u>One seminar in the evaluation of MCH/FP programs</u> should be held in 1984.

Exhibit VIII-2

TRAINING FOR IEC

1. Long-Term Training

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
1	2 Years (1982-1983)	An IEC expert, ONAPO, is to be trained in communications theory. The emphasis will be on communications in family planning. A masters degree is to be awarded upon completion of the program at Stanford.
1	1 Year (1982)	A <u>graphics artist</u> , ONAPO, is to be trained in modern graphics techniques, photography, and slide-show production at the Rhode Island School of Design.
1	8 Months (1982)	A <u>technician</u> charged with maintenance and repair of equipment, ONAPO, and a graduate of a Rwandan technical school are to be trained in the maintenance and repair of electrical equipment. The emphasis is to be on audiovisual equipment. Training will take place at Cours d'Entretien et Réparation du Matériel Electromédicale, in Lome, Togo.
1	1-2 Years (1982-1983)	A <u>school health education expert</u> , Institut National Pédagogique, Butare, is to be trained in public health. The emphasis is to be on school health education, maternal and child health, family planning, and demography. A masters in public health is to be awarded on completion of the program.

2. Short-Term Training

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
30	3 Weeks (1982-1986)	<u>Communications trainers</u> and Rwandan officials in various ministries who are active in the dissemination of information on MCH/FP are to attend workshops in communications theory in the U.S.

Exhibit VIII-2, cont.

3. In-Country Training

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
500	1 Week (1982-1986)	<u>Group instructors at nutrition centers, CCDFPs, health centers (e.g., monatrices, social workers, and medical assistants) are to participate in one week of training in FP information and education.</u>
50	3 Days (1982-1986)	<u>Professors at medical and paramedical training institutions in Rwanda who will teach the revised MCH/FP curricula are to take part in one week of training in the instruction of new curricula.</u>
200	3 Days (1982-1986)	<u>Primary and secondary school teachers who will teach the revised curricula, which incorporates family life education, are to attend a one-week refresher course. The first group of teachers to be trained will come from the schools surrounding the reference hospitals.</u>

Exhibit VIII-3

TRAINING FOR DEMOGRAPHERS AND STATISTICIANS

1. Long-Term Training

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
1	2 Years	A <u>demographer</u> is to be trained at IFORD, Yaoundé, Cameroun.
3	1 Year (1982)	A <u>statistician</u> , prefectural level, charged with supervising the collection and analysis of family planning statistics, is to receive mid-level training in Yaoundé, Cameroun, or Dakar, Sénégal.
7	1 Year (1983)	

2. Short-Term Training

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
1	1 Month (1981)	A <u>demographer</u> , ONAPO, is to receive training in the Statistical Division, National Office of Family Planning and Population, Tunisia.
1	3 Weeks (1982)	The <u>chief statistician</u> , ONAPO, is to receive training in the National Office of Family Planning and Population, Tunisia.

3. In-Country Training

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
3	2 Weeks (1981)	<u>Statisticians</u> , prefectural level, charged with supervising family planning statistics, are to receive practical training at the ONAPO.
7	2 Weeks (1982)	

Exhibit VIII-3, cont.

<u>Number of People</u>	<u>Duration of Training</u>	<u>Description of Training</u>
3	2 Weeks (1981)	<u>Persons charged with maintaining family planning statistics at the three reference hospitals</u> are to be trained in statistical methodology at the ONAPO.
7	2 Weeks (1982)	<u>Persons charged with maintaining family planning statistics in other prefectural hospitals</u> are to be trained in statistical methodology at the ONAPO.
As Needed	2 Weeks (1983-1986)	<u>Persons charged with maintaining family planning statistics in health centers</u> are to be trained in statistical methodology at the ONAPO.
	3 Days/Year (1983-1986)	<u>Refresher courses</u> will be provided to persons trained earlier and charged with maintaining family planning statistics in hospitals and health centers.

TRAINING FOR SOCIAL SCIENTISTS

3	2 Years	<u>Anthropologists</u> will be trained in anthropology at the masters level.
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Exhibit VIII-4

MEDICAL AND PARAMEDICAL TRAINING INSTITUTIONS IN RWANDA*

<u>Institution</u>	<u>Kind of Graduates Produced</u>	<u>Number of Students Graduating Each Year</u>	<u>Posts Received by Graduating Students</u>
Medical School, National University of Rwanda, Butare	Doctor (General Practitioner)	15 (1979)	Hospitals, Ministry of Health
School for Medical Assistants, Kigali	Medical Assistants (A2)	24 (1979)	Hospitals, Health Centers, Dispensaries, Ministry of Health
Groupe Scolaire, Officiel, Butare	Medical Assistants (A2)		Hospitals, Health Centers, Dispensaries, Ministry of Health
Nursing School, Rwamagana	Nurse-Midwives (A2)	18 (1979)	Hospitals, Health Centers, Dispensaries, Ministry of Health
Nursing School, Kabgayi	Nurse-Midwives (A2)	12 (1979)	Hospitals, Health Centers, Dispensaries, Ministry of Health
School for Medical Techniques, Kilinda	Auxiliary Nurse-Midwives (A3)	22 (1979)	Hospitals, Health Centers, Dispensaries, Ministry of Health
School for Auxiliary Nurses, Mugonero	Auxiliary Nurse-Midwives (A3)	24 (1979)	Hospitals, Health Centers, Dispensaries, Ministry of Health
Public Health and Nutrition Section, National Pedagogic Institute, Butare	Teachers	49 (1980)	Schools, Ministry of Education, CCDFPs, and Nutrition Centers, Ministry of Social Affairs and Cooperative Movements, Health Centers, Ministry of Health
School of Social Work, Karabanda	Social Workers		CCDFPs and Nutrition Centers, Ministry of Social Affairs and Cooperative Movements
School of Social Work, Kansi	Social Workers		CCDFPs and Nutrition Centers, Ministry of Social Affairs and Cooperative Movements
Nutritional Training Institute, Ruhengeri	Monatrices	44	Nutrition Center

* Students from these training institutions assume places in the health care delivery system after they have graduated.

IX. CONCLUSIONS AND RECOMMENDATIONS

IX. CONCLUSIONS AND RECOMMENDATIONS

1. With assistance from the WHO, UNICEF, and the AID, Rwanda's MCH program is progressing well. The AID should continue to provide assistance, but support should be targeted to family planning, because that neglected component is essential to a comprehensive MCH program.
2. After due deliberation and study, the GOR created the ONAPO. From this, one could conclude that Rwanda is ready and able to initiate a national population and family planning program. A Project Paper, "MCH/FP in Rwanda," has been prepared. The program described in this paper is based on the recommendations of the APHA team and should be supported by the AID.
3. Approximately 40 Rwandans have been trained in family planning. Twelve clinics are providing services to some 2,000 clients, albeit "unofficially." The inadequate supply of contraceptives and insufficient medical equipment are severe constraints on the program. Without these items it is difficult to offer sufficient, routine family planning services. The AID should arrange for Pathfinder or FPIA to provide contraceptives and medical kits at once. The MCH/FP project should ensure that the supply of these products is constant.
4. Depo Provera is favored by both clients and doctors in Rwanda. Its use in the country is especially appropriate because women usually nurse their babies and travel long distances to overloaded clinics. The GOR is reluctant to use Depo Provera because questions about its safety have been raised. Much of the controversy stems from the failure of the U.S. Food and Drug Administration to approve the drug. The AID should provide to the ONAPO all the information available on Depo Provera. With this information the ONAPO can decide whether or not Depo Provera should be used in Rwanda. If the AID cannot provide the drug, it should encourage the IPPF or the UNFPA to do so.
5. Many institutions in Rwanda need but do not have sufficient information in the French language on population and family planning. The AID should provide abundant copies, in French, of the PIP's reports, Pathfinder's monographs, and Omian's and May's reports on the health benefits of family planning.
6. The GOR has not established a policy on family planning. Its approach to family planning problems is uncertain and conservative. Officials at the ONAPO, the MOH, and the MOS should visit family planning programs in Tunisia (French), the U.S., the Philippines (Catholic), and Indonesia (good coverage) to better understand what can be and is being done.

