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PROPOSED USAID/YEMEN POPULATION STRATEGY STATEMENT

by

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Glossary

3FYP	Third Five-Year Plan
ACCS	Accelerated Cooperation for Child Survival (USAID project)
A.I.D.	Agency for International Development
ANE	Asia Near East Bureau
AVSC	Association for Voluntary Surgical Contraception
CPO	Central Planning Organization
CYP	Couple years of protection
DHS	Demographic and Health Survey
EPI	Expanded programme of immunization
FC	Family care
HMI	Health Manpower Institute
IEC	Information, education and communication
IPPF	International Planned Parenthood Federation
IRD	Institute for Resource Development
IUD	Intrauterine device
JHPIEGO	Johns Hopkins Program for International Education in Gynecology and Obstetrics
KAP	Knowledge, attitudes and practices
LAS	League of Arab States
LCCD	Local Council for Cooperative Development
LDC	Less developed country
MCH	Maternal and child health
MOE	Ministry of Education
MOH	Ministry of Health
NGO	Non-governmental organization
Ob/Gyn	Obstetrics/gynecology

ORS	Oral rehydration salts
ORT	Oral rehydration therapy
PHC	Primary health care
PHCU	Primary health care units
PHCW	Primary health care worker
PSRC	Population Studies and Research Center (in the CPO)
PVO	Private voluntary organization
SCD	Supreme Council on Drugs
TBA	Traditional birth attendant
TFR	Total fertility rate
UNCTAD	International Trade Centre (United Nations)
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Educational Fund
USAID	U.S. Agency for International Development (mission)
WHO	World Health Organization
WID	Women in development
YAR	Yemen Arab Republic
YARG	Yemen Arab Republic Government
YEDCO	Yemen Drug Company
YFCA	Yemen Family Care Association
YRC	Yemen Red Crescent
YWA	Yemen Women's Association

Preface and Acknowledgments

This report grew out of a request by the Government of the Yemen Arab Republic (YARG) to the United States Agency for International Development mission (USAID) in Yemen for a bilateral assistance program in the area of population. Assistance was requested to help strengthen the YARG's capacity for analysis and population planning and its maternal and child health/family planning services. In October 1989, USAID/Yemen and the government's Central Planning Organization (CPO) agreed that USAID should arrange for a study that would propose a strategy to guide USAID's assistance. The strategy would cover the years 1990-1995. The USAID mission has made provision in its financial planning for a 10-year bilateral population project that would begin in 1991.

The study, which is contained in the following pages, was carried out by a three-person team in February and March 1990 in close collaboration with CPO. It took place at a moment when the YARG was itself taking important steps toward developing its own population strategy. The opportunity to interact with the CPO was very helpful in preparing this report (see Appendix A for details on the assignment).

Special thanks are due to the Director General of Planning and Statistics, Mr. Yahia Al Qaizal, as well as to staff members of the CPO who travelled with the team to Dharmar, Taiz, and Hodeidah and accompanied it on most of its meetings with various ministries, Messrs Abdul Jalil and Ibrahim Sheraf Ul-ddin.

The team was admirably guided by the USAID mission. Special thanks are due to the advice and counsel of Mission Director Ken Sherper, Health, Nutrition and Population Officer John Wiles, Population Program Specialist Raga Alhubaishi, Health Program Specialist Hamood Hamdani, and Program Officer Benjamin Hawley. Ms. Barbara Kinzie, on visit to Yemen for JHPIEGO, also provided valuable advice and information and served as an ex officio member of the team.

The list of organizations and persons contacted is long and, for want of space to thank individually all those met, the team wishes to acknowledge the cooperation and welcome received from so many in Yemen -- those listed in Appendix A and others whose names may have been inadvertently omitted.

Executive Summary

This study grew out of a request from the Government of the Yemen Arab Republic (YARG) to the United States Agency for International Development mission (USAID) in Yemen for assistance in YARG's efforts to realize its population and family care (the preferred term in Yemen for family planning) objectives. A preliminary step in a longer-term effort to develop a bilateral project between the two countries, this report recommends a strategy to guide development of the USAID project. The work was done in close collaboration with the government's Central Planning Organization (CPO), which has been spearheading efforts to develop a national population strategy and policy. The study reviews a) the current situation; b) constraints in population and family health planning; c) YARG and A.I.D. population objectives and strategies; and d) a proposed USAID/Yemen population strategy and recommendations for areas of intervention.

The Current Situation

From 1975 to 1986 the rate of natural population increase in Yemen rose by 66 percent, from 1.86 percent to 3.1 percent per annum. The total population is expected at least to double in 20 years, and urban population to double in 8 years. The growth in population and its changing distribution have become critical factors in Yemeni social and economic development. The analyses conducted by the CPO with the help of The Futures Group demonstrate how closely population and development are intertwined and interrelated -- in areas like education, health, municipal development, housing, power, water supply, agricultural production, industry -- indeed, in most sectors of the economy.

Now, for the first time in its history, Yemen finds that the weight of population growth threatens continuing social and economic progress and the goal of improving family well-being. Government leaders have recognized this threat and know that development planning and investments must take comprehensive account of population increases and changing distributions of population in the country.

Demographically, Yemen is in a period characterized by high birth and death rates and low family income. It is at an early stage of the demographic transition already experienced by developed countries. This demographic transition involves gradual declines in birth and death rates to an equilibrium characterized by high family incomes and low rates of population growth. It is expected that mortality will continue to decline, but that declines in birth rates will require programmatic interventions if they are to be apparent any time soon.

The status of the family is in the forefront of the YARG's concerns and this applies to family well-being and especially family health. The YARG is keenly aware that despite the extraordinary development progress achieved in the past 20 years, the health situation of the population is not satisfactory. Today in Yemen, 1 mother dies for every 100 births, 1 baby in 5 fails to survive to the age of 5, life expectancy is less than 45 years, and health care services are not available to most of the population. Of particular concern to the YARG is the improvement and extension of MCH/family care as priority measures to reduce maternal and infant mortality and morbidity and to lower fertility rates through birth spacing. The social development programs for literacy, education, expanding employment opportunities, and women's development that the YARG and donors are supporting appear to be having an

indirect but positive effect on couples' decisions about family size and on family health and fertility rates, as well as on primary goals of improving family well-being.

Constraints Facing Yemen in Population and Family Health and Areas for Possible Program Interventions

Constraints

Although gradual improvements have taken place in data collection and analysis and planning, institutional capabilities, manpower, and financial resources remain a constraint for population analysis and planning.

Health care services are not available to most of the population, and constraints (manpower, financial, cultural, and institutional) represent obstacles to providing health services. Family care services are even more limited. Declines in breastfeeding, which may counteract the effects of increases in use of birth spacing methods, are traceable in part to doctors' lack of understanding of proper breastfeeding practices.

Women are severely limited in their access to education, literacy, and health services as a result of a combination of male knowledge, attitudes and practice; a lack of mobility; their economic role; and widespread ignorance of sound health practices.

Areas for Possible Program Interventions

A number of approaches are suggested that might alleviate some of these constraints:

With respect to health care services, suggestions include raising the quality of service in existing public sector health facilities by improving health provider skills and increasing the number of female health providers; by developing policies and interventions mobilizing the private sector; and by promoting policies and training that encourage breastfeeding.

With respect to women's position in society, women's developmental (e.g., more female teachers and income-generating activities) and information, education and communication (IEC) programs are suggested, in the expectation that they will play an important role in achieving YAR population objectives by influencing attitudes and practices for family welfare, and by affecting two critical proximate determinants of fertility -- age of marriage and breastfeeding.

YARG and A.I.D. Population Objectives and Strategies

The YARG is planning to develop and promote a national population policy as early as 1991. Its population strategy and policy, now in the final stages of development, will include the following points (albeit perhaps differently stated):

1. Population factors must be taken into account systematically and comprehensively in all development planning -- macro-economic, sectoral, and regional.

2. Development plans and investments should be oriented to mitigate and better address problems of rapid population growth and changing population distribution.

3. Priority should be given to policies and investments that moderate directly or indirectly fertility rates and population growth.

4. Very high priority should be placed on MCH/family care for family health and demographic reasons, using both private and public sector resources.

5. Sectoral programs should increase emphasis on such activities as women's development, education, literacy, and employment generation, which indirectly influence couples' decisions about family size and fertility.

6. The institutional capability of the government for population studies and analysis necessary for policy reform and strategic planning should be strengthened.

The YARG is seeking resources to help with its population planning and to extend widely MCH/family care. Its request for U.S. population assistance and the extensive consultations on a suitable population strategy leading to this study are strong indications of its determination in these areas.

A.I.D./Washington's policy to provide population assistance is based on the recognition of the following considerations:

- High rates of population growth and population momentum place tremendous burdens on the development process in terms of, for example, national education systems, agricultural production and distribution, and family income.

- Moreover, rapid population increases are linked to such environmental problems as deforestation and desertification.

- It is important to provide family planning services and promote breastfeeding to reduce or moderate fertility levels and improve the health of mothers and children.

- Provision of family planning services must be based on free choice of couples.

- A comprehensive approach is needed to link population to economic and social growth.* Population programs and development are viewed as an integrated process whereby increasing development may contribute to the desire for healthier and smaller families and the gradual move by couples to choose smaller families within their means may contribute to development.

- The private sector is a dynamic resource that can make an important contribution to the provision of family planning and health services and thus help meet the increasing demand for family planning services.

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*Address by former A.I.D. Administrator Alan Wood, April 1989, in Mexico City.

Recommended USAID/Yemen Population Strategy and Possible USAID Interventions

The study recommends that, under the proposed USAID/Yemen population strategy, USAID assistance should aim to support the YARG's comprehensive multisectoral approach to population planning. Within this overall approach, the strategy proposed for USAID/Yemen is as follows:

1. to support directly the YARG's comprehensive multisectoral approach to population and development planning in an effort to help Yemen accelerate its demographic transition;

2. to help strengthen the YARG's institutional capability to carry out population studies and analyses, to develop appropriate policies, and to plan strategically, taking population factors into account systematically in the next Five-Year Plan and all other development planning at all levels;

3. to support coordinated IEC activities that would develop public awareness of, and support for, the national population policy in general and MCH/family care in particular; and

4. to support the YARG's goal of extending widely and improving significantly the quality of MCH/family care services through the private and public sectors.

USAID interventions are proposed through the following:

1. a bilateral technical assistance project addressing key constraints, problems, and needs; and

2. interventions incorporated, where practical, in other bilateral USAID programs (agriculture, education, health, women's development, and private enterprise promotion).

A non-traditional approach to population and family health interventions is proposed. The approach emphasizes

- mobilization of private resources and energies to take advantage of what is now an underutilized but potentially dynamic resource in public health efforts;

- strengthening of the YARG's institutional capabilities to conduct population studies and planning;

- planning to address more effectively and to mitigate population constraints in development investments and programs; and

- a focus on indirect socioeconomic measures to affect family health (education, literacy, broadened employment opportunities, women's development) and determinants of fertility (age of marriage, breastfeeding), as well as direct measures through MCH/family care promotion.

Broad areas for policy-level, demand-side, and supply-side interventions are proposed. These interventions are proposed with the objective of achieving a contraceptive prevalence rate of 30-35 percent by the end of the bilateral assistance project.

1. Demographic Profile

The population growth rate of the Yemen Arab Republic (YAR) -- estimated at 3.29 percent -- is currently one of the highest in the world. According to the 1986 census, the total population was 9.37 million, including 8.20 million residents and about 1.17 million migrants working in neighboring Arab countries. By comparison, there were 6.49 million residents in 1975. Projecting forward, the growth rate implies an increase in the resident population as of 1990 to approximately 9.3 million, not counting Yemenis residing out of the country and the net return of migrants in recent years. By the year 2016, a population of between 19 and 24 million is anticipated, or at least a doubling over a 20-year period.[1]

The high rate of population growth is a new phenomenon for the YAR. In 1975, the rate of natural increase was 1.9 percent; this had climbed by two-thirds to reach 3.1 percent in 1985[2] (see Figure 1 next page). The increase is due to two factors: very high fertility (a total fertility rate, or TFR, estimated at 8.8[3]) and declines in mortality rates.[4] The high fertility reflects a cultural preference for large families.