7. The ONAPO insists that FP services be provided only by health staff who have been trained in family planning. The team agrees that this is a good, conservative, approach to the first phase of the family planning program. Generous provisions for training are essential to the successful implementation of the project. The training programs at Johns Hopkins University and in Tunis are recommended to keep the content of training consistent and to take advantage of training in the French language.
8. The ONAPO needs the technical assistance of a public health physician trained in family planning and of a health educator with experience in the operation of programs. The UNFPA plans to provide the public health physician; the AID intends to provide the health educator.
9. The ONAPO should be an administrative and coordinating agency involved in planning, research, and evaluation. It should use other agencies to execute Rwanda's family planning program. For example, the MOH could deliver family planning as one MCH service, the MOS could inform people about the benefits, methods, and availability of family planning through its system of nutrition and community development centers, and Radio Rwanda could broadcast information. The Ministry of Education already administers the higher-level educational and health-training institutions. The ONAPO and the AID need to assist and maintain good relations with all the ministries.
10. Officials at AID/W, staff of the mission in Kigali, and the U.S. Ambassador to Rwanda should use their influence to encourage other donors to support Rwanda's MCH/FP program. Rwanda now receives from the WHO and UNICEF important technical and material assistance. The UNFPA plans to provide a public health physician, as well as assistance in demographic and statistical analysis. The IBRD will consider assistance to construct nutrition centers, health centers, and community development centers. The African Development Bank is expected to fund several health centers and to provide to the OPHAR much-needed technical and material assistance.
11. The AID should not assist the GOR in constructing additional hospitals. Construction should be limited to a training center for the ONAPO and health and nutrition centers.
12. AID-supplied medical kits and contraceptives should be under the administration of the ONAPO, but the items destined for the government sector should be received, stored, and distributed by the OPHAR. Supplies for the private (church) sector should be handled by BUFMAR.
13. Supervision is essential to a family planning program. More rural health and family planning programs fail for lack of adequate supervision (and supplies) than for any other reason. In Rwanda, a key to success would be the presence of a well-trained, dedicated,

full-time supervisor in each of the 10 prefectures. Each supervisor would need a functioning vehicle to supervise the 10 or 15 communal health centers in his or her area.

14. It is essential that a system be established for the collection, recording, and analysis of appropriate data on FP services.
15. The ONAPO should be the central organization for the evaluation of the FP program. It should coordinate all research on population.
16. A national survey on fertility should be taken in Rwanda during the Third Plan (1983-1984).
17. Given the number and complexity of factors that determine reproductive behavior in Rwanda, it is essential that the FP program be flexible, imaginative, and comprehensive in approach.
18. Care should be taken in the selection and training of the men and women who will provide FP information and services. These prospective health workers must be dedicated, tactful, and sensitive to the needs and fears of their clients.
19. Intensive anthropological field research should be conducted in at least three regions of the country to determine the range, strength, and interrelationship of the many factors in reproductive behavior and attitudes toward FP.

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APPENDICES

Appendix A
LIST OF CONTACTS

Appendix A
LIST OF CONTACTS

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Agathe Bendantarama, Ruhengeri Nutrition Training Center

Sister Janine Broquet, Maternity of Nyundo

Carlos Da Costa de Carvalho, Demographer, FNUAP

Catherine Chevallier, Sociologist

Jerome Chevallier, Representative, International Bank for
Reconstruction and Development

George Detre, Director of Studies, African and Mauritian Institute
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Alison des Forges, Department of History, State University of New York,
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Appendix B
LIST OF FACILITIES VISITED

Appendix B

LIST OF FACILITIES VISITED

Bureau de Formation Medicale Agree au Rwanda, Combined Churches Warehouse Center

Butare Hospital, Teaching Hospital of Medical School

Butare Medical School

Butare Social Workers School

Butare University Library

Dispensary and Maternity, Hospital, Rwankeri, Seventh Day Adventist

Dispensary and Maternity, Shyorongi

Gahini Hospital, Episcopal Mission

Gisenyi Prefectural Hospital, Gisenyi

Health Center, Kigufi

Hospital of Ruhengeri, Reference, Prefectural; French-Assisted Center for Nutrition Training, Ruhengeri

Imprimerie de Kabgayi, Kabgayi

Institute of Pedagogy

Kabarondo Health Center¹

Kibungo Nutrition Center, Catholic Relief Services

Kibungo Prefectural Hospital

Kigali Central Hospital

Kigararma Commune²

Kigoma Commune, Center for Cooperation and Development of Permanent Training (CCDFP) (Communal Center)

¹ Not operating at this time.

² No dispensary.

Kigoma Commune Dispensary¹

Maternity and Dispensary, Nyondo Mission

Mukarange Health Center

OPHAR, Ministry of Health, Central Pharmacy and Supply Department

Rwamagona Garage, UNICEF/AID²

Université Radiophonique, Gitarama

University Center for Public Health

University Center for Research on the Pharmacology of Traditional Medicines

¹ Staff absent.

² Ministry of Health vehicles.

Appendix C
LIST OF DOCUMENTS REVIEWED

Appendix C

LIST OF DOCUMENTS REVIEWED

Reading and Working Papers

Activities Report, The Scientific Consultative Council on Socio-Demographic Problems, June 1974-December 1979.

ADB Health Sector Pre-Investment Review, University Research Corporation, February 1981.

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Appendix D

FAMILY PLANNING RECORD FORM, BUTARE CLINIC

Appendix D

FAMILY PLANNING RECORD FORM, BUTARE CLINIC

Institut National de Santé
B.P.68 BUTARE

CLINIQUE DE CONTROLE DES NAISSANCES

1. Nom et prénom: _____
2. Commune: _____ Colline: _____ Umurenge: _____
3. Nom et occupation du mari: _____
4. INDICATION DU CONTROLE:
5. Age: _____ Parité: _____ Nombre d'enfants vivants: _____
Nombre d'enfants décédés: _____
Kwashiorkor: _____
6. Age du dernier enfant: _____
7. ANAMNESE GENERALE (antécédents pathologiques):

8. Anamnèse gynécologique:
Date des Ières règles: _____ Durée du cycle menstruel: _____
Durée des règles: dysménorrhée: ___ Date des dernières règles: _____
Troubles menstruels: _____

Autres: _____
9. Anamnèse obstétricale: _____ Parité: _____
Accouchements à domicile: _____ Maternité: _____
Suites des couches pathologiques: _____

10. EXAMEN CLINIQUE GENERAL:

Appareils: Respiratoire: _____

Circulatoire: _____

T.A. _____

Urinaire: _____

Nerveux: _____

Digestif: _____

Etat général: Poids: _____ Taille: _____

11. EXAMEN GYNECOLOGIQUE:

Vulve: _____

Vagin: _____

Col utérin: _____

Culs de sac: _____

Annexes: _____

12. Laboratoire: Frottis V. _____

Papanicolaou: _____

Divers: _____

13. Recommandations:

14. Visites subséquentes:

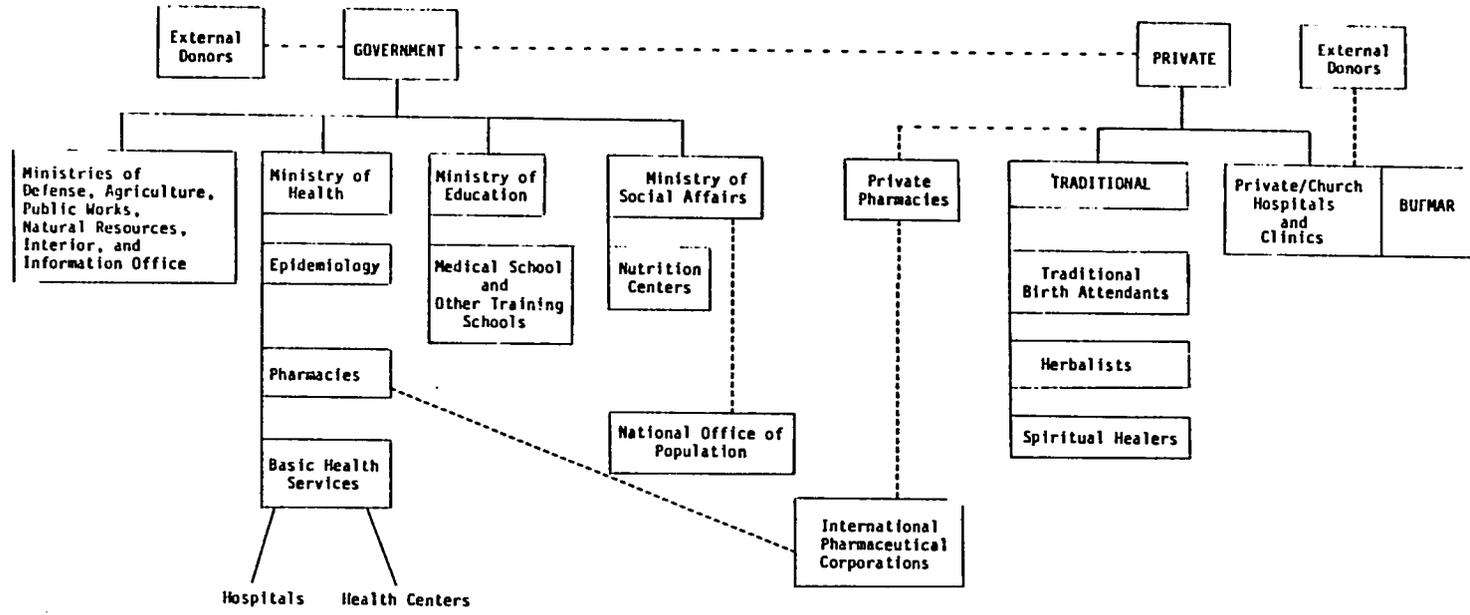
Dates: _____

Appendix E

ORGANIZATION OF HEALTH SERVICES IN RWANDA

ORGANIZATION OF HEALTH SERVICES IN RWANDA

Appendix E



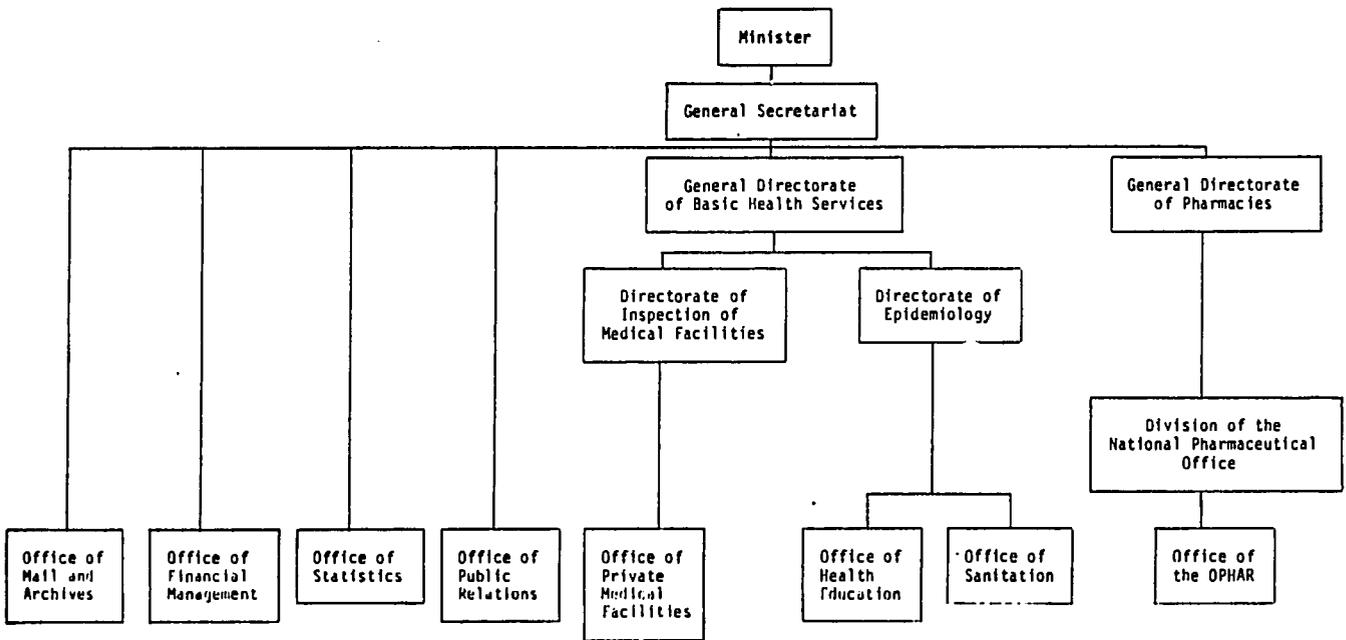
E-1

Appendix F

ORGANIZATION CHART OF THE MINISTRY OF PUBLIC HEALTH

Appendix F

ORGANIZATIONAL CHART OF THE MINISTRY OF PUBLIC HEALTH



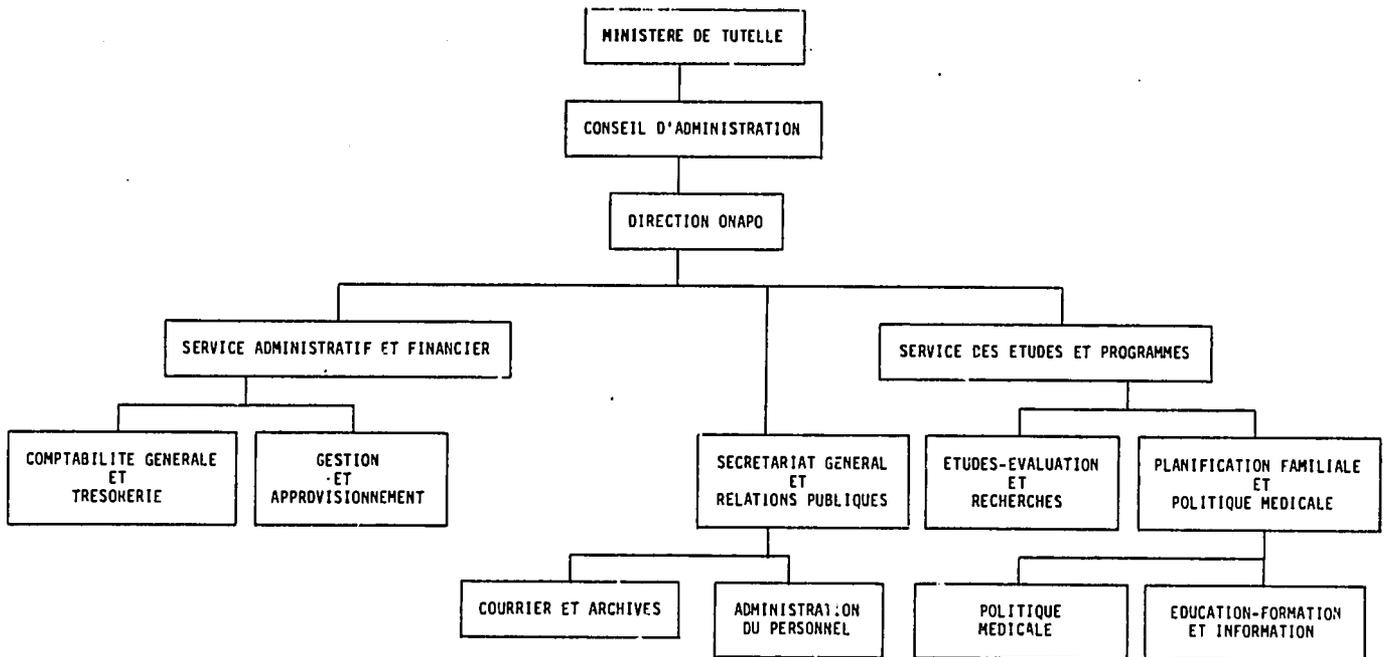
Source: Ministry of Health, Rwanda.

Appendix G

ORGANIZATION OF THE NATIONAL OFFICE OF POPULATION

Appendix G

ORGANIZATION OF THE NATIONAL OFFICE OF POPULATION



Appendix H

DISTRIBUTION OF HEALTH FACILITIES
AND HEALTH PERSONNEL IN RWANDA IN 1980

Régions Sanitaires	Equipements																				
	Hôpitaux	Dispensaires	Centres de Santé	Communes	Nbre de Lits	Médecins	Infirmier(e)s A1	Ass. Médicaux	Infirmières A2	Infirmières A3	Aides Acc.	Aides Infirmier(e)s	Vaccinateurs	Agents Sanitaires	Laborantins	Sociales	Travailleurs	Ets Sociaux	Laboratoires	Ecoles Médicales	Infirmiers
Kigali	2	36	16	17	1212	59	30	61	101	101	29	42	8	9	16	32	554	1	1	1	18
Gitarama	2	27	15	17	992	8	6	25	23	36	9	41	10	-	3	4	215	1		1	7
Butare	3	32	20	20	1066	32	20	48	44	66	36	36	10	1	14	32	572		1	4	19
Gikongoro	1	15	9	13	461	3	-	8	17	8	18	4	9	-	1	8	99				2
Cyangugu	3	15	5	11	577	9	4	16	15	28	10	26	6	-	6	3	147				5
Kibuye	3	15	8	9	501	10	7	10	15	42	9	28	5	2	7	3	164			2	5
Gisenyi	3	20	9	12	769	9	7	30	33	28	14	15	6	3	4	14	198	1			8
Ruhengeri	2	19	12	16	705	9	3	27	43	4	8	16	9	-	2	3	219		1		3
Byumba	2	24	3	17	398	9	6	18	12	15	9	14	9	2	1	6	114				8
Kibungo	4	16	6	11	796	16	3	21	15	18	15	17	7	6	1	10	177	1		1	0
ENSEMBLE	25	219	103	143	7477	164	85	264	318	346	157	239	79	23	55	115	2459	4	3	9	81