In short, Yemen now finds itself at an early stage of its demographic transition: death rates are high but falling, birth rates remain high, and consequently population is rising rapidly.[5] Prospects are excellent for rapid further decreases in death rates due to improving socioeconomic conditions in the country and the government's emphasis on primary health care (PHC) for child survival. A corresponding decrease in birth rates will depend a great deal on the effective promotion of maternal and child health (MCH)/family care (the preferred term in Yemen -- along with child spacing -- for family planning) in an interaction with socioeconomic development.

The population is also very young, with about half the people under the age of 15, creating a large dependency ratio of children to active workers in the labor force. The large proportion of young people means that, even with the fertility declines that may be expected over the next decades, the population will continue to grow as a result of the momentum caused by a continuing increase in the number of women in their reproductive years.

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[1]The lower figure of 19 million reflects "gains" that would be achieved if significant declines in fertility were realized. Source: analysis of 1986 census.

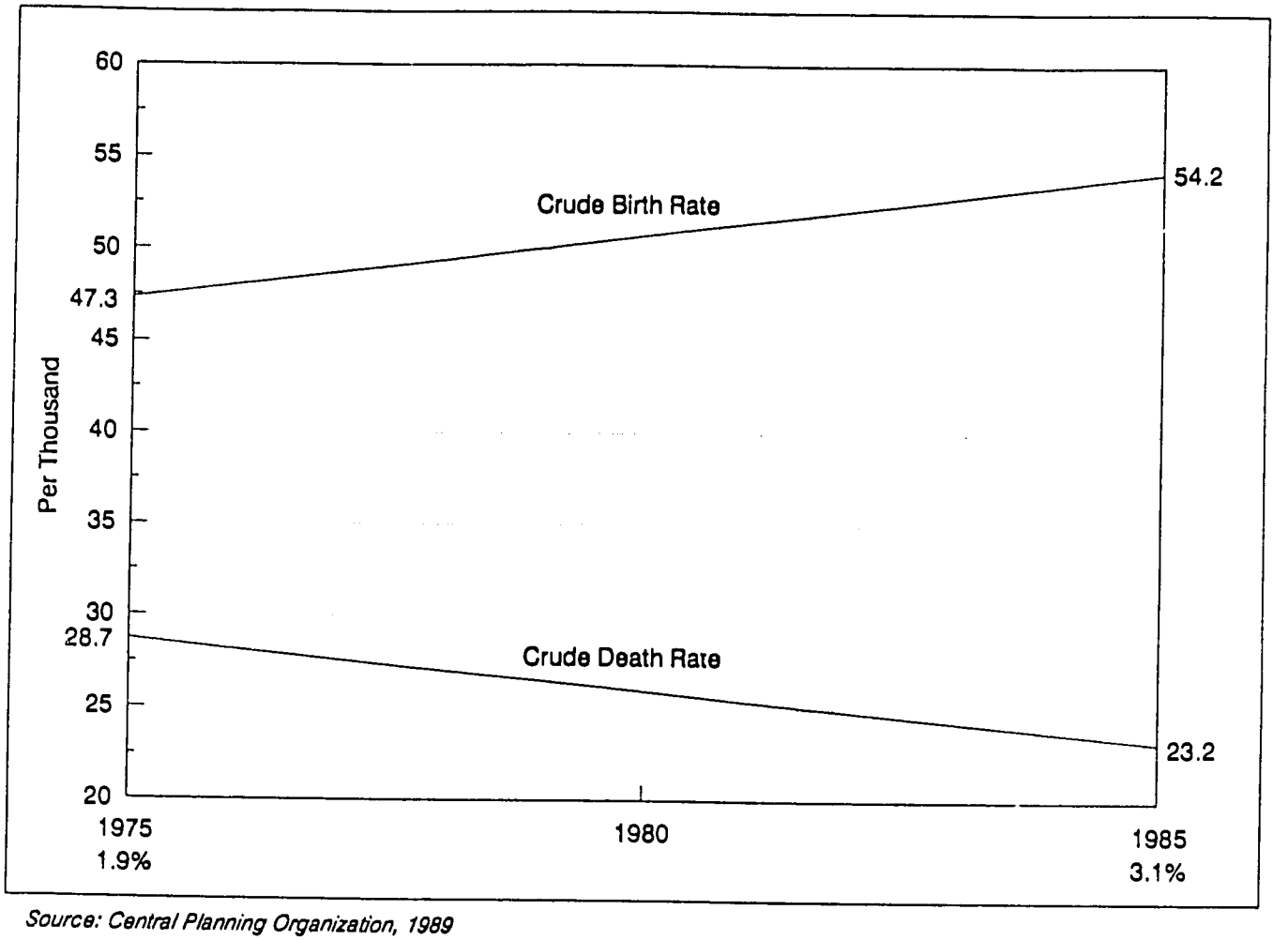
[2]The rate of natural increase does not take into account net movements of population in and out of the country.

[3]Estimate of the Central Planning Organization.

[4]Crude death rates of about 23/1000 in 1986 are much lower than in 1975 but more than twice the average for developing countries (see Appendix B).

[5]The term demographic transition refers to the transition from societies characterized by low income, high death rates and high birth rates to societies characterized by high family income, low death and birth rates and greatly increased life expectancy. Definition in A.I.D. Policy Paper on Population Assistance, Washington D.C., Sept. 1982.

Figure 1
Rate of Natural Population Increase
In the Yemen Arab Republic



Source: Central Planning Organization, 1989

Although the percentage of the population that is urban is low (estimates range from 14-23 percent), between 1975 and 1985, urban population growth rates were extraordinarily high, averaging some 11 percent annually for Sana'a and ranging from 7-10 percent each year for other major cities. During this period, the decline in foreign employment opportunities apparently added to urban growth, because a majority of returning migrants settled in urban areas. If, as appears likely, urban growth continues to increase at the current rate, the urban population will double in the next eight years.[6]

The high rates of population growth, the youthful age structure, and the changing distribution of the population (as migration takes place among regions and from rural to urban and semi-urban zones) all represent significant constraints on the nation as it seeks to achieve social and economic progress (see Appendix B for a fuller analysis of the demographic situation in Yemen).

[6]Analysis of the 1986 census.

2. Trends of Importance in the Development of a Population Strategy

2. Trends of Importance in the Development of a Population Strategy

2.1 Introduction

Several trends are currently in process in Yemen that will prove important in developing a YAR population strategy. These trends are observed in three major areas:

1) The government's understanding of the issues related to population growth and its receptivity to taking steps to reduce the growth rate;

2) Availability of health and family care services in both the public and the private sectors; and

3) Behavior patterns with respect to two proximate determinants of fertility, contraceptive prevalence and breastfeeding.

Within each of these major categories, important developments, mostly positive, have begun to take place. These include

Increasing Government Appreciation of the Problem

- Increasing awareness among policy-makers and planners about the importance of child spacing services and other population interventions; and
- Gradual improvements in data collection, analysis, and planning capabilities at the central level.

Improving Health Delivery/Family Care Infrastructure

- Dramatic gains in PHC inputs (such as the expanded program of immunization [EPI] and oral rehydration therapy [ORT]) affecting child survival, and gradual strengthening of a decentralized health care infrastructure;
- Low levels of health care utilization that reflect perceived inadequate quality of care, coupled with improved utilization in response to mass media messages; and
- Gradual (and sometimes uneven) improvements in health manpower, particularly trained female health workers and service providers trained in family care coupled with continued low level of knowledge, attitudes and practice (KAP) among many health professionals about the advantages of breastfeeding and child spacing; and
- A dynamic private sector health system that provides an important back-up to public health service.

Proximate Determinants of Fertility

- Growing demand for contraceptive services -- demand that may be outstripping supply; and
- Declining breastfeeding, with positive promotional efforts by the public health system being counteracted by private sector sales and promotion of infant formulas.

2.2 Increased Government Receptivity to Action

The discussion below highlights developments in the policy area, particularly with respect to data gathering activities and how these have thrown light on population growth and its negative effects on socioeconomic progress.

2.2.1 Awareness of Relationship of Demographic Factors to Economic Growth

Throughout the 1980s, the importance of demographic or population factors for economic and social development became increasingly well recognized by Government of the Yemen Arab Republic (YARG) leaders. This growing concern touched the Prime Minister's office and extended widely among leaders and planners in the Ministry of Health (MOH) and other ministries, the University of Sana'a, and officials at the governorate level. At the time of the team's visit, senior officials expressed a near-unanimous call for action. The representative of the United Nations Population Fund (UNFPA) in Sana'a reported that there had been a "complete difference" between 1986 and the present in the level of awareness at senior and middle levels of government. The existence of support for population interventions is understood at the lowest field levels. Despite the absence of a formal government policy, and even in cases in which providers or junior officials have reserved or negative attitudes, the prevailing perception within the bureaucracy is that it is the government's policy to support safe motherhood and child spacing within PHC. Even public awareness is growing.

Role of the CPO

Major credit for creating awareness and public concern among leaders and opinion makers should go to the Central Planning Organization (CPO), which is responsible for the overall coordination and development of the YARG's five-year development plans and approval of donor activities. The CPO provides technical assistance in planning and development program implementation to sectoral ministries and maintains a statistical data base.

An important development occurred in 1982, when the CPO established a Population Studies and Research Center (PSRC) to carry out demographic data collection, studies, and analysis with support from UNFPA and the United Nations International Trade Center (UNCTAD). By analyzing and drawing attention to the impact of demographic trends on socioeconomic development, the center has also played a role in sensitizing government officials to the need for more comprehensive population planning. Perhaps most significant, PSRC was responsible for implementing the 1986 population census, which is being published in 12 volumes in 1990, and for on-going analysis of data.

Importance of Reliable Demographic and Program Data

Historically, Yemen has suffered from a paucity of accurate information for planning in both the public and private sectors. Over the past five years, however, the CPO, in cooperation with other departments of the YARG, has greatly improved its population and demographic data collection and analysis activities. This improvement has been supported by UNFPA, USAID, the Netherlands, and other donors.

The compiling and initial analysis of the 1986 census --an enormous effort -- was a crucial first step in addressing this problem, by providing reliable data for planning purposes. The analysis, which took place during 1987, revealed findings concerning population growth and the impact of fertility on growth and MCH that were critical to the development of improved understanding of the population problems facing the nation. The census helped bring home the

extent of the extremely rapid growth of the urban population and the need to deal with the influx of large numbers of people in the urban areas and the development of secondary cities, and provided firm data on overall growth rates and high fertility rates. As a result, for the first time in its history, the YARG became well aware that the consequences of rapid population growth are threatening continued social and economic progress.

Other important data-gathering activities are planned. A Demographic and Health Survey (DHS), to be supported jointly by the YARG, the Arab League, UNFPA, USAID, and the Institute for Resource Development (IRD), will help address information gaps and provide baseline information for program efforts. Improvements are being made in registration of births and deaths, EPI interventions are now well documented, and since January 1990, health centers have been required to report on their child spacing services.

The government's institutional capacity for data gathering and analysis is limited, however, and very few additional resources are available other than at the University of Sana'a. The limitations represent a serious constraint, since a considerable number of issues need exploration. Crucial gaps still exist in forecasting future needs for drugs, equipment, and manpower and in intersectoral and donor coordination. Sound planning will also require more accurate information on the role and impact of private sector health activities on key demographic and health indicators. More analysis is also required on the impact of regional variations.

Areas for Possible Program Intervention

The gradual improvements in demographic and health services data collection, analysis, and planning capabilities at central levels need to be encouraged. If the YARG's decentralization of health services is to be effective, data analysis and planning capabilities must be decentralized to regional and local levels.

Incorporation of Demographic Factors into Development Planning

The economic gains that could be realized from achievement of lower growth rates are well understood by Yemeni officials. The CPO has examined the financial implications for various sectors for the period 1986 to 2016, and further studies are to be carried out with the help of The Futures Group. The government at the highest levels is also beginning to take population factors systematically into account in its development planning process.