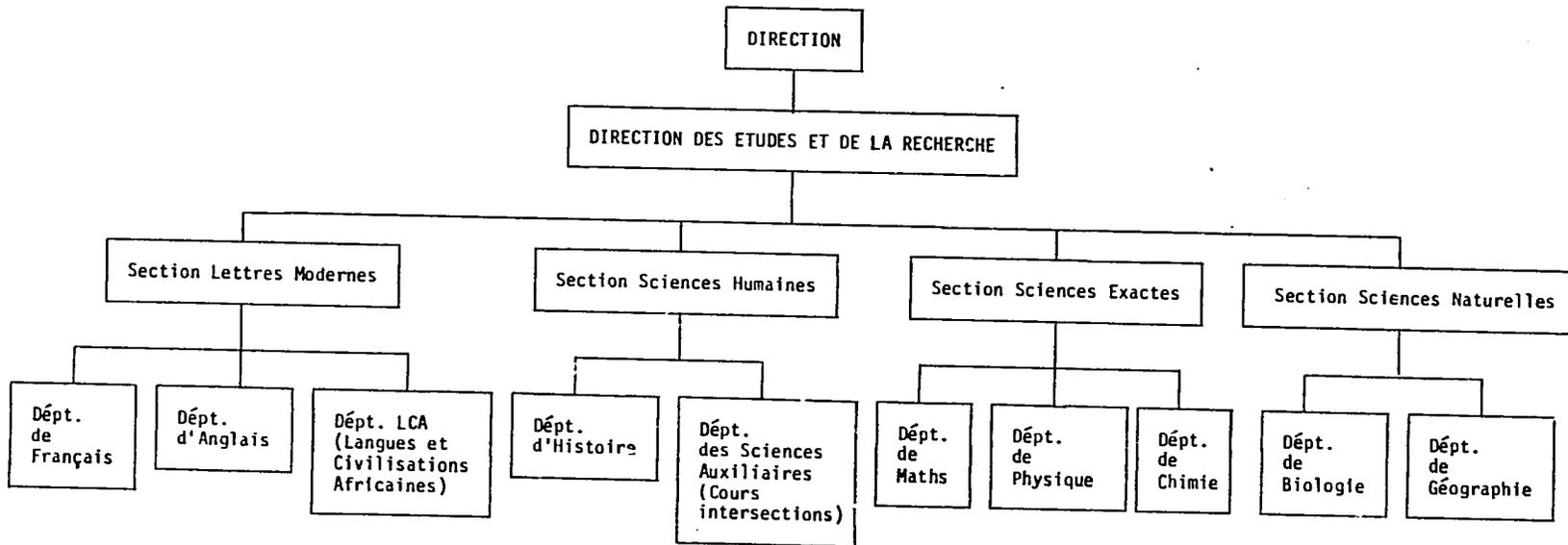
Budget de la Santé (dépensés) 1980 = 647.646.619 FRW.

Source: Bureau des Statistiques Sanitaires.

Appendix I
ORGANIZATION AND CURRICULUM
OF THE NATIONAL PEDAGOGIC INSTITUTE

République Rwandaise
Ministère de l'Enseignement Supérieur
et de la Recherche Scientifique
Institut Pédagogique National
B.P. 56 - BUTARE

ORGANIGRAMME DE L'INSTITUT

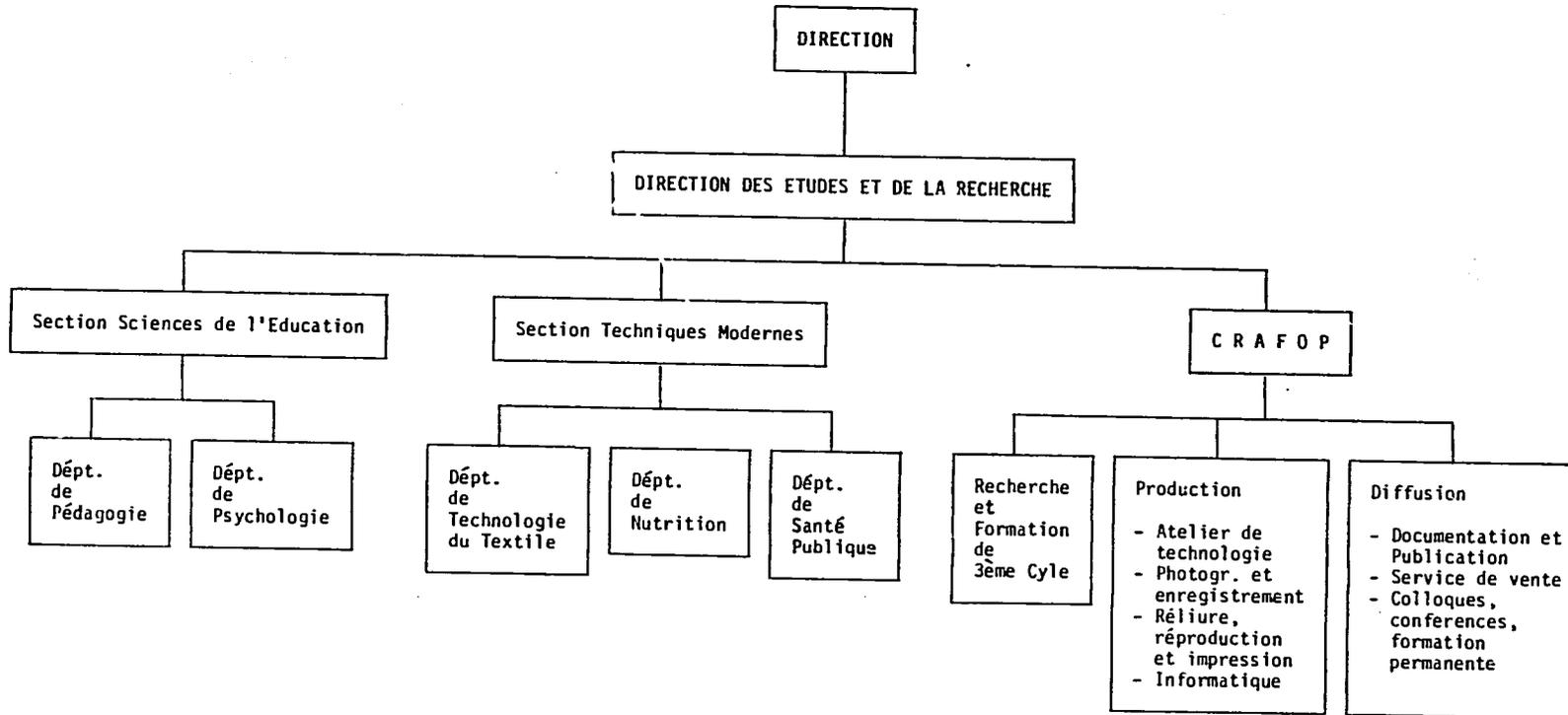


I-1

ORGANIZATION AND CURRICULUM
OF THE NATIONAL PEDAGOGIC INSTITUTE

Appendix I

ORGANIGRAMME DE L'INSTITUT (suite)



PROFIL DE SORTIE: SANTE PUBLIQUE
(1er Cycle d'Enseignement Supérieur)

1. Objectifs généraux

- Former des enseignants capables d'assurer les cours d'initiation à la Santé Publique aux établissements secondaires suivants: paramédical, social, normal technique, etc....
- Former les enseignants capables de participer au développement des centres de santé sur le plan éducationnel.

2. Objectifs comportementaux

- Planifier et mettre en oeuvre une formation de Médecine Préventive, à l'enseignement et au développement communautaire.

3. Objectifs opérationnels

- Participer, en matière de santé publique, à l'organisation des séances éducationnelles données aux élèves, aux centres de santé, en milieu rural et urbain.

PROPOSITION DES MODULES PRIORITAIRES

<u>Module 1</u>	<u>Module 2</u>	<u>Module 3</u>	<u>Module 4</u>	<u>Module 5</u>	<u>Module 6</u>	<u>Module 7</u>
<u>Hygiènes</u>	<u>Maladies transmissibles</u>	<u>Protection Maternelle et Infantile</u>	<u>Techniques Médicales</u>	<u>Administration</u>	<u>Cours de Soutien</u>	<u>Formation Pédagogique</u>
Hygiène Générale	Epidémiologie Générale	Santé de la Mère	Nursing	Statistiques	Nutrition	Methodologie Spéciale
Hygiène Scolaire et Universitaire	Epidémiologie Spéciale des Maladies Transmissibles	Santé de l'Enfant	Secourisme	Démographie Sanitaire	Diététique	Psychologie Générale
Hygiène du Travail	Microbiologie	Planning Familial		Organisation et Plannification des Services de Santé	Biochimie	Pédagogie Générale
Hygiène Alimentaire	Education pour la Santé				Biologie	Methodologie Générale
Hygiène Mentale	Toxicologie				Chimie Organique	Psychologie Génétique
					Sociologie	Législation Scolaire
						Déontologie Professionnelle
						Audiovisuel

Source: National Pedagogic Institute, July 10, 1981.

Ces cours sont choisis parmi ceux qui, au début de chaque année académique figurent sur une liste proposée par le Département de psychopédagogie. Cependant l'un des cours peut être choisi dans un autre domaine que la psychopédagogie, pourvu qu'il soit du niveau de 2ème cycle de l'enseignement supérieur.

Exemples: Psychologie dynamique, Histoire de la psychologie, Méthodologie approfondie de la recherche, Sociométrie, Organisation, Direction et inspection scolaire, la Psychologie de l'opinion, les Doctrines pédagogiques contemporaines, Etudes approfondies d'auteurs, Education et traitement des délinquants. Séminaire de recherche et méthodologie de la recherche.

6. TECHNIQUES MODERNES

6.1 OPTION COUPE-COUTURE ET ARTS MENAGERS

<u>TROISIEME ANNEE</u>	<u>H/SEM.</u>
Coupe III	1
Confection III	1
Technologie de la coupe II	2
Méthodologie de l'enseignement de la coupe-confection II	2
Arts ménagers II: broderie, tricot, crochet, cuisine	6
T.P. des textiles II: ressivage, repassage, raccommodage	2
Organisation ménagère	2
Méthodologie de l'enseignement des arts ménagers II	2
Etude des troubles nutritionnels	2
Hygiène scolaire et universitaire	2
Puériculture	2
Statistiques	2
Pédagogie générale	2
Législation scolaire et déontologie professionnelle	2
Pédagogie des techniques audio-visuels	2
	<u>30</u>

6.2 OPTION NUTRITION ET SANTE PUBLIQUE

<u>PREMIERE ANNEE</u>	<u>H/SEM.</u>
Physiologie de la nutrition	2
Etude des nutriments	3
Biochimie	
Hygiène du milieu	
Biologie générale	
Education pour la santé	
Introduction a la santé publique	
Epidémiologie générale	
Chimie minérale	

PREMIERE ANNEE (suite)H/SEM.

Manipulations médicales élémentaires I
 Hygiène scolaire et universitaire
 Puériculture
 Microbiologie générale
 Chimie organique
 Pédagogie générale
 Psychologie générale

DEUXIEME ANNEE

Toxicologie	2
Administration de la santé et statistiques sanitaires	2
T.P. de microbiologie	2
Equilibre des menus et cuisine	4
Hygiène du travail	2
Epidémiologie spéciale	2
Manipulations médicales élémentaires II	
Problèmes socio-sanitaires de la démographie	
Méthodologie de l'enseignement de la santé publique I	
Diététique	2
Méthodologie de l'enseignement de la nutrition I	2
Psychologie génétique	2
Evolution des meours alimentaires	
Santé familiale	1
Méthodologie générale	2

TROISIEME ANNEE

Diététique et diétothérapie
 Méthodologie de l'enseignement de la santé publique II
 Technologie des aliments
 Etude de la production des aliments
 Troubles nutritionnels
 Méthodologie de l'enseignement de la nutrition II
 Santé familiale
 Education de la sexualité
 Administration de la santé et statistiques sanitaires
 Législation scolaire et déontologie professionnelle
 Audiovisuel
 Pédagogie générale

Appendix J

FOUR-MONTH CURRICULUM OF MONATRICES
(Centre de Formation en Nutrition de Ruhengeri)

Appendix J

FOUR-MONTH CURRICULUM OF MONATRICES
(Centre de Formation en Nutrition de Ruhengeri)

1er Semaine: Semaine du 1 au 6 Juin 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Enregistrement de Stagiaires	Nutrition	Animation	Animation	Agri-Elevage	Travaux Pratiques d'Agri-Elevage
8 H 30 à 9 H 30		Technique du Centre	Technique du Centre	Méthodologie	Animation sur Colline	
9 H 30 à 12 H 00		Animation C.N.R. Atelier	Méthodologie C.N.R. Cuisine	Animation C.N.R. Atelier		
15 H à 16 H 00		Méthodologie	Nutrition	Nutrition	Agri-Elevage	
16 H à 17 H 00		Méthodologie	Nutrition	Technique du Centre	Réunion	

2^e Semaine: Semaine du 8 au 13 Juin 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30		Animation	Nutrition	Animation	Agri-Elevage	
8 H 30 à 9 H 30		Méthodologie	Technique du Centre	Méthodologie	Animation sur Colline	
9 H 30 à 12 H 30		Cuisine Méthodologie C.N.R.	Atelier Animation C.N.R.	Cuisine Méthodologie C.N.R.		
15 H à 16 H 00		Nutrition	Technique du Centre	Nutrition	Gestation et Comptabilité	Libre
16 H à 17 H 00			Technique du Centre	Nutrition	Réunion	

3^e Semaine: Semaine du 15 au 21 Juin 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Nutrition	Animation	Nutrition	Animation	Agri-Elevage	
8 H 30 à 9 H 30	Technique du Centre	Méthodologie	Nutrition	Animation		Travaux Pratiques d'Agri-Elevage
9 H 30 à 12 H 00	Cuisine C.N.R. Animation	Atelier C.N.R. Méthodologie	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation		
15 H à 16 H 00	Méthodologie	Technique du Centre	Agri-Elevage	Technique du Centre	Technique du Centre	
16 H à 17 H 00	Animation	Technique du Centre	Agri-Elevage	Gestion et Comptabilité	Réunion	

4^e Semaine: Semaine du 22 au 28 Juin 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Nutrition	Animation	Nutrition	Animation	Agri-Elevage	Travaux Pratiques d'Agri-Elevage
8 H 30 à 9 H 30	Nutrition	Animation	Nutrition	Technique du Centre	Animation sur Colline	
9 H 30 à 12 H	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation		
15 H à 16 H 00	Technique du Centre	Méthodologie	Agri-Elevage	Gestion et Comptabilité	Nutrition	Libre
16 H à 17 H 00	Technique du Centre	Méthodologie	Agri-Elevage	Gestion et Comptabilité	Réunion	

5^e Semaine: Semaine du 29 Juin au 5 Juillet 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Animation	Nutrition	C O N G E	Nutrition	Agri-Elevage	T r a v a u x P r a t i q u e s d' A g r i - E l e v a g e
8 H 30 à 9 H 30	Animation	Nutrition		Nutrition	Animation sur Colline	
9 H 30 à 12 H 00	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation		Cuisine C.N.R. Méthodologie	Animation sur Colline	
15 H à 16 H 00	Méthodologie	Technique du Centre		Technique du Centre	Gestion et Comptabilité	
16 H à 17 H 00	Méthodologie	Technique du Centre		Technique du Centre	Réunion	

6^e Semaine: Semaine du 6 au 12 Juillet 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à						
8 H 30	Nutrition	Animation	Nutrition	Animation	Agri-Elevage	
8 H 30 à						
9 H 30	Nutrition	Nutrition	Reproduction Humaine Nutrition	Technique du Centre	Animation sur Colline	Travaux pratiques d'Agri- Elevage
9 H 30 à						
12 H 00	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation		
14 H 00 à						
15 H 00		Reproduction	Reproduction	Reproduction	Reproduction	
15 H 00 à						
16 H 00	Animation	Méthodologie	Technique du Centre	Nutrition	Gestion et Comptabilité	Libre
16 H 00 à						
17 H 00	Animation	Méthodologie	Technique du Centre	Nutrition	Réunion	

7^e Semaine: Semaine du 13 au 19 Juillet 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Nutrition	Animation	Nutrition	Nutrition	Agri-Elevage	
8 H 30 à 9 H 30	Reproduction Humaine	Animation	Reproduction Technique du Centre	Hygiene Nutrition		
9 H 30 à 12 H 00	Atelier Animation C.N.R.	Cuisine Méthodologie C.N.R.	Atelier Animation C.N.R.	Cuisine Méthodologie C.N.R.	Animation sur Colline	Travaux Pratiques d'Agri-Elevage
15 H 00 à 16 H 00	Nutrition Méthodologie	Nutrition	Plan Administration	Gestion et Comptabilité		
16 H 00 à 17 H 00	Méthodologie	Nutrition	Plan Administration	Gestion et Comptabilité		

8^e Semaine: Semaine du 20 au 26 Juillet 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Nutrition	Nutrition Reproduction Humaine	Nutrition	Nutrition	Animation sur Colline	Travaux Pratiques d'Agri-Elevage
8 H 30 à 9 H 30	Nutrition	Reproduction Humaine	Nutrition	Santé et Hygiène		
9 H 30 à 12 H 00	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie		
15 H à 16 H 00	Planification Administration	Technique du Centre	Méthodologie	Méthodologie	Agri-Elevage	Libre
16 H 00 à 17 H 00	Planification Administration	Gestion et Comptabilité	Méthodologie	Nutrition	Réunion	

9^e Semaine: Semaine du 27 Juillet au 2 Août 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>	
7 H 30 à 8 H 30	Nutrition	Nutrition Reproduction Humaine	Nutrition Santé et Hygiène	Nutrition	Agri-Elevage	Travaux Pratiques d'Agri-Elevage	
8 H 30 à 9 H 30	Reproduction	Reproduction Humaine	Santé et Hygiène	Hygiène Nutrition	Animation sur Colline		
9 H 30 à 12 H 00	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie				
15 H à 16 H 00	Puériculture	Méthodologie	Planification Administration	Gestion et Comptabilité	Gestion et Comptabilité		Libre
16 H 00 à 17 H 00	Puériculture	Méthodologie	Planification Administration	Planification Administration	Réunion		