By 1988, major population concerns of the government included[7]

- monitoring closely the rate of population growth;
- reducing mortality, particularly maternal and infant mortality, by improving the health delivery system;
- improving child health and family well-being through reducing fertility by encouraging family care; and
- adjusting spatial distribution of the population through requiring minor changes between regions and a deceleration of rural to urban flows.

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[7]United Nations, Population Policy Compendium (a joint publication of the Population Division of the UN Department of International Economic and Social Affairs and the UNFPA), New York, July 1985.

The YARG's current thinking envisions a three-pronged strategy:

- By vigilant tracking of population factors, it will be possible to deal with problems arising from rapid growth and changing population patterns.

- By promotion of a much more rapid extension and adoption of family health and family care, the disastrous consequences of high fertility for maternal and child health (see Section 2.3) can be greatly reduced. These measures should also have some impact on lowering fertility rates, as more women space their children and families avoid high-risk pregnancies (those occurring before the mother's age of 18 and after the mother's age of 35).

- By addressing other variables of socioeconomic progress (education, literacy, vocational training, development of the modern employment sector, modern communications, improved nutrition and child health, and urbanization, etc.), it may be possible to have a positive effect on reducing the size of families desired by couples.

In emphasizing both birth spacing and other socioeconomic policies, the YARG appears to be conforming to worldwide experience in developing countries, which indicates that both of these approaches are important and, in fact, reinforce each other. Studies have shown that the cost effectiveness of MCH/family care programs in terms of impact on fertility is considerably greater than that of other socioeconomic changes. On the other hand, this comparison does not take into account that programs such as those that promote widespread literacy, more education or more productive employment have crucial primary goals other than lowering fertility and that family planning programs also have other benefits, such as reducing maternal and child mortality.[8] In short, the YARG recognizes that a broad-gauge approach will be essential if the interlocking factors that are responsible for the increasing growth rate are to be addressed.

Requests for International Assistance

The YARG is demonstrating its commitment to reducing the population growth rate through its requests for additional donor assistance. The United Nations Children's Fund (UNICEF) has been specifically requested to incorporate child spacing interventions into its program; USAID is being encouraged to develop a strategy for a possible bilateral population program; and in a recent bilateral consultation, the Dutch Government was asked to expand child spacing services within their Dhamar Project. UNFPA continues to find the government receptive to its multisectoral activities.[9]

Areas Needing Additional Analysis

Although the increasing population awareness among YARG leaders is a cause of current shifts in policy, this trend requires nurturing and development. The government's capabilities will have to be reinforced if it is to conduct the studies and analytical work needed to identify policy changes and to carry out strategic planning. Resources will also need to be provided for such work (see Appendix C for a list of illustrative studies).

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[8]Johns Hopkins University, Population Information Program, Population Reports: "The Impact of Family Planning Programs on Fertility," Series J, Number 29, January-February 1985.

[9]See Appendix H for further information on USAID and other donor activities.

For example, although the importance of child spacing for MCH and as a principal proximate determinant of moderated fertility rates is widely appreciated, two of the other proximate determinants of fertility -- the marriage pattern and the duration of breastfeeding -- may not be so well recognized.[10] A marked decrease in breastfeeding is occurring that can only result in increasing fertility (see Section 2.4.2). In addition, male attitudes toward female education are contributing to continuation of very early ages at marriage (see Section 3.1.2), which also contribute to higher fertility.

Likewise, although the YARG is well aware of the economic feasibility of family health/family care programs, another approach might be to compare over time the discounted costs of such programs and discounted benefits. Typically, such analyses for developing countries show benefit-cost ratios on the order of 10 to 15; that is, every rial invested tends to produce economic savings in terms of investments of 10 rials or more.[11]

2.3 Improved Health Delivery/Family Care Infrastructure

Despite dramatic gains in PHC inputs affecting child survival and the gradual strengthening of a decentralized health care infrastructure, the YARG is keenly aware that the health situation of the population is not satisfactory. Today in Yemen, 1 mother dies for every 100 births, 1 baby in 5 fails to survive to the age 5, life expectancy is less than 45 years, and health care services are not available to most of the population. Of particular concern to the YARG is the improvement and extension of MCH/family care, which are not available to most of the population. Manpower shortages, particularly of trained female health workers, and low utilization of health services because of their perceived poor quality are of greatest concern. The private sector holds considerable promise of helping improve the situation.

2.3.1 Public Sector Services: Health and Family Care

Health Infrastructure

Ministry of Health (MOH) and Confederation of Local Councils for Cooperative Development. The Ministry of Health is responsible for the basic MCH and PHC systems. Its facilities, together with clinics established by the Confederation for Local Councils for Cooperative Development (LCCD)[12] and sometimes funded by foreign donors or private voluntary organizations (PVO), represent the entire network of public sector health facilities in the country.

Included in the MOH system are 39 hospitals, some 300 health centers, and 361 primary health care units (PHCU). Health centers are staffed by several professionals, including a midwife when available. They are usually open only in the mornings. PHCUs are essentially a pair of primary health care workers (PHCW) who have been provided one year's training at one of the 70 health centers that are designated as training centers.

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[10]These points were brought out in the recommendations of the February 1989 Conference in Sana'a on Population and Islam, p. 21.

[11]The economic feasibility analysis carried out for the Senegal Population and Family Health Project shows a benefit-cost ratio of 12. Copies of this analysis have been provided to CPO.

[12]LCCDs are elected bodies with one representative for every 500 inhabitants. The LCCDs are responsible for building infrastructure, schools, and health clinics, which are then managed by the appropriate ministries, although in some cases LCCDs manage their own health clinics directly. The LCCDs have three main sources of funding: private donations, equipment rental, and funds that are raised centrally in the form of $0.08 customs duty on every package that enters the country.

No figures were available for the LCCD network, although there were indications that it is substantial, even, in the case of the Taiz Governorate, exceeding the number of MOH centers. A small fee ($0.83-$1.67) is collected from clients of LCCD clinics. LCCDs also often provide stipends to PHCW trainees during the period of their training.

There seem to be no clear systems of coordination between the different levels and elements within the system. The present logistics system does not allow for steady and uninterrupted supply of contraceptives; health centers usually allow their stocks to become very low or even run out before requesting further supplies from the next level up within the system.

Yemen's health infrastructure is frail, but has made remarkable gains over the past two decades. From virtually nothing, health coverage had increased to 40 percent by 1988. Most of the growth came in the 1980s, with coverage having been only 12 percent in 1982.[13] The most dramatic gains over the last few years have been in the area of EPI. UNICEF estimates national coverage now to be about 50 percent of eligible children. Clearly, the successful experience of EPI, and the practical role it gives PHC workers, will reinforce the PHC system. ORT is also making gains. The Yemen Drug Company (YEDCO) is now producing oral rehydration salts (ORS) for both commercial and public sector distribution.

Utilization. On the other hand, anecdotal evidence, past studies, and clinic utilization data all indicate general underutilization of the PHC system. It is probable that the majority of health centers have only 10 to 30 clients a day and PHCUs may have as few as 2 to 4 clients daily. This low level of utilization probably reflects perceived poor quality of care in PHC clinics.

Manpower and Training. Health manpower is a key constraint: both male and female workers are too few at all levels. Health centers are not always fully staffed, and many commissioned PHCUs are inoperative due to lack of available staff.

Professional staff, including nurses, midwives, health supervisors, sanitarians, pharmacy assistants, X-ray technicians, medical assistants, and laboratory technicians, are trained at MOH's Health Manpower Institute (HMI). HMI centers are in Sana'a, Hodeidah, Taiz, and Hajjah.

PHCW trainees are usually young (18 to 22 years in most cases) and are often barely literate (although a sixth grade education is required, which further restricts the availability of female candidates). Their training is relatively short (one year), and the focus is quite theoretical (the first five months of training are devoted exclusively to theoretical classes), particularly in light of the hands-on nature of their work. Training does not contain the kind of communication skills that the PHCWs will need to deal with older women, who often feel skeptical about receiving advice from a younger woman. Moreover, in-service training of PHCWs does not appear to be institutionalized, and supervisory systems are not adequate to provide the female PHCWs the monitoring and on-the-job training they will need after they have completed their formal training.

Recruiting females for PHCW training is not easy, although, as female educational levels improve, more young women are becoming available. One way in which opposition from husbands and fathers is being addressed is by selecting candidates in collaboration with community leaders. Experience has shown that this reduces the dropout rates. Better PHCW selection, plus

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[13]The World Bank's November 1989 Country Economic Report, plus several other needs assessment missions.

a growing willingness by fathers and village leaders to allow girls to be trained, is likely to result in larger numbers of and more effective female PHCWs (see Appendix E for more detail on the primary health care system).

Areas for Possible Program Interventions

Trends in health care utilization require further analysis, and interventions designed to improve utilization need to be undertaken. All levels of health personnel would benefit from in-service training focusing on both clinical knowledge and skills, as well as counseling and interpersonal skills. PHCWs need to be incorporated into this effort. Only when the service is both well understood by people and perceived to be of high quality will utilization rates go up.

Special attention should be paid to PHCW training, with the emphasis on practical and visual methods rather than on a theoretical approach. Hands-on training should be provided from the outset so trainees have maximum opportunity to practice their skills and acquire experience in handling clients before going into the field. Better supervisory systems need to be developed and in-service training needs to be institutionalized.

Infrastructure for Child Spacing

Availability. The MOH began to provide family care services only in 1986, and the infrastructure for provision of child spacing services is even more fragile than that of the overall health system. Currently, child spacing services are available at most provincial-level hospitals and, in principle, also at health centers. In reality, however, only about one-third of the health centers provide MCH services and even fewer provide family care (perhaps 100 delivery points in the country, including hospitals but not including the private sector). In Sa'dah, for example, none of the health centers has contraceptives. Virtually no contraceptive resupply and possibly very little health education in child spacing is occurring at the PHCU level. LCCD clinics provide family care services when they have the appropriate staff (midwife, obstetrics/gynecology).

Family care services are provided always in the context of integrated MCH and PHC services, but bureaucratic barriers prevent full integration of child spacing into the PHC system.

Utilization. As with the overall health system, utilization of family care facilities is low, in the case of gynecological and family welfare services hindered in particular by the insufficient supply of female service providers. One clinic reported that when the expatriate midwife left, visits for birth spacing went down, even though she was replaced by another midwife who was qualified to provide the same services.

The importance of the health care provider in counseling and reassuring clients cannot be overestimated. Attitudes of both Yemeni and expatriate doctors visited in the field varied tremendously, from supportive and well informed to suspicious and uninformed. As a whole, however, doctors are considered to be inadequately trained and motivated to support family care programs. This attitude represents a lost opportunity because -- although they are not expected to play a role in IUD insertion -- male general practice physicians (in both their public duties and their private practices) could play a key role in expansion of access to family health services. Likewise, male PHCWs could play an active role in educating and motivating men. Women health workers, however, whether they be female doctors, midwives, or PHCWs, remain the key to increased services.

Manpower and Training. The major manpower constraints include the lack of female doctors and midwives (for IUD insertions and clinical services), inadequate training of general practitioner doctors (for initial supplies of oral contraceptives and counseling), low numbers of female PHCWs and traditional birth attendants (TBA), and insufficient training of PHCWs (for resupply and IEC). Nevertheless, the potential for fuller integration of MCH/child spacing into the

PHC system is good, provided operational decisions are made to give PHCWs a tangible role in service provision. Decentralization of the PHC system offers good potential for improvements in the overall quality and quantity of services.

Training in child spacing, both technical and counseling aspects, needs great improvement at all levels (see Appendix F). The situation is, however, gradually improving. The HMI provides a first-year course for all students that includes two modules on family care. Aware of the difficulty in attracting females into midwifery studies, coupled with an extremely high dropout rate (13 out of 44 midwifery students graduated in 1988), HMI is making various adjustments. For example, it is expanding its training sites with World Bank loans to Ibb, Dhamar, and Sa'dah in order to recruit students who would otherwise be unable to attend training courses away from their home town. It is also incorporating more training courses for female cadres (particularly practical nurses) and found at its Hodeidah facility that providing adequate accommodations for women resulted in dramatic increases in female enrollment. The Pathfinder Fund, with USAID funding, is assisting the HMI to make further improvements in the three-year midwifery curriculum with plans for replication in all HMI centers that train midwives. The new curriculum includes a strong family welfare component.

Although, overall, most of the students enrolled at HMI facilities are males, about half of those studying health professions (medicine, pharmacy, laboratory technology, etc.) at the University of Sana'a are now women (see Appendix E for more detail).

Areas for Possible Program Interventions

Programs to train and motivate health care providers in family care should have high priority.

2.3.2 Private Sector Services: Health and Family Care

Although data documenting health care expenditures and utilization patterns are lacking, evidence suggests that, other than for immunization, the private sector provides the bulk of the average Yemeni's routine health care. Hospitals run by non-governmental organizations (NGOs) or expatriate groups tend to be favored, although demand for services is rising at government hospitals.

For-Profit Groups

Pharmacies. Yemen has 217 pharmacies and 799 drugstores.[14] Virtually every health center has one or more drugstores adjacent to it, and there are drugstores next to many PHC units as well. Drugstore operators dispense a wide variety of medications, give injections, and often advise patients on treatments. Although their primary motive is profit, they often provide an important community service, and have the potential to participate more fully in the national family welfare aims and goals. To do so, they need accurate information to pass on to their clients.

Yemen has two major pharmaceutical retailers (YEDCO and Alsofari), and large pharmaceutical firms (such as Schering, Cilag, Organon, and Searle) routinely send detailers to the field to market their products to both pharmacists and doctors. Until recently, the potential for these groups to collaborate with A.I.D.'s new centrally funded Service Expansion and Technical Support (SEATS) project has not been explored.

Physicians. In 1988 there were 978 Yemeni physicians and 342 expatriate physicians (Sudanese, Egyptians, Europeans, etc.). The MOH requires government doctors to work mornings in public-sector facilities; however, these physicians are free to work in private clinics and/or health

[14] 1988 Statistical Yearbook

facilities in the afternoons. Although the concentration of doctors, particularly specialists, is still in urban areas (especially Sana'a, Hodeidah, and Taiz), the numbers in semi-urban areas are steadily increasing.

The Syndicate of Physicians, Dentists, and Pharmacists is a professional body whose aim is to protect the interests of these professional categories. As yet, it has not organized any activities, such as refresher workshops. Membership includes 980 physicians, 42 dentists, and an estimated 190 pharmacists.

Non-Governmental Organizations (NGOs)

In addition to the commercial private sector, there is a small number of NGOs that are active in family health and have the potential to play an expanded role. These are described below.

The Yemen Family Care Association (YFCA). The YFCA, an affiliate of the International Planned Parenthood Federation (IPPF), is the leading NGO in the area of family care and was the major supplier until 1986, when the MOH started to provide services. YFCA's major activities are provision of supplies to its two clinics in Sana'a and Taiz and the distribution of contraceptives to over 40 government health centers.

The Sana'a center is very active not only in terms of service delivery, but also in information and education activities. It organizes series of family care education courses in girls' secondary schools, women's centers, and men's vocational training centers. Women volunteers also make home visits to provide information on family care. YFCA has a third branch in Hodeidah, which organizes information and education activities. In addition to its support from the International Planned Parenthood Federation (IPPF), YFCA receives funds from The Pathfinder Fund and the Association for Voluntary Surgical Contraception (AVSC). The organization, nonetheless, faces financial and staff constraints.

Yemen Red Crescent Societies. The Yemen Red Crescent (YRC) Society was established in the early 1970s. It is a national organization with semi-autonomous branches currently operating in Sana'a, Taiz, Hodeidah, Ibb, Dhamar, and Hajjah. The YRC is a member of the international organization of Red Crescent Societies. By the end of 1990, the YRC expects to have branches operating in 10 governorates. In addition to disaster relief, the federated branches in the governorates provide first aid training at beginning, intermediary, and advanced levels, health education for men's and women's groups, home economics training for women, and health and first aid education for schools (in a total of 75 school branches). In addition, the YRC operates clinical services in Sana'a (an emergency treatment 24-hour clinic) and health care clinics in several other governorates. The Red Crescent Societies are reportedly providing MCH services in Dharma, Ibb, and Taiz.

The association is interested in expanding its programs and offers an important potential for promotion of family health/family planning through information and education activities and communications with men's, women's, and youth groups. It also offers opportunities for provision of family health/family care services through clinical programs supported by its branches in the governorates.

2.3.3 Women's Organizations with Potential for Greater Involvement in Family Care

Public Sector

Ministry of Social Affairs. The Ministry of Social Affairs includes a special department for women's issues and a High Commission on Women, which was instrumental in the

recent UNFPA-funded effort to form a steering committee for the establishment of a Yemeni Women's Union. The ministry has a special advisor on women's issues, funded by UNFPA.

Private Sector

Yemen Women's Associations. There are five women's associations at present: at Sana'a, Taiz, Ibb, Hodeidah, and Dhamar. These are funded by the Ministry of Social Affairs as well as by a number of donors (e.g., Dutch, U.S., UNICEF) and provide literacy training, sewing, typing, etc. Most of the associations have branches in both urban and rural areas.

The Yemeni Women's Association in Taiz has a project for family health motivation; other branches could add family welfare messages to their literacy and women's development activities. Professional groups of doctors and pharmacists and even paraprofessionals hold conferences and workshops; they have potential to expand their role in PHC/family welfare efforts (see Appendix G).

Areas for Possible Program Interventions

In sum, the private sector, particularly the private commercial sector, in Yemen is healthy but underutilized in public health efforts. Strategies for expansion of population activities in Yemen should address the role of this sector, both positive potential and negative elements, if it is to provide a complete picture for development of Yemeni's strategy. A balanced strategy incorporating public and private health care is in keeping with the realities of the Yemeni health delivery system.

2.4 Proximate Determinants of Fertility

Proximate determinants of fertility are the factors that directly determine the fertility level. These are contraceptive prevalence, duration and intensity of breastfeeding, and age at marriage. The first two proximate determinants are discussed in this section; marriage age is discussed in Section 3.2.2 in connection with education, which has a direct effect on the age at which women marry.

2.4.1 Contraceptive Prevalence

Contraceptive Prevalence Rate

The contraceptive prevalence rate in Yemen can be estimated at around 3 to 3.5 percent, with rates of perhaps 10 percent in major urban areas, compared with perhaps 2.5 percent in rural areas (see Appendix D, which contains the team's analysis based on contraceptives imported).[15] This estimate is somewhat higher than the estimate of 2 percent prevalence for

[15]As demonstrated in Appendix D, it is very difficult to make an accurate estimate of contraceptive use. With respect to imports, the MOH's Supreme Council on Drugs granted import licenses for about US$130,000 worth of oral contraceptives, IUDs, Neosampoon, and condoms in 1989. If all the contraceptives imported were utilized, they would account for some 17,000 CYP. Official importation figures, however, are clearly underestimates, since perhaps half or more of the country's thriving US$200 million per year pharmaceutical trade is in the "territorial sector," outside of government statistics or regulation. Other problems in making accurate estimates of CYP are that UNFPA provides only dollar amounts of contraceptives imported, not actual numbers, and that questions exist as to how YFCA calculates the CYPs it provides.

married women of reproductive age, which is contained in published reports of the World Bank and other groups.[16] It conforms more closely to other educated guesses using acceptor figures and other information, which also place prevalence higher, perhaps several percentage points higher, in urban areas and the southern part of the country. None of these estimates is sufficiently reliable, however, to provide a basis for programming and evaluation.

Increases in Demand

Highly significant is the consensus perspective from health providers throughout Yemen that the demand for child spacing services is rising, particularly where quality services exist. It is difficult to document scientifically the increased demand for services as expressed in clinic utilization. Service statistics from the various sources support this view, however:

- The YFCA provided some 18,000 couple years of protection (CYP) in 1989, a significant increase from the 15,011 CYP provided in 1988, and over double that provided in 1987 (8,428) and 1986 (6,110).

- The Swedish Hospital in Taiz reported dramatic rises in first child spacing visits between 1987 (1,046), 1988 (1,323), and 1989 (2,414). More significantly, the number of revisits has tripled in that time period (from 2,013 in 1987 and 4,923 in 1988 to 7,409 in 1989), which suggests that there are relatively high continuation rates. High continuation rates reflect user satisfaction and/or strong motivation to space births, both of which are necessary to achieve demographic and health impacts.

- Even in more conservative areas such as Hajjah Governorate, demand is rising, albeit slowly. The midwife at the governorate hospital in Hajjah reported that she served 41 first-time contraceptive clients in January 1990, and that over one-third of women coming for post-partum visits requested family care information or services. In January 1990 at Sa'dah Hospital, 29 IUDs were inserted, 314 cycles of pills were distributed, and about 30 clients received condoms, spermicides, or injectables.

- All facilities providing contraceptives report that at least some of their clients are coming from outside of urban areas for services. Many facilities report actual or potential shortages of contraceptives (although this could also be the result of an inefficient logistics system -- see Section 2.3.1).

- The demand for tubal ligation is rising. The maternity hospital in Sana'a performs about 6 tubal ligations per month.

- Most pharmacists interviewed reported low levels of contraceptive sales, but nearly all said that sales are increasing. In Hodeidah, it was reported that women are now beginning to purchase their own contraceptives, whereas formerly husbands or male relatives made these purchases.

- Interviews with YEDCO and other distributors indicated that contraceptive sales are perceived to be a growth market, with import licenses and foreign exchange being inhibiting factors.

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[16]World Bank Country Economic Memorandum, November, 1989, Vol. I.

Spreading Awareness about Health and Child Spacing

Both men and women could be far more aware of essential family health and welfare issues, i.e., the consequences of failure to space births, of births to women too young or too old, etc. The government, however, is taking steps to improve this situation.

MOH Health Education Department. The MOH has a very active, well-equipped, and well-managed Health Education Department, which produces a weekly 30-minute TV program on the advantages of child spacing as well as spots on other health-related themes (particularly immunization). It also produces high-quality print materials and two radio programs, one of which uses an entertainment format. The department uses some 17 other channels for disseminating health messages, including schools, mosques, girl guides, boy scouts, and the Red Crescent Society.

Television and radio are important for health messages in Yemen. It is estimated that over 85 percent of Yemeni households -- even the poorest and those in the remotest rural areas -- have access to television and that the radio signal reaches 65 percent of the country. Publicity spots (including health and the immunization program), which air immediately before and after the 9 o'clock news each evening, are a great favorite, according to many accounts. The peak viewing period is 8 to 9 p.m. and immunization spots are shown during that time.

The MOH and UNICEF have had good results in publicizing the EPI campaign through television, and it is generally believed by Yemeni officials, particularly women, that TV is a vital tool for reaching the population in general and women in particular. At the field level, providers report an upsurge of clients following programs with effective health messages. Because rural women in many governorates do not travel away from home to seek services, a medium such as television, which takes family welfare messages to them, is particularly important. Literacy, breastfeeding, and child spacing messages could be as effectively transmitted as EPI messages via television, with appropriate formative research to assess sensitivities, etc.

Ministry of Education. The Ministry of Education is responsible for primary, secondary, and higher education as well as for literacy programs. Starting in 1988, it began to work with UNESCO, with UNFPA funding, to integrate population education into all levels of the school system and in some non-formal education (one module in the literacy program). The ministry has a special department to deal with women's education issues. It is expected that the UNFPA/UNESCO-supported effort to integrate population education into the school system will take some years to develop.

Areas for Possible Program Interventions

Given the lack of female mobility (see Section 3.1.1), any program to create awareness among women and provide them with information on the benefits of child spacing and safe motherhood should make extensive use of television.

Adequacy of Supply

It is very difficult to predict the extent to which contraceptive demand will continue to rise without additional external stimuli or to judge the carrying capacity of existing services. Based on field visits and data gathered, however, a case could be made that the current supply of both services (facilities and personnel trained in service delivery) and supplies are dangerously close to being outstripped by demand (see Appendix D).