10^e Semaine: Semaine du 3 au 9 Août 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Nutrition	Nutrition Reproduction Humaine	Technique du Centre	Nutrition	Agri-Elevage	Travaux Pratiques d'Agri-Elevage
8 H 30 à 9 H 30	Hygiène Nutrition	Hygiène Reproduction Humaine	Santé et Hygiène	Hygiène Nutrition	Animation sur Colline	
9 H 30 à 12 H 00	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie		
14 H 00 à 15 H 00	Hygiène	Hygiène	Hygiène			
15 H 00 à 16 H 00	Planification Administration	Planification Administration	Méthodologie	Planification Administration	Gestion et Comptabilité	
16 H 00 à 17 H 00	Planification Administration	Planification Administration	Planification Administration	Planification Administration	Gestion et Comptabilité	

11^e Semaine: Semaine du 10 au 16 Août 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Nutrition	Nutrition Reproduction Humaine	Technique du Centre Santé et Hygiène	Nutrition	Agri-Elevage	Travaux Pratiques d'Agri-Elevage
8 H 30 à 9 H 30	Nutrition	Nutrition Reproduction Humaine	Technique du Centre Santé et Hygiène	Nutrition	Animation sur Colline	
9 H 30 à 12 H 00	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation	Cuisine C.N.R. Atelier		
15 H 00 à 16 H 00	Planification Administration	Planification Administration	Planification Administration	Planification Administration	Gestion et Comptabilité	
16 H 00 à 17 H 00	Planification Administration	Planification Administration	Planification Administration	Planification Administration	Puériculture	

12^e Semaine: Semaine du 17 au 23 Août 1961

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Planification Administration	Animation	Nutrition Santé et Hygiène	Nutrition	Agri-Elevage	Travaux Pratiques d'Agri-Elevage
8 H 30 à 9 H 30	Nutrition	Reproduction Humaine	Nutrition Santé et Hygiène	Planification	Animation sur Colline	
9 H 30 à 12 H 00	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie		
15 H 00 à 16 H 00	Nutrition	Planification Administration	Nutrition	Puériculture		
16 H 00 à 17 H 00	Déontologie	Planification Administration	Planification Administration	Nutrition	Puériculture	

13^e Semaine: Semaine du 24 au 30 Août 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Nutrition	Nutrition	Agri-Elevage	Nutrition	Agri-Elevage	Travaux Pratiques d'Agri-Elevage
8 H 30 à 9 H 30	Planification Administration	Nutrition	Déontologie	Déontologie	Animation sur Colline	
9 H 30 à 12 H 00	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie		
15 H 00 à 16 H 00	Nutrition	Puériculture	Nutrition	Education Civique	Puériculture	
16 H 00 à 17 H 00	Nutrition	Puériculture	Nutrition	Education Civique	Puériculture	

14^e Semaine: Semaine du 31 Août au 6 Septembre 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Nutrition	Nutrition	Agri-Elevage	Nutrition	Agri-Elevage	Travaux Pratiques d'Agri-Elevage
8 H 30 à 9 H 30	Déontologie	Nutrition	Déontologie	Déontologie	Animation sur Colline	
9 H 30 à 12 H 00	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie	Atelier C.N.R. Animation	Cuisine C.N.R. Méthodologie		
15 H 00 à 16 H 00	Nutrition	Déontologie	Nutrition	Education Civique	Déontologie	
16 H 00 à 17 H 00	Nutrition	Puériculture		Nutrition	Education Civique	

15^e Semaine: Semaine du 7 au 13 Septembre 1981

<u>Heure</u>	<u>Lundi</u>	<u>Mardi</u>	<u>Mercredi</u>	<u>Jeudi</u>	<u>Vendredi</u>	<u>Samedi</u>
7 H 30 à 8 H 30	Nutrition	Nutrition	Agri-Elevage	-		
8 H 30 à 9 H 30	Nutrition	Nutrition	-	-	Animation sur Colline	
9 H 30 à 12 H 00	Atelier	Cuisine	Atelier	Cuisine		Travaux Pratiques d'Agri-Elevage
15 H 00 à 16 H 00	Nutrition	-	-	Education Civique	-	Libre
16 H 00 à 17 H 00	Nutrition	-	-	Education Civique	Réunion	

Appendix K

EXAMPLES OF CHARTS FOR HEALTH SURVEILLANCE

Appendix L

EXAMPLE OF THE ESTIMATION OF NEW ACCEPTORS

Appendix L

EXAMPLE OF THE ESTIMATION OF NEW ACCEPTORS

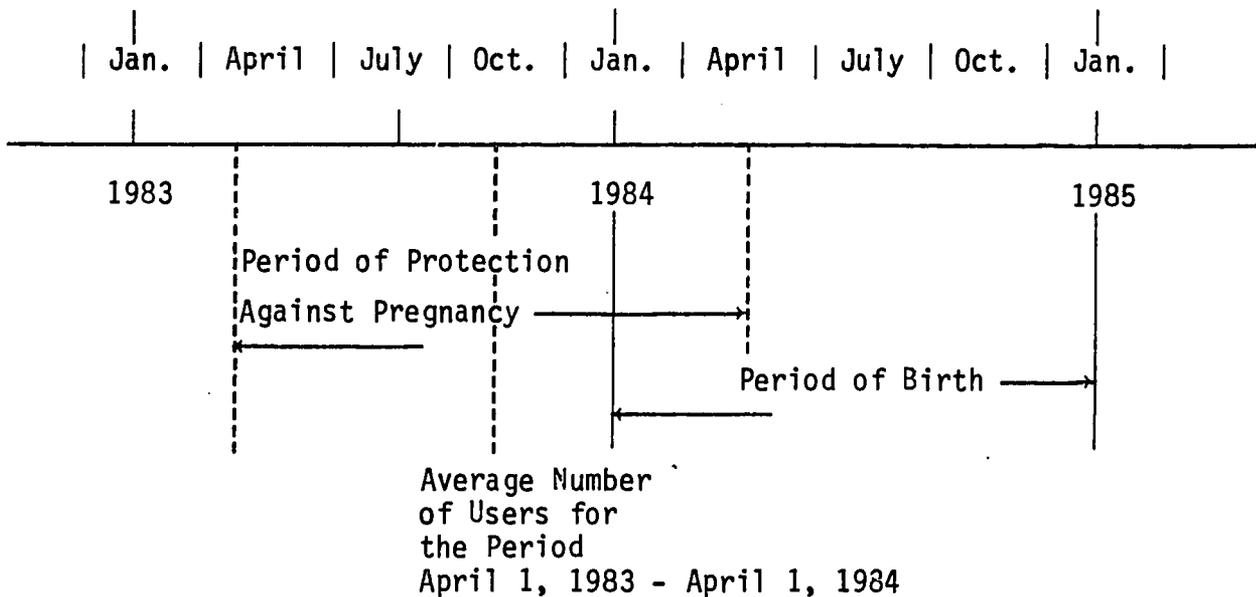


Figure: Period of Birth Control and Period of Birth

From the number of births to be averted in 1985, the number of women to be protected (15-49) has been computed by applying a marital fertility rate of 250/1,000:

$$8,633 \times 250/1,000 = 34,532.$$

The number of users, as of October 1, 1984, is estimated by applying the appropriate retention rates to the annual number of acceptors in the previous years (1982-1983) and, for 1984, to the number of acceptors from January 1 to October 1, that is, the first nine months of 1984. In the method of estimation, the annual numbers of acceptors are represented as being of July 1 in that year, except for 1982, when the representation is of May 15.

Thus, the number of acceptors of earlier years, which would be Model B for the pill, would be:

L-2

1982 : 2,301

1983 : 4,762.

It is possible to compute the number of pill users still using on October 1, 1984, by applying the retention rates:

$$2,301 \times 20.4\% = 469$$

$$4,762 \times 36.2\% = 1,724.$$

Knowing that 6,388 women should be using the pill on October 1, 1984, it is possible to estimate how many users will have accepted the pill in 1984 up to October 1:

$$6,388 - (469 + 1,724) = 4,195.$$

By directing that number of users by the appropriate retention rate, it is possible to calculate the number of acceptors in the first nine months of 1984, which is:

$$4,195 / 60.8\% = 6,900,$$

and to get the annual number of acceptors in 1984 by multiplying by 4/3:

$$\frac{6,900}{3} \times 4 = 9,200.$$

Appendix M

CONSULTANCY IN DEMOGRAPHY AND DATA PROCESSING

Appendix M

CONSULTANCY IN DEMOGRAPHY AND DATA PROCESSING

1983-1984

- 2 years for a demographer for the fertility survey from beginning of 1983.

1984

- 1 year for data processing specialist for fertility survey.
- 6 months for a demographer to give assistance for follow-up survey to estimate retention rates for evaluation of impact of the program on fertility and for the definition of objectives for the Fourth Plan.