For the present, contraceptive supplies appear to be adequate (in MOH facilities and those supplied by YFCA). Contraceptives are widely available, even in small drugstores in relatively rural areas. The MOH is the first supplier. Its supplies are free, but must be obtained

from Sana'a. Many facilities purchase their contraceptives from YFCA at concessionary prices (about $0.67 for 1 cycle of pills, for example). UNFPA is the principal supplier of contraceptives for the MOH. YFCA receives its supplies from The Pathfinder Fund (IUDs) and IPPF (oral contraceptives, spermicides, and condoms).

Contraceptives are subject to price controls. The maximum price allowed by the government is reported to be 50 rials (about $4.20) per cycle of pills but prices charged are usually less (about $2 a cycle).

Although current supplies may be adequate, the logistics system requires improvement to ensure continuous stocks at the clinic level[17] (see Section 2.3.1). Rapid program growth could affect contraceptive supply in the public sector. Although the private sector could presumably augment contraceptive supply, the cost to poor clients would be high and the scarcity of doctors and midwives trained in service provision would affect quality of care in both public and private sectors equally. Any "demand generation" activities without corresponding increases in service delivery capabilities could thus further aggravate the problem.

The existence of various traditional practices that are in fact abortifacients is another indicator of unmet demand for services. Yemen has a system of traditional medicine that exists apart from "modern" medical care and that incorporates "treatments" practiced for their contraceptive effect. Too little is known about the extent of traditional fertility regulation practices to determine their demographic impact, but worldwide evidence suggests that modern child spacing services can significantly reduce ineffective traditional practices, the number of induced abortions, and the attendant maternal and infant mortality.

2.4.2 Breastfeeding

Breastfeeding affects fertility through its effect on ovulation. Exclusive breastfeeding delays the return of ovulation following childbirth for about six months.

Current Trends

Although there are no recent data on breastfeeding patterns, Yemen is believed to be following a worldwide, negative trend leading to sharp reductions in breastfeeding and very early supplementation. The 1979 National Fertility Survey shows reductions in breastfeeding to be particularly significant among urban and older women. If this trend continues, gains attained in child spacing from increased contraceptive use could be offset by losses from decreased breastfeeding.

Although most practitioners interviewed were aware of the general birth spacing effects of breastfeeding, many lacked more specific information to advise mothers properly. In many cases, doctors themselves are contributing to the decline in breastfeeding and rise in early supplementation by the advice they are giving women, particularly in their private practices. The private sector also is contributing to the decline by making infant feeding products widely and publicly available, even in small shops in rural areas. This is one area in which commercial sector activity and public policy are clearly at odds. The MOH is making an effort to reverse the decline in breastfeeding through its PHC program of health education and through posters and mass media.

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[17]UNFPA reports it has proposed a comprehensive logistics system for the MOH, but the system is still not providing data about distribution to centers or about stock levels.

Importance of Breastfeeding

Worldwide, breastfeeding still accounts for more births averted than any other child spacing method. It is also crucial for child survival, especially in environments, such as Yemen, where low maternal literacy and unsanitary conditions make bottle feeding hazardous. Breastfeeding for any length of time will improve infant health. In order to have a demographic impact, however, breastfeeding needs to be of longer duration (6 to 12 months), and continuous, and supplementation needs to be delayed until about 6 months.

Areas for Possible Programmatic Intervention

YARG policies should encourage breastfeeding (through health education and regulations or guidelines for commercial sales of infant formulas).

Health personnel must have accurate information on both the birth spacing effects of breastfeeding and on contraception during lactation. This kind of an effort needs to be encouraged, with more specific breastfeeding messages. More detailed information needs to be provided to PHCWs and health providers. Consideration needs to be given to policies or programs to discourage commercial infant formula sales.

3. Women's Status and Determinants of Family Welfare

3. Women's Status and Determinants of Family Welfare

3.1 Socio-Cultural Attitudes

3.1.1 Female Mobility

Socio-cultural attitudes have a major impact on family welfare in Yemen, particularly with regard to women. In most areas of Yemen, the mobility of women is tightly restricted. Whenever women go out, particularly in rural areas, they are accompanied by a male member of the family, which limits their access to education and health services, as well as to other activities, such as literacy and vocational training, marketing, etc. The practice is beginning to change in some of the urban areas such as Taiz, Hodeidah, and Sana'a, where women frequently go to health clinics and markets unaccompanied by men. Nonetheless, the low level of mobility remains a major constraint to the provision of any kind of services to the female population. In addition to the problem of mobility, when women do go to health centers, particularly for ob/gyn services, they will only accept examinations by female health workers, which further restricts their access to health care.

3.1.2 Male Attitudes

In many areas, men are unable to see any need for women's education and do not understand women's health issues, including the importance of birth spacing for maternal and child health, although they are often eager to provide their children with health care. These socio-cultural attitudes have a direct impact on two of the proximate determinants of fertility: age at marriage (on which education has a determinant impact) and contraceptive practice. Such attitudes are by no means universal; however, some husbands are convinced of the need to limit their family size beyond a certain number of children. Much more could be done, however, to develop male awareness and attitudes with regard to family health and the importance of women's education.

3.1.3 Religion

Religion also has a strong, although not always consistent, influence on how women's roles are perceived. The Koran is commonly interpreted as limiting the role of women to the home and as condemning any restriction of family size. Other interpretations of the Koran, however, recognize the value of women in society and the importance of maintaining a balance between family size and resources. Some religious leaders are beginning to make declarations in this direction and have actively participated in birth-spacing education activities in girls' schools and in mobilizing the religious community in the immunization program. This resource could be further developed to spread greater understanding of the birth spacing/family health issue in religious terms.

3.2 Access to Services

3.2.1 Access to Health Services

Lack of access to quality health services, particularly during childbearing, takes a high toll on women's health. Life expectancies for both sexes are among the lowest in the world -- 44.4 for men and 44.7 for women. The situation changes in urban areas, however, where the population has greater access to health services: Life expectancy at birth is higher than the national

average in Sana'a City and Taiz (also in Marib and Beida). The low health status of Yemeni women of childbearing age is reflected in the exceptionally high maternal mortality rate (10/1000 births), which may be attributed, for the major part, to the lack of trained care during childbirth (only 12 percent of all births are attended by a trained person), unhygienic delivery conditions, and short birth intervals (18 months). This rate is even higher in areas in which women have very limited access to health care due to either geographical or socio-cultural reasons.

3.2.2 Access to Education and Literacy

Socio-cultural attitudes towards female mobility also have an adverse effect on women's access to education. Education is important in that it not only provides women with access to better employment opportunities, it also is a determining factor for age at marriage and contraceptive practice, both of which are proximate determinants of fertility. Indeed, level of education is the most important factor with respect to age at marriage. The further a student, particularly female, advances in the educational system, the more likely s/he is to postpone marriage and, after marriage, to practice birth spacing. The present low average age at marriage for women (17 years) can only be increased by providing greater access to education.

The overall school enrollment rate of 44.4 percent of children aged 6-12 in Yemen is low compared with other Arab countries. School enrollment, however, is considerably lower for females than for males, due to supply factors such as the low percentage of female schoolteachers, an insufficient number of girls' schools in urban areas, and the long distances that young rural girls (and boys) have to walk in order to attend school. Primary gross enrollment rates are only about 22 percent for females, compared with 80-90 percent for males, with the enrollment of urban females accounting for the major portion of this percentage. In 1987/88, female students accounted for 22.6 percent of all primary school students, although there has been a steady increase of female school enrollment over the past 10 years; this increase was 20.1 percent between academic years 1985/86 and 1986/87 and 15.9 percent between academic years 1986/87 and 1987/88.

There appears to be a direct relationship between female primary school enrollment and the availability of female teachers. Only 23 percent of all Yemeni primary schoolteachers were female during academic year 1987/88, almost the same percentage as the percentage of primary school students who were female. The explanation is that the cultural attitudes described above in many cases require that girls be taught by female teachers in girls-only classes (although some schools have mixed classes). Over 40 percent of the female Yemeni teachers are located in three major urban centers (15.5 percent in Sana'a City, 14 percent in Taiz, 11.8 percent in Hodeidah). This figure does not include the 12,130 expatriate primary teachers (1.5 times more than their Yemeni counterparts).

Literacy levels are another indicator of family welfare/ quality of life and, according to the experience of many KAP surveys in developing countries, a determinant of a woman's desired family size. The overall literacy rate for Yemen is 28 percent, compared with 51 percent for other Arab countries and developing countries as a whole. The illiteracy level of 92.5 percent for women (compared with 58 percent for men) is particularly high. This is standard for all governorates except Sana'a City. This high level of female illiteracy is a particular obstacle to the training of needed female professionals, such as health workers and teachers. The YARG's awareness of the vital importance of literacy is illustrated in the dramatic increase in literacy centers: there were 2,661 literacy centers throughout the country in 1987/88, 67 percent more than in 1985/86. Many of the women's literacy centers are run by the Yemeni Women's Associations in Sana'a, Taiz, Ibb, Hodeidah, and Dhamar Governorates. Often, the literacy classes organized by the women's associations are used by young girls in their teens as a vehicle for getting into the school system: They attend literacy classes to reach sixth grade primary level and then enter preparatory school (seventh to ninth grades).

Discussions with Yemen female officials and YWA leaders unfailingly pinpoint women's literacy and awareness as being the essential factors in women's development in Yemen. When asked which skills they would most like to acquire, women usually give first priority to sewing, with literacy a close second.[18] In some cases, literacy will be included as an integral part of sewing classes or sewing students will be urged to follow literacy classes. Literacy classes offer great potential for developing women's awareness and knowledge of other important issues such as health, birth spacing, etc. Literacy training is faced once again with the constraint of women's mobility: Women will attend classes only if these are provided in or near the village in which they live and if they are exclusively for women.

3.3 Economic Role of Women

Women make a major contribution to family income in rural areas, with agriculture absorbing 93.9 percent of the female labor force. The textile industries that have developed in the major cities, particularly Sana'a, absorb most of the remainder of female labor, in line with their interest, described above, in sewing.[19] Both rural and urban women are interested in developing their sewing skills, while urban women are also interested in secretarial training (including word processing). There is a considerable demand for workers in this area. Approximately 6-8 percent of the modern-sector labor force is female, and this is expected to increase substantially during the present decade with increased urbanization and education.

With many men working out of the country, particularly during the 1970s and early 1980s, women have in many cases assumed increased responsibility for managing farm operations. Some studies[20] have shown that men who have returned to agriculture often do so in the context of mechanization and the use of modern technologies. Consequently, it is the men who drive the tractors, operate agricultural equipment, and apply modern fertilizers, while the women and children continue to perform more traditional manual tasks, such as planting, spreading manure, and harvesting. Thus, men control crop production, while the only area of agricultural production over which women seem to have full control is livestock activities (including milk and cheese production). The men, however, also usually control the marketing of these products. In other areas, women appear to have handed agriculture back to men, considering that it is a man's role to provide for the family and that a woman should stay in the home. Consequently, in these cases women are becoming less mobile than previously when they worked in agriculture.

Children also play an important role in the household economy, particularly at planting and harvest time. Older girls also help their mothers to carry water and firewood. This places a constraint on children's education, particularly that of girls.

Conclusion

Women's access to health and family care services is limited by male attitudes towards female mobility, by the lack of trained female health workers available to provide services for women, and in many cases by the geographical dispersion of the population. The same factors also limit women's access to education and literacy, affecting age at marriage and desired family

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[18]Araji and the team's discussions.

[19]Araji, 1989.

[20]Ibid.

size, as well as women's access to modern-sector employment at a time of increasing urbanization and the gradual decline in the percentage in the labor force employed in agriculture. Due to their lack of access to the outside world, women generally lack awareness of basic health issues, with the only immediate means for reaching them being TV and radio.

Areas for Possible Program Intervention

Given the lack of female mobility, programs to create awareness among women and to provide information on maternity/child care should make extensive use of television, which is generally widespread.

YARG policies should encourage later marriages, as well as postponement or delay of first pregnancies, through such programs as literacy, education, guidance, and health education.

In particular, the government should seek ways of providing more female teachers, particularly in rural areas, in order to encourage female student enrollment. UNICEF indicated that it was considering including access to female education in its upcoming five-year program.

Any income-generating activities for women in rural areas should focus on traditional livestock/dairy production and marketing, together with the development of the traditional crafts specific to each locality, while those in urban areas should be based on the supply on the local job market (e.g., typing, sewing where there is a textiles sector).

The provision of running water, alternative energy sources and labor-saving devices would have a positive impact on school enrollment/attendance and would make more time available to women for such things as sewing/literacy classes and income-generating activities.

4. Constraints in Dealing with Population and Family Care

4. Constraints in Dealing with Population and Family Care

The preceding two chapters have drawn attention to a number of constraints that could hinder progress in reducing the population growth rate in Yemen. This chapter summarizes the principal among these and draws attention to three others -- financial problems, lack of donor agency coordination, and political uncertainty with regard to plans for unity between North and South Yemen. In all, eight major constraints are singled out as potentially difficult issues that will need to be addressed in the development of a population strategy and policy.

Central Government Level

1. Financial Constraints

The YARG has a very limited budget for all of the services that it is required to provide. Increased urban growth and the gradual decline of the labor force traditionally employed in the agricultural sector have placed even greater pressure on government resources in terms of provision of urban infrastructure and employment (both in job creation and vocational training to meet the supply of jobs on the urban labor market). The change in both male and female employment patterns and the return of a large portion of the migrant workers have also placed pressure on household income, particularly in rural areas, which have traditionally benefited the most from remittances.

The portion of the budget allocated to health services (4 percent) is particularly low and limits government interventions in health to a strict minimum. Thus, the YARG must rely heavily upon donor agencies to fund a substantial portion of the health system.

Additionally, the YARG lacks sufficient foreign exchange to cover the cost of all phases of economic growth, including contraceptives and other supplies, and must also rely on donor governments for family care programs.

2. Donor Agencies

Although there is considerable international donor activity in Yemen, the work of the various countries and agencies is somewhat scattered and uncoordinated. Many small support activities exist, but no underlying strategy links them (see Appendix H). The CPO recently held a donor meeting, the first, as a start to improving coordination. These meetings will continue. Over time, it is expected that donors will become more forthcoming about their activities; currently, in some cases donor agencies are reluctant to share information. Coordination and information sharing are essential to avoid duplication of effort and inefficient use of limited resources.

3. Plans for Unity between the Two Yemens

Plans for unity between North and South Yemen are well under way. When accomplished, the reunification will have institutional and policy implications for YAR, many of them positive. In the meantime, however, the uncertainty is serving to inhibit large-scale government initiatives in the areas of family health and family care.

4. Policy Constraints

Despite the increasingly favorable climate, there is as yet no population policy in Yemen. Even though it is expected that the proposed national population conference will result

in a policy statement (see Section 5.1.1 below), it will still be necessary to create awareness of the importance of population issues at senior levels throughout the government.

Despite the progress made in recent years in the CPO, limitations remain in the institutional capabilities of the CPO and other government agencies to develop information and analysis necessary for policy change and strategic planning. There is also a lack of specialized manpower able to carry out data collection and analysis for population and development planning. Because of a vast array of unanswered questions on the demographic and socioeconomic consequences of population growth, this represents an important constraint.

Institutional Constraints within the Health System

1. Organizational

Despite the increasingly large network of public-sector health facilities, the MOH lacks the institutional capabilities to ensure the efficient operation of a substantial part of the system. Access is limited as a result of the geographical distribution of a large portion of the population in very remote areas of the country. Coordination between the different levels and elements within the system is weak and the inability of the present logistics system to provide a steady and uninterrupted supply of contraceptives is a major constraint on the efficient operation of the system.

2. Manpower

The number of suitably trained and competent staff is insufficient to provide quality health and birth spacing services to those who desire to use them. This shortfall includes staff whose training or level of performance after training is such that people prefer to go to other centers where they consider that quality services are available.

Lack of Information and Awareness

Both men and women lack awareness and knowledge of essential family health and welfare issues, with the result that a considerable effort may be required in order to create increased demand for services. A particular problem exists with respect to breastfeeding. Doctors' lack of information on its benefits is leading to a decline of this important determinant of fertility. Any program to promote family health services must raise awareness and enlist the support of men and of doctors.

Socio-Cultural Constraints

Attitudes with regard to women and the resulting curbs on women's mobility, particularly in rural areas, limit their access to all services (education, literacy, health) that are not located in their locality of residence and that are not provided by women staff.

The low level of education and literacy among women is a major constraint to adoption of sound family health/family care practice.

In addition, lack of knowledge and differing interpretations of the Koran tend to limit the practice of birth spacing on religious grounds.

5. YARG and A.I.D. Population Objectives and Strategy

5. YARG and A.I.D. Population Objectives and Strategy

5.1 Analysis of Current YARG Population Position

5.1.1 Development of the YARG's Population Policy and Strategy

During the 1980s, the YARG took a number of important steps to address the problem of its rapid population growth (see Section 2.2.1). Since early 1989, the pace of activity has increased appreciably, with the prospect that two all-important developments -- issuance of an articulated strategy and, as part of that strategy, publication of a population policy -- may become actualities in the near future.

An important step in defining population policy and strategy was taken by the CPO in February 1989 with the organization of a national symposium in Sana'a sponsored by UNESCO, UNFPA, and the University of Sana'a. The five-day meeting brought together senior decision-makers from inside and outside the government to review an agenda dealing in depth with "Population and Islam." The symposium developed a series of recommendations[21] urging action by the government to

- minimize marriage between close relatives;
- encourage married women to postpone their first pregnancy until after age 18;
- help women avoid pregnancy after the age of 35;
- establish the ideal number of children per family according to health conditions and the local environment;
- help women avoid dangerous and/or high-risk pregnancies;
- provide MCH services, including pre-natal and post-natal consultations;
- emphasize breastfeeding for improved child health and birth spacing;
- encourage couples to choose legal and safe ways to prevent pregnancies when necessary; and
- provide medical care for couples desiring to have children.

More recently, several other steps have been taken relating to development of a population strategy and policy:

- The organization of meetings to present to various ministries analyses setting forth the financial and economic implications of rapid population growth for various sectors of the economy and the savings in public investments that could be obtained by progressive declines in fertility rates. Meetings were held with mid-level and senior officials of other ministries in the Governorates of Ibb and Taiz.

[21]Report of the Proceedings of the Symposium, p. 3 (as translated by USAID/Yemen).

- In March 1990, in one of these presentations, the Deputy Prime Minister stated that the 1991-96 (fourth) Five-Year Plan would need to take into account demographic factors, citing problems of education, migration, and employment.

- YARG attendance at an International Conference on Islam and Population held in Indonesia in February 1990. The declaration on Islam and population made at this conference[22] should prove useful in formulating the YARG's strategy and policy.

- Preparation of a strategy statement by the CPO[23] for approval by the Council of Ministers. It is anticipated that the strategy will be completed and published in 1990. The government also intends that this strategy provide a framework for foreign donors for development and investments.

- Planning for a National Population Planning and Development Conference to prepare a National Population Policy Declaration. The March 1990 announcement of the conference, made by the Deputy Prime Minister (and Chairman of the CPO), indicated that the timing would depend on the anticipated unification of the north and south, but that it would probably take place at the end of 1990. Once promulgated, a policy statement will need to be put to the Consultative Assembly for endorsement and approval by the President. If all goes according to plan, the strategy should be published in 1991.[24]

Today, it is evident that it is the intention of the government to develop a population strategy and a national policy declaration and to incorporate population analyses in its macro-economic and sectoral plans for 1991-96. The process under way involves consultation and concerted action, taking into account social and cultural concerns. Two points are clear:

- There is broad support for an integrated approach that links population to economic growth and development, and

- There is broad support for an integrated approach to primary health care that includes maternal and child health care and birth spacing.

5.1.2 Anticipated Parameters of the Population Strategy

Population Objectives

Interviews with many key decision-makers indicate that the YARG population strategy and policy will be guided by an overall goal to improve the quality of life by means of social and economic programs that take into account population factors. In the next plan, it is expected that such programs will relate especially to employment, household income, education and literacy, health including MCH/family care, women's development, and migration.

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[22]The Aceh declaration directed that "all Muslim Communities the world over... initiate and/or promote a concerted and coordinated effort in the field of population policies and population programs."

[23]In draft as of March 1990.

[24]The importance of this development was highlighted in a November 1989 World Bank analysis, which identified the lack of a population policy as a major problem in the population, health, and nutrition sectors. World Bank, "Yemen Arab Republic - Country Economic Memorandum - Agenda for Sustainable Growth during the Oil Era," Vol. 1, p. 24. Washington, D.C., November 1989.

The strategy is expected to include the following points (albeit perhaps stated differently):

1. Population factors must be taken into account systematically and comprehensively in all development planning -- macro-economic, sectoral, and regional.

2. Development plans and investments should be oriented to mitigate and better address problems of rapid population growth and changing population distribution.

3. Priority should be given to policies and investments that moderate directly or indirectly fertility rates and population growth.

4. Very high priority should be placed on MCH/family care for family health and demographic reasons, using both private and public sector resources.

5. Sectoral programs should increase their emphasis on such activities as women's development, education, literacy, and employment generation, which indirectly influence couples' decisions about family size and fertility.

6. The institutional capability of the government to conduct the population studies and analysis necessary for policy reform and strategic planning should be strengthened.

Strategic Parameters

The strategy statement and the eventual policy declaration are expected to deal with such areas as

- the demographic situation;
- cultural and traditional factors;
- the preservation and promotion of the well-being of the family in accord with Islam;
- education, literacy, and information;
- health and family welfare;
- promotion of women in development as beneficiaries and partners;
- manpower, employment, and family income;
- urbanization, municipal development of secondary cities and housing;
- emigration, internal movements of population, and regional and agricultural development planning;
- studies and research;
- legal and legislative measures affecting population;
- institutional framework for population planning; and
- evaluation and monitoring.

5.2 A.I.D./Washington's Population Policy, Objectives, and Strategy

5.2.1 A.I.D.'s Overall Approach to Population Assistance

A.I.D./Washington's policy to provide population assistance is based on recognition of the following considerations:

- High rates of population growth and population momentum place tremendous burdens on the development process in terms of, for example, national education systems, agricultural production and distribution, and family income.
- Moreover, rapid population increases are linked to such environmental problems as deforestation and desertification.
- It is important to provide family planning services and promote breastfeeding to reduce or moderate fertility levels and improve the health of mothers and children.
- Provision of family planning services must be based on free choice of couples.
- A comprehensive approach is needed to link population to economic and social growth.[25] Population programs and development are viewed as an integrated process, whereby increasing development may contribute to the desire for healthier and smaller families and the gradual move by couples to choose smaller families within their means may contribute to development.
- The private sector is a dynamic resource that can make an important contribution to the provision of family planning and health services and thus help meet the increasing demand for family planning services.

5.2.2 A.I.D.'s Bureau of Asia and Near East Population Assistance Strategy

A.I.D.'s Bureau of Asia and the Near East (ANE) is emphasizing comprehensive population and development planning to help speed the demographic transition in developing countries. In particular A.I.D./ANE's strategy includes

- mobilization of private sector resources and initiatives in support of family health and planning;
- increasing contraceptive prevalence beyond the 30-35 percent range;
- targeting males for information, education, and service delivery;
- analysis of urbanization and other manifestations of demographic change;
- analysis of employment/income related to labor force expansion, including female labor, and changing population age structures and fertility; and
- support for studies defining population and family planning needs.

[25]Address by former A.I.D. Administrator, Alan Wood, in April 1989 in Mexico City.

5.3 Recommendations for YARG Population Policy

The major recommendation arising from this study is that the YARG should continue to develop its population strategy along the directions being pursued. These directions include

- recognition that population, resources, and economic and social development are linked, as demonstrated through the CPO's efforts to seek broad-based interministerial support for incorporating demographic and population-related concerns into planning decisions at all levels -- macro-economic, sectoral, and regional;

- reorientation of planning to include problems arising from rapid growth and changing population patterns and distribution;

- increased priority to development of MCH/family care services that would affect fertility directly and to encouragement of acceptance of those services for health, economic, and demographic reasons;

- plans to develop and adopt a National Population Policy;

- plans to incorporate population factors in the next Five-Year Plan, 1991-96;

- attention to education, literacy, vocational training, women's development, development of the modern sector, modern communications, improved nutrition, and urbanization in recognition of the indirect influence of these activities on decisions about family size and fertility rates; and

- strengthening the institutional capabilities of the YARG to undertake population studies, research, analysis, and strategic planning.