RECRUITMENT

1981

- 1 demographer for ONAPO (from Louvain).
- 1 adjoint-statistique for ONAPO (level of ITS from IAMSEA).

Between 1981-1983

- 10 délégués régionaux.

1982

- 1 statistician (level "licence es sciences économiques").

1984

- 1 demographer from IFCRD.

Appendix N
TRAINING

Appendix N

TRAINING

1981

- For 1 demographer from ONAPO in Tunis before the end of 1981 (1 month).

1982

- For 1 statistician from ONAPO in Tunis, mid-1982 (3 weeks).

Between 1981-1983

- "Agents Statistiques"
 - A. 3 in 1981 (2 weeks in Kigali)
 - B. 7 in 1982 (ONAPO)
 - C. As it is needed: 2 weeks every 3 months in Kigali (ONAPO)
 - D. Refresher course: (once a year - 3 days).
- "Délégues Régionaux"
 - A. Training in Yaoundé or Dakar for 1 year for 10 persons between 1981-1983.
 - B. Practical training in Kigali (ONAPO)
 - 3 in 1982 (2 weeks)
 - 7 in 1983 (2 weeks)

1982-1984

- 1 demographer to be trained at IFORD (Yaoundé) during 2 years.

Appendix 0

PROPOSAL FOR A COURSE IN FP STATISTICS

Appendix 0

PROPOSAL FOR A COURSE IN FP STATISTICS

The objective of the course will be to train the personnel responsible for keeping records of the FP activities in the FP centers.

Duration: 2 weeks

Location: ONAPO (Kigali)

Contents:

The course will be conducted in two phases, each lasting one week.

First Week: General Initiation to Demography

- The demographic policy of Rwanda.
- The relationship between the growth of the population and socioeconomic development.
- The family planning program, its activities and objectives.
- ONAPO.
- The purpose of collecting FP statistics.

Second Week: Organization of a FP Center: the Statistics

- The documents to be used and how to use them.
- Tests on how to fill the documents.
- How to keep a file and how to write reports.
- Relationship between the FP center and the statistical service at ONAPO.

Appendix P

SELECTED DEMOGRAPHIC INDICATORS FOR RWANDA

Appendix P

SELECTED DEMOGRAPHIC INDICATORS FOR RWANDA

	<u>1970¹</u>	<u>1978²</u>
Total Population	3,379,800	4,819,317
Density (inhabitants/km ²)	140	180
Age Composition		
0 - 14		45.7%
15 - 59		49.5%
60 +		4.8%
Crude Birth Rate	51.0%	51.0 - 54.0%
Crude Death Rate	22.0%	21.0%
Annual Growth Rate	2.9%	3.0 - 3.3%
General Fertility Rate	208.0%	237.0%
Total Fertility	7.6	8.6
Cumulated Fertility	6.6	7.4
Age at First Marriage		
Men	22.6	24.4
Women	20.1	22.1
Infant Mortality Rate	127.0%	137.0 - 157.0%
Life Expectancy at Birth		
Men	38	41.3
Women	42	47.2
Total	39	45
Percent Illiterate		
Men	67.2	86.0
Women	49.0	72.4
Total	77.0	61.4

¹ Demographic Survey, 1970

² Census 15-16, August 1978.

Appendix Q
LIST OF ESSENTIAL MEDICINES

Appendix Q

LIST OF ESSENTIAL MEDICINES

REPUBLIQUE RWANDAISE
 MINISTERE DE LA SANTE PUBLIQUE
 DIRECTION GENERALE DES PHARMACIES
B.P.640 KIGALI

LISTE DES MEDICAMENTS ESSENTIELS DONT L'USAGE
 EST PERMIS SUR LE TERRITOIRE RWANDAIS

<u>PRODUITS</u>	<u>PRODUITS</u>
1.0 <u>EXCITANTS NERVEUX</u>	4.0 <u>ANALGESIQUES NARCOTIQUES</u>
1.1 Amitryptiline	4.1 Morphine
1.2 Caféine	4.2 Péthidine
1.3 Lobéline	4.3 Spasalgine
2.0 <u>DEPRIMANTS NERVEUX</u>	5.0 <u>ANALGESIQUES NON-NARCOTIQUES, ANTIPYRETIQUES, ANTI-INFLAMMATOIRES</u>
2.1 Bromazepam (lexotan)	5.1 Acide acétylsalicylique
2.2 Chlorpromazine (largactil)	5.2 Allopurinol
2.3 Clopentixol (sordinol)	5.3 Butylscopolamine (buscopan)
2.4 Clomipramine (anafranil)	5.4 Colchicine
2.5 Diazepam	5.5 Ibuprofène
2.6 Etybenzatropine	5.6 Indométacine
2.7 Halopéridol (haldol)	5.7 Paracétamol
2.8 Levomépromazine (nozinan)	5.8 Phenylbutazone (butazolidine)
2.9 Orphénadrine (disipal)	6.0 <u>SYMPATICOMIMETIQUES</u>
2.10 Perphénazine (trilafor)	6.1 Adrénaline
2.11 Phenobarbital	6.2 Ephédrine
2.12 Propériciazine (neuleptil)	6.3 Isoprénaline
2.13 Trifluoropropéridol	6.4 Salbutamol
3.0 <u>ANESTHESIQUES ET CURARISANTS</u>	7.0 <u>SYMPATICOLYTIQUE</u>
3.1 Ether éthylique (pour narcose)	7.1 Néostigmine métilsulfate
3.2 Lignocaïne hyperbare	
3.3 Thiopenthal sodique	
3.4 Bupivacaïne (A épidur)	
3.5 Lignocaïne + - 20 ml 2% (A.L.)	
3.6 Lidocaïne + Adrénaline	
3.7 Suxaméthonium (flaxédyl)	
3.8 Tubocurarine amp	

8.0	<u>VITAMINES + OLIGO-ELEMENTS</u>	12.3	Sulfanilamide poudre
8.1	Chlorure de Potassium	12.4	Sulfadimidine
8.2	Gluconate de calcium	12.5	Sulfaméthoxazole triméthoprim (bactrim)
8.3	Huile de foie de morue	12.6	Sulfaguanidine
8.4	Levure de bière		
8.5	Lugol (litre)	13.0	<u>SULFONE, ANTIMALARIEN, ANTISCHISTOMIASE</u>
8.6	Multivitamines + Minéraux		
8.7	Vitamine A	13.1	Dapsone (DDS)
8.8	Vitamine B1 (Thiamine)	13.2	Diéthylcarbamazine
8.9	Vitamine B6	13.3	Niridazole (ambilhar)
8.10	Vitamine C (acide ascorbique)		
9.0	<u>HORMONES</u>	14.0	<u>ANTIBIOTIQUES, ANTITUBERCULEUX, ANTIMITOTIQUES</u>
9.1	Levothyroxine		
9.2	Propylthiouracile	14.1	Ampicilline
9.3	Insuline rapide	14.2	Chloramphénicol
9.4	Insuline retard	14.3	Benzantine (pénicilline) (Extencilline)
9.5	Dexamithasone	14.4	Doxycycline (vibramycine)
9.6	Hydrocortizone	14.5	Erythromycine
9.7	Prednisolone	14.6	Gentamicine
9.8	Ester de testostérone	14.7	Kanamycine
9.9	Oxytocine	14.8	Pénicilline G Cristalline
10.0	<u>REGENERATEURS ET SUBSTITUANTS DU SANG</u>	14.9	Pénicilline procaïne
10.1	Acide folique	14.10	Tétracycline
10.2	Cynocobalamine (vitamine B12)	14.11	Etambutol
10.3	Dextran-fer	14.12	Ethionamide
10.4	Dextran 40 (succédané du plasma)	14.13	Isoniazide (INH)
10.5	Sulfate de fer	14.14	PAS
11.0	<u>COAGULANT ET ANTICOAGULANT</u>	14.15	Rifampicine
11.1	Phytomenadione (vitamine K2)	14.16	Streptomycine
11.2	Sulfate de protamine	14.17	Thiocétazone (TB1)
11.3	Héparine	14.18	Cyclophosphamide (endoxan)
11.4	Warfarine	14.19	Fluorouracil
12.0	<u>SULFAMIDES</u>	15.0	<u>MYCOSTATIQUES</u>
12.1	Sulfacombinaison (trisulfa)	15.1	Amptotéricine
12.2	Sulfaméthoxypridazine (Sultirène)	15.2	Griséofulvine
		15.3	Nystatine
		15.4	Violet de gentiane pdre