In particular, the multisectoral approach to population strategies, although not easy to implement, is one of the strengths of the YARG's approach. In addition, the government deserves great credit for the emphasis it is placing on developing women's status and position.

Despite the considerable progress on many fronts, two areas are recommended for increased emphasis:

- More effort could be placed on increasing the role of the private sector, particularly the private health sector, in achieving Yemen's goals for balanced economic, social, and population growth and the mutual responsibilities of governmental and non-governmental institutions in these areas.

- In seeking external donor assistance to implement programs based on its population strategy, the YARG should take into account individual donors' technical as well as financial capabilities when looking at the role each donor can play, and it should coordinate donor interventions to maximize efficiency and output.

6. Proposed USAID/Yemen Population Strategy and Possible Joint USAID-YARG Interventions

6. Proposed USAID/Yemen Population Strategy and Possible Joint USAID-YARG Interventions

6.1 Proposed USAID/Yemen Population Strategy

6.1.1 Principal Components

The strategy proposed for USAID would have four parts, based on the needs identified in the course of this study and the capabilities of USAID to provide useful assistance. Specifically, the principal components proposed are as follows:

1) to support directly the YARG's comprehensive multisectoral approach to population and development planning in an effort to help Yemen accelerate its demographic transition;

2) to help strengthen the YARG's institutional capability to carry out population studies and analyses, to develop appropriate policies, and to plan strategically, taking into account population factors systematically and comprehensively in the next Five-Year Plan and all other development planning at all levels;

3) to support coordinated IEC activities that would develop public awareness and support for the national population policy in general and MCH/family care in particular; and

4) to support the YARG's goal of extending widely and improving significantly the quality of MCH/family care services through the private and public sectors.

6.1.2 Guiding Principles

It is recommended that USAID population assistance be guided by the following principles:

- Consistency with YARG objectives and strategy (see Section 5.1.2);
- Consistency with A.I.D. objectives and strategy (see Section 5.2);
- Concentration in areas of U.S. competence and experience (i.e., service delivery, private sector development, and mass media/communications) and avoidance of overlap or duplication of other major donor efforts (e.g., population education in schools -- see Appendix H for a full list of donor activities); and
- Potential to make significant gains in ability to include population as a factor in development planning, in promotion of MCH/family care, and in fertility reduction.

6.1.3 USAID Strategy and Approach

USAID interventions are proposed through two types of assistance:

1) A bilateral assistance project addressing key constraints, problems, and needs in accordance with the proposed strategy. The USAID mission has made provision in its financial planning for a bilateral population project during the period 1991 through 2000; and

2) Interventions incorporated, where practical, in other bilateral USAID (agriculture, education, health) activities, women's development, and private enterprise promotion.

Given the present institutional situation, the project should adopt a somewhat non-traditional approach to population and family health interventions. The approach would emphasize

- mobilization of private resources and energies in the health sector to take advantage of what is now an underutilized but potentially dynamic resource;
- strengthening of the YARG's institutional capacities for population planning studies and identification of necessary policy-level interventions;
- planning to address more effectively and to reduce population constraints in development investments and programs; and
- a focus on indirect measures (education, literacy, women's development, expanded employment) that affect family welfare and determinants of family size and fertility, as well as on direct measures through MCH/family care promotion.

6.2 Recommended Areas of Activity for Joint USAID-YARG Interventions

Broad areas for activity include policy-level, multi-sectoral, demand-side, and supply-side interventions. These interventions are proposed in line with the objective under the bilateral assistance project to achieve a contraceptive prevalence rate of 35 percent by the end of the project.

1) **Interventions to support a comprehensive approach to population and development planning:**

a) A program of surveys, studies, and research on population issues, problems, and trends undertaken and funded jointly with the CPO in collaboration with other agencies and regions (see list of illustrative studies in Appendix C). Inputs would include technical and financial assistance. Examples:

- demographic and health sample surveys carried out in each governorate to provide data for improved regional planning, for example, development of market towns and secondary urban centers and promotion of employment;
- applied research on subjects such as fertility, marriage patterns, and informal-sector employment using data collected from the 1986 census and the programmed national DHS (circa 1992);
- operations research on service delivery in rural areas using a community-based distribution system;
- a study of the housing sector in terms of generating employment and providing low-cost housing as cities grow; and
- quick sample surveys designed to establish contraceptive prevalence rates in principal urban centers.

b) A program designed to strengthen the institutional capability of the YARG to carry out studies, research, and population factor analysis for planning purposes, to include training (local and in the U.S.), technical assistance and measures to strengthen organizational structures in the CPO and other ministries. Such a program should examine measures to strengthen the capacity of the University of Sana'a to contribute to such studies and research.

c) Interventions under on-going or planned USAID/Yemen bilateral programs in sectors of agriculture, education, women's development, health, and private enterprise promotion. For example, in collaboration with the Ministry of Agriculture, USAID has designed its agricultural programs to address problems of adjusting farm production and distribution of farm products to changing patterns of farm labor availabilities and the role and status of women in agriculture.

2) **Interventions to Support a Coordinated IEC Program:**

a) Study of potential for and approaches to ensure effective collaboration among concerned Ministries: Education, Health, Housing, Local Community Development, Information, Social Affairs, and the Ministry for Guidance and Endowment.

b) An information program to reach leaders and sensitize the public about population issues, national population policy, and population programs.

c) A program to promote increased understanding and acceptance of MCH/family care services (including breastfeeding and child spacing) for Yemeni families. The program should use a combination of interpersonal and mass media communications. It should be designed to

- enlist the support of health professionals (including, particularly, doctors in the private sector) to promote MCH/family care in their practice;

- increase couples' awareness and knowledge of family health issues and, where services are available, how to use a method of contraception; and

- encourage increased female employment in family health programs.

d) Program support for development and implementation of female literacy, particularly for women in rural areas and in poor urban areas, using PVOs (particularly women's associations), TV and LCCDs. This program could include

- work with the national literacy program and all NGOs providing literacy training, particularly women's associations, to integrate health and family welfare education into all literacy teaching modules; and

- measures to develop the institutional capacities of selected women's organizations to develop and implement women's training for health activities that integrate health and family welfare education into programs such as literacy and sewing classes.

e) If additional resources are needed, support to help develop the UNFPA/UNESCO-initiated program of population education in the school system and in informal education for persons not in school.

3) **Interventions to extend significantly MCH/family care services in the public and private sectors to greater numbers of Yemeni families and to improve the quality of these services.**

Interventions should be designed bearing in mind the following guidelines:

a) Mobilization of the resources of the non-public sector, including the private health sector and NGOs, particularly the Yemeni Family Care Association.

b) Enhancement of local and community action by decentralization and strengthening the role and capabilities of LCCDs to promote and provide MCH/family care services.

c) Achievement of significant national increases in contraceptive use and increased and longer breastfeeding, at first in urban and semi-urban communities, where socioeconomic factors favor early widespread acceptance, and gradually increasing in rural areas.

d) Attention to the issue of contraceptive supply and logistics in the private and public sectors, in light of current deficiencies and foreign exchange constraints on imports.

e) Attention to the issue of quality MCH/family care services and the need for: 1) improved recruitment, training, and supervision of female service providers (taking into account other measures by the YARG, USAID health programs, and other donors to strengthen health sector management); and 2) an expanded pool of female service providers.

Interventions proposed for consideration include

a) Strengthening the capabilities and role of NGOs, to enable them to establish more regional or district centers and to help them organize technical assistance to governorates and LCCDs for community-supported MCH/family care programs.

b) A program with the Syndicate of Physicians, Dentists, and Pharmacists as well as other medical professionals to promote family health in private medical practices and in private clinics and to promote sales of contraceptive products by private pharmacies and drugstores.

c) A program to support decentralization and to mobilize local community efforts and resources through the LCCDs by means of annual grants to cooperating LCCDs to promote demand and improve supply of MCH/family care services.

d) A collaborative program with the private and public sectors (including hospitals) and in cooperation with the LCCDs (some 160 clinics operating in the afternoons only) and the MOH to develop rapid increases in active MCH/family care service points in urban and semi-urban areas.

e) A program to help the MOH and governorates achieve active MCH/family care service delivery in all MOH health centers and PHC units.

f) A program supporting efforts to improve recruitment, training, and supervision of MCH/family care service providers.

g) A program to assist the Faculty of Medicine provide pre-service training for medical students in contraceptive technology and reproductive health.

h) A program in coordination with other donors to ensure necessary supplies of contraceptives. Care should be taken that this is not in competition with the private sector.

Appendices

Appendix A

Description of Assignment
February 16 - March 26, 1990

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Description of Assignment
February 16 - March 26, 1990

1. The Agency for International Development contracted with Dual & Associates, Inc. in January 1990 to provide a team of consultants to work in Yemen with the USAID Mission and with the Yemen Arab Republic Government (YARG) and particularly with the Central Planning Organization (CPO). The purpose of the assignment was to prepare a strategy statement "directed towards the host government, interested organizations, USAID/Yemen and A.I.D./Washington which will form the basis of future direction for the USAID in support of population activities in Yemen." A secondary objective was to prepare a draft concept paper as an internal document for USAID/Yemen and A.I.D. for a possible bilateral project for Yemen.

2. Dual & Associates, Inc. recruited two consultants for this mission: Albert R. Baron, a development planner and administrator, currently team leader of an International Science and Technology Institute, Inc. (ISTI) contract team assisting the Senegal Project for Family Health and Population, and Elizabeth Bennour, a consultant in women's development, family care and training with extensive experience in the Arab world and fluency in Arabic. The third member of the mission was Nancy Harris, a family care specialist, currently directing the SEATS centrally funded family care project, made available by John Snow, Inc. at the request of A.I.D./W.

3. The team arrived February 19 and completed work in Yemen on March 23.

The scope of work is provided as Attachment 1.

4. The methodology included a thorough documentation review (see Attachment 2) and meetings with USAID staff, representatives of donors, representatives of the Ministries of Health, Education, Social Affairs, and of Local Development, close collaboration with the Central Planning Organization, and field visits (see Attachment 3).

5. Several aspects of the assignment were particularly noteworthy:

- The assignment involved an interactive process with the CPO. The CPO was in the process of developing a population strategy, which it knew it needed and wanted. CPO staff however, was not sure what would, could or should go into a strategy (or policy statement) and found useful what the USAID team had to say and recommend in this regard. By the same token the USAID population strategy team found it useful to learn about the directions of YARG's population strategy and policy. One of the strong points of this effort was the collaborative nature of the undertaking between CPO, USAID, and the team.

- The team also found a population situation in YAR that in many respects is unique: a) a country that only recently had experienced rapid population growth; where prior to 1975, population growth rates were moderate; b) a country where it was being recognized by planners and thinkers that population needed to be considered in all its facets in the development planning process; c) a country where family care (the term for family planning) had been accepted and promoted for many years on a limited basis in public health care facilities; and d) a country with a vital private sector already involved in providing family care services and distributing contraceptives through pharmacies and private medical practice.

- The team found it difficult to obtain data on the extent of MCH/family care in public health services. The extent of private sector distribution of contraceptives and private family care service delivery was also not readily available. It was for this reason that the team with the prior approval of USAID/Yemen and Dual & Associates, Inc. financed a low-

cost survey of 20 pharmacies and drug stores in Sana'a, to round out data on the private sector that had been collected in Taiz, Hodeidah, and Dharmar. The team also made a special effort to assess the situation with respect to the effectiveness of the primary health/MCH/family care system. Team members visited four regions and an ex officio member (Barbara Kinzie) visited a fifth Governorate.

6. The team would like to extend its thanks to the USAID/Mission, which provided excellent guidance and assistance.

Attachment 1

Scope of Work
Population Strategy Team

Objective

The Team shall assist the YARG and USAID to strategize and plan for future populations programs for the years 1990-95.