16.0	<u>CARDIOTONIQUES + REGULATEURS DU RYTHME CARDIAQUE</u>	24.0	<u>FOIE-CHOLERETIQUES</u>
16.1	Digoxine	24.1	Pilule antibilieuse (extrait voix vomique, aloés, extrait belladone, extrait Boldo)
16.2	Nitroglycérine (trinitrine-antiangineux)	25.0	<u>INTESTIN GRELE-CONSTIPANTS- LAXATIFS</u>
16.3	Procaïnamide (anti arythmie)	25.1	Charbon de bois (poudre)
16.4	Dopamine (antichoc)	25.2	Codéine phosphate
17.0	<u>HYPOTENSEURS</u>	25.3	Poudre réhydratante (Na, Cl, Na H CO ₃ , K cl, Glucose) sachet
17.1	Propranolol	25.4	Aloés
17.2	Résérpine	25.5	Huile de ricin (litre)
18.0	<u>UTEROTONIQUES</u>	25.6	Paraffine liquide (litre)
18.1	Ergométrine maléate	25.7	Senné
18.2	Ergotamine tartrate (gynergen)	25.8	Sulfate de magnésie (sel anglais)
19.0	<u>SPASMOLYTIQUES</u>	25.9	Antihémoroïde: anesthésique local + Astringent + anti- inflammatoire (préparation locale)
19.1	Metochlorpramide (plasil)	26.0	<u>VERMIFUGES ET VERMICIDES</u>
19.2	Aminophylline	26.1	Béphénium granules
20.0	<u>ANTIISTAMINIQUES</u>	26.2	Déhydroémetine
10.1	Prométhazine	26.3	Mébonazole (vermox)
20.2	Chlorphénamine	26.4	Metronidazole
21.0	<u>EXPECTORANTS-MATIERES DE BASE</u>	26.5	Niclosamide
21.1	Codéine phosphate (poudre)	26.6	Pipérazine
21.2	Essence d'eucalyptus	26.7	Tiabendazole
21.3	Teinture d'eucalyptus	27.0	<u>DIURETIQUES</u>
22.0	<u>HYPOCRINIENS - MATIERES DE BASE</u>	27.1	Chlortalidone (hygroton)
22.1	Benzoate sodique poudre	27.2	Furosémide (lasix)
22.2	Chlorure d'ammonium poudre	27.3	Hydrochlorothiazide (esidrex)
22.3	Extrait de belladone	27.4	Mannitol
22.4	Hydrate de terpine	28.0	<u>ANTIMALARIENS ET TRYPANOCIDES</u>
22.5	Iodure de potassium poudre	28.1	Chloroquine
23.0	<u>ESTOMAC</u>	28.2	Fansidar
23.1	Atropine sulfate	28.3	Primaquine
23.2	Belladone phénobarbital	28.4	Quinimax
23.3	Belladone teinture	28.5	Pentamidine
23.4	Hydroxyde d'aluminium	28.6	Quinine
23.5	Poudre gastrique (Bicarbonate de Na Nitrate de Bi, Extrait de belladone)		

29.0	<u>ORL - OPHTALMO</u>	31.4	Chloramine poudre
29.1	Argyrol (gouttes nasales)	32.5	Hypochlorite de sodium (eau de javel)
29.2	Acétazolamide (diamox) pour glaucome	31.6	Mercurochrome
29.3	Atropine sulfate gttes sol	31.7	Nitrate d'argent (crayon)
29.4	Nitrate d'argent sol	31.8	Paraformaldehyde (formol)
29.5	Oxytétracycline- hydrocortisone gtte	31.9	Permanganate de potassium
29.6	Oxytétracycline- hydrocortisone (Auréomycine) pommade	31.10	Sapophénium (créoline)
29.7	Pilocarpine (myotique)	31.11	Teinture d'iode
29.8	Tétracaïne sol	32.0	<u>SOLUTES BUVABLES ET INJECTABLES PRODUITS DE BASE</u>
30.0	<u>DERMATO-RHUMATOLOGIE + CORPS GRAS MATIERES DE BASES</u>	32.1	Acétate de sodium
30.1	Acétate d'aluminum sol	32.2	Bicarbonate de sodium
30.2	Acide benzoïque poudre	32.3	Chlorure de potassium
30.3	Acide salicylique (poudre)	32.4	Chlorure de sodium
30.4	Baume de Pérou	32.5	Glucose poudre
30.5	Benzoate de benzyl (poudre)	32.6	Eau injectable
30.6	Bethamétasone tube	33.0	<u>SERUMS, VACCINS</u>
30.7	Camphre (cristal)	33.1	Antitoxine tétanique
30.8	Hydrocortisone poudre)	33.2	Antitoxine diphtérique
30.9	Ichthol (fluide)	33.3	Immunoglobuline anti D
30.10	Iode (cristal)	33.4	Immunoglobuline normale
30.11	K Br (cristal)	33.5	Sérum antirabique hyperimmun
30.12	Mentol (cristal)	33.6	Sérum pour groupe sanguin (anti A, B, O, RH)
30.13	Miconazole crème	33.7	Vaccin BCG
30.14	Néomycine bacitracine onguents	33.8	Vaccin anti-amaril
30.15	Nitrate d'argent (cristal)	33.9	Vaccin anti diphtérique, antitétanique et anticoquelu- cheux (DiTePar)
30.16	Ocyde de zinc poudre	33.10	Vaccin antipoliomyélitique
30.17	Phénylsalicylate poudre	33.11	Vaccin antirabique
30.18	Térébenthine (fluide)	33.12	Vaccin antirougeoleux
30.19	Thymol (cristal)	33.13	Vaccin antitétanique
30.20	Beurre de Cacao	33.14	Vaccin antityphoïdique
30.21	Glycérine liquide	34.0	<u>PRODUITS POUR DIAGNOSTIC (LABO)</u>
30.22	Onguent simple	34.1	Acéton
30.23	Vaseline blanche	34.2	Acid acétique
31.0	<u>ANTISEPTIQUES EXTERNES + DESINFECTANTS</u>	34.3	Acide chloridrique
31.1	Alcool dénaturé à l'ether	34.4	Acide citrique
31.2	Bleu de méthylène	34.5	Acide ortho-phosphorique, 85%
31.3	Cétrimide + Chlorhexidine (Cétavlon)	34.6	Acide picrique très pur
		34.7	Acide sulfurique, 95-98%
		34.8	Alcool à brûler

34.9	Aldéhyde formique, 35%	34.30	Violet de gentiane phéniqué solution selon gram pour microscope
34.10	Anhydride acétique	34.31	Violet de gentiane
34.11	Bleu de méthylène	34.32	Xylène p.a.
34.12	Chlorure de sodium		
34.13	Citrate de sodium		
34.14	Ethanol, 95%		
34.15	Fuchsine phénique en solution selon Ziehl-Neelsen	35.0	<u>RADIO</u>
34.16	Fuchisine de gram	35.1	Films (dim 36 X 43 cm)
34.17	Glycérol bidistillé		Films (dim 35 X 35 cm)
34.18	Huile de cèdre		Films (dim 30 X 40 cm)
34.19	Hydroxyde de soude		Films (dim 24 X 30 cm)
34.20	Iodure bisubliné		Films (dim 18 X 24 cm)
34.21	Lugol	35.2	Acide iopanoïde
34.22	Mélange sulfochromique	35.3	Amidotrizoate de méglumine (urographine)
34.26	Réactif d'Esbach	35.4	Amidotrizoate de sodium
34.27	Solution de Fontana (Nitrate d'argent)	35.5	Sulfate de baryum
34.28	Solution de Giemsa	35.6	Fixateur
34.29	Violet cristallisé indicateur pour microscope	35.7	Révérateur

Appendix R

THE CHURCH IN RWANDA: SOME FACTS AND FIGURES

MEMBERSHIP

Baptized adult church members, June 30, 1979	3,201,592
Organized churches	20,446
Sabbath school members	3,817,459
Sabbath schools	38,220
Ordained ministers, active	8,976
Full-time salaried workers	80,074

EDUCATIONAL PROGRAM

Total denominational schools	4,601
Current value: educational institutions, 1977	\$463,234,139
Total enrollment	482,397
Schools above elementary level	715
Academies (high schools) in North America	86
Colleges in North America	10
Universities	6
Schools of nursing in North America	16
International correspondence school	1

MISSION WORK

Nations in which church had organized work	190
Languages in which church works	567
Publishing houses	50
Languages in which church publishes	183
New missionaries sent overseas last year	366
foreign missions	\$57,617,757

(total world nations defined by United Nations: 218)

BROADCAST OUTREACH

Stations airing Adventist programs weekly	3,425
Bible correspondence schools	130

GOOD-NEIGHBOR PROGRAM

Persons helped	9,428,614
Number of articles of clothing given	14,746,664
Hours of work contributed by laymen	13,026,656
Cash and value of goods given to needy	\$36,106,119

CONTRIBUTIONS

Total church offerings	\$516,629,624
Tithe (one-tenth of personal income)	\$313,334,263
Total offerings in North America	\$358,791,388

MEDICAL MINISTRY

Hospitals and sanitariums	142
Dispensaries and clinics	251
Physicians, dentists, residents, interns	1,686
Investment in medical facilities, 1977	\$703,119,537
Patients treated	5,688,873

Note: Latest available figures: 1978, unless otherwise indicated. Figures are for world unless otherwise indicated