Methodology

1. Review data
2. Interviews with key people in Government; donors
3. Requests for data generation
4. Visits to Governorates.

Scope of Work

1. The Team will begin work in Yemen o/a February 20 and will carry out its scope of work through March 23. A preliminary draft strategy statement will be submitted to USAID for comments by March 10. USAID comments will be received by March 12. A final draft will be submitted by March 17 for comment. USAID comments will be given to the Team by March 19. The final report incorporating USAID comments will be submitted on March 21st.

2. Major Tasks

a. Collect and analyze data on population situation and population dynamics; identify and analyze factors in population field, especially those affecting fertility, family health and economic growth; identify major institutions, networks, etc. including private providers, pharmacies, local councils, women's groups, marketing networks which could be important for creating community support and providing access to family planning.

b. Understand and prepare a clear statement analyzing YARG population objectives which should lead to its population policy and strategy, drawing on various YARG decision makers.

c. Identify major constraints and problems to meeting YARG population objectives. Examine financial, manpower, social and especially institutional constraints.

d. Identify broad areas of activity expansion and target groups/participants; suggest/recommend interventions for YARG and anyone interested in providing assistance to Yemen to address the constraints. Identify investments, particularly by the U.S.

e. Prepare a 25-page strategy statement for population programs directed towards the host government, including organizations, USAID/Yemen, and AID/W, which will form the basis of future direction for USAID in support of population activities in Yemen.

f. Prepare a 5-page draft concept paper for a possible bilateral population project by USAID for YEMEN.

Attachment 2

List of Persons Contacted

As-Sabeen Hospital	
Dr. Abdul Wahab Al-Adlah	Deputy Director, Ob/Gyn Department
Dr. Abdul Rahman Al-Sharee	D.G. and President of Physicians, Pharmacists and Dentists Syndicate
Dr. Ahmed Al-Khazan	Ob/Gyn Department
AVSC	
Fathi Dimassi	Regional Director
Central Planning Organization	
Mr. Yahya Al Qaizal	Director General of Department of Statistics
Ms. Asma Al-Basha	Director General for Legal Affairs, Member of Permanent Committee of YAR, Member of BOD of National Women's Association
Dr. Abdul Aziz Farah	Chief Technical Advisor, UN, Population Studies and Research Center
Mr. Ameen Marouf Al-Janad	Director of PSRC
Mr. Abdul Jaleel Barakani	Supervisor, PSRC
Mr. Jamal Faqih	Deputy Assistant, Technical Cooperation Dept.
Faiza Aubali	Supervisor, PSRC
Edward Jongstra	Nidi Associate Demographer
Emergency Clinic, Sana'a	
Mr. Mohamed Al Hatsabi	Director
Health Manpower Institute	
Mr. Abdul Wahab Al-Kohlani	Deputy Director
Mr. Muhammad Al-Ghashm	Deputy Director of Financial Affairs
JHPIEGO	
Barbara Kinzie	Program Development Officer
Johns Hopkins University/ Population Communication Services	
Moncef Bouhafa	Program Officer
Pamela Pine	Program Assistant
LCCD	
Abdul Malik Sallam	Public Relations
Ministry of Education	
Fawziya Numaan	Director of Secondary Female Education
Ashwaq Al-Sha'abi	Director of Primary Female Education
Najat Al-Yaremi	Deputy Director of Female Education
Ministry of Health	
Dr. Ahmad Makki	Deputy Assistant
Mr. Khalid Al-Saqqaf	Director of International Relations

Dr. Hussein Al-Katta'a	Director of Supreme Council of Drugs
Dr. Khalid Ghailan	D.G. of General Health Services
Dr. Abdul Halcem Hashem	Director of PHC
Mr. Khalid Al-Saqqaf	Director of Foreign Coordination
Dr. Abdulla John	Director of AIDS Prevention
Pharmaceutical Sector	
Mr. Hazem Baker	Chairman
Mr. Ali Hamdani	General Director
Al-Mohdar Pharmed Appliances Co. Ltd.	
Mutahhar Amiraldin Al-Huthi	Commercial Director
REACH	
Noel Brown	Chief of Party
Leslie Perry	Administrator
Royal Netherlands Embassy	
Sonja Zimmermann	First Secretary for Womens' Development
Sana'a University	
Dr. Abubakr Al-Qirbi	Vice Rector
Dr. Abdul Wahab Makki	Director, Population Dynamics Project, Faculty of Medicine
Dr. Abdullah Al-Huraibi	Dean, Faculty of Medicine
Dr. Ali Fadhl	Vice Dean, Faculty of Medicine
SEATS	
Sereen Taddeus	Training Specialist
UNESCO	
Ahmad Hashem	Director General
Fathi Ben Mahmoud	Chief Technical Advisor, UNFPA
UNICEF	
Stuart McNab	Res. Rep.
UNFPA	
Faysal Abdul Qadir	Country Director
Aisha Juma'an	Program Officer
USAID	
Kenneth H. Sherper	Director
Benjamin Hawley	Program Officer
John W. Wiles	HPN Officer
Robert Mitchell	General Development Officer
Raga Uqba Alhubaishi	Population Program Specialist, HPN
Hamoud Hamdani	Health Program Specialist, HPN
Abdul Hamid Al-Ajami	Private Sector Program Specialist, GDO
Abner Smith	IESC Consultant, GDO

WHO	
Dr. Zamel Al-Alawy	Res. Rep.
World Bank	
Robert Taylor	Consultant
Dr. Salim J. Habayeh	Public Health Specialist
Yemen Family Care Association	
Dr. Yahya Al-Babily	Executive Director
Ossama Mussalam	Program Officer, Arab World Region
Yemen Red Crescent Societies	
Dr. Abdul Al-Khaseem	Chairman
Dr. Al Graft	Director, Sana'a
Yemen Women's Association - Sana'a	
Hoda Qubati	President
Fatima Hamza	Deputy President
Shafeeka Al-Juma'ai	Member and Director of Follow-up and Evaluation Dept., Ministry of Oil and Mineral Resources
Dhamar	
Dhamar Hospital	
Mr. Muhammad Al-Maqmahi	Admin. Officer, Statistics Dept.
Dhamar Rural Health Project - Health Office	
Mr. Ali Ahmad Al-Dailami	Deputy Director
Dr. Abdo Tahir Abdul Mughni	Director of Drug Supply Dept.
Mr. Muhammad Taha	Director of Financial and Admin. Dept.
Dr. Ronald Van Dajk	Project Manager
Dhoran Anes' PHCW Training Center	
Mr. Mus'id Al-Maghribi	Director of Training Division
Ms. Maryam Kamarani	Teacher
Mr. Ahmad Yahya Al-Marwani	Director of the Center
Hodeidah	
Hodeidah Health Office	
Dr. Abdul Hafiz Qasim	Deputy Director of Health Office
Mr. Saleh Ibraheem Hakami	Director of PHC
Dr. Ahmad Al-Junaid	Assistant Manager
Dr. Paul Weeden	Project Advisor/Manager
Hodeidah Urban PHC Project	
YAR Netherlands Development Cooperation	
Ms. Thera de Haas	Senior Nurse, Training Tutor
LCCD Clinic I	
Dr. Habib Bagash Haidar	Health Director

Taiz

LCCD's 1st Clinic	
Dr. Habeeb Bagash Haidar	Director
Yemen Women Association - Taiz	
Sua'ad Al'Absi	President
Yemen Swedish Clinic	
Dr. Abdul Wahab Al-Ghurbani	Director, D.G. of Health Office, Director of PHC
Ali Handhal	Deputy Director of LCCD and Pragma/USAID Family Welfare Project Director
Abdul Kareem Muhammad	Supervisor of Health Education
Abdalla Badr	Director of Health Education
Eva Hansson	Senior Nurse, Training Tutor, Radda Barnen
Yemen Swedish Clinic	
John Perlhagen	Consultant Pediatrician, Medical Advisor, Radda Barnen
John Lilya	Country Rep., Radda Barnen
Sharon Beatty	PHC Advisor

Sa'dah

As-Sallam Hospital	
Alan E. Hutchison	Director, Saudi Medical Services
Health Office	
Mohammed Soheil	General Medical Director, Sa'dah Governorate
Mohammed Abdul Rahman Al-Ahdel	PHC Training Supervisor
Magdi Al-Dhala	Director, REACH Project, Sa'dah Governorate
Sa'dah Republican Health Center	
Ton van Konigsveld	Physician
Cornelie Scheeres	Physician (OB/GYN)
Valerie Schlumpf	Physician (internist)
Thea Groenveld	Nurse-Midwife

Attachment 3

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Appendix B

Population/Demographic Profile and Development Planning Considerations for a Population Strategy and Policy

Appendix B

Population/Demographic Profile and Development Planning Considerations for a Population Strategy and Policy

1. Population Size and Growth

According to the 1986 census, the population of the Yemen Arab Republic was 9.37 million[1] including 8.20 million residents and about 1.17 million migrants working in neighboring Arab countries, particularly in Saudi Arabia. This compares to a population of 6.49 million (also including migrants) in 1975. There are uncertainties about the actual number of migrants, which influence estimates of growth; nevertheless all sources place the intercensus growth rate at over 3 percent per year. Currently (1990), the YARG estimates the population growth rate at 3.29 percent, one of the highest in the world.

The high rate of population growth in the YAR is a new phenomenon having developed in the past 15 years. The increase is due to a combination of

a) declining death rates -- which nonetheless remain high, more than double the average prevailing in developing countries according to the World Bank -- resulting from improving health and nutrition; and

b) one of the highest fertility rates in the world (8.8[2]).

The Government estimates that the rate of natural increase of population has grown from 1.9 percent in 1975 to 3.1 percent in 1985, an increase of two-thirds. The population is at the beginning of its demographic transition when death rates are high but falling, birth rates are high, population growth is rapid, family incomes are low, and the rapid growth of population constrains economic and social development.

In the current situation, prospects for declining mortality are good. The situation with respect to fertility has been one of high levels maintained over a long period of time which, according to some studies, has increased slightly in recent years. Because there is a strong cultural preference for large families, fertility rates could continue high and lead to further increases in population growth rates. In the long run only declines in fertility can moderate and decrease population growth.

In the course of the demographic transition, fertility gradually declines and stability is finally achieved at low levels of both birth and death rates. Even with declining fertility, however, it takes time for population growth to decrease. "Population momentum," i.e., the tendency for continued population growth derived from the young age structure of population, means that the number of people leaving their reproductive years will be small compared to the number entering them. Thus, the increase in the number of couples of reproductive age keeps the population growth rate high even as fertility may decline.

The CPO, using different assumptions concerning rates of fertility and mortality decline and based on the existing age distribution and a resident population of 7.8 million in 1986[3], has projected a population by year 2016 of between 19 and 24 million persons. The lower figure of 19 million persons compared to the higher one reflects "gains" which would be achieved if the scenario of significant declines in fertility were to be realized.

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[1] 1988 Statistical Yearbook for the YARG.

[2] According to Central Planning Organization.

[3] This figure does not include so-called unenumerated resident population estimated at about 400,000.

After 2016, the population will tend to level off.

The fact that a large portion of the population is young, nearly 50 percent under 15 years of age, is significant on two counts: a) because of the phenomenon of population growth momentum, and b) because of child dependency. Currently, the dependency ratio is calculated by the CPO at about 102 children per 100 adults of working age. Fertility trends will determine future child dependency ratios. If fertility rates were reduced to 4 or 5 (the current number of desired children is said to be 5), the dependency ratio by year 2016 would decline to about 75-85 children per 100 adults.

The rapid rate of population growth and changing patterns of population distribution and structure are leading the Government to address population and family planning systematically and comprehensively in its macro-economic and sectoral planning.

The decline in crude birth rates experienced over the intercensus period reflects progress achieved by Yemen in reducing mortality for all age groups. The crude death rate, however (calculated at 23.2 per thousand in 1985), is still higher than the average of 11/1000 (figure cited by World Bank report) for developing countries and three times higher than in developed countries.

YARG data on infant mortality show an encouraging decline from an estimated 171 per thousand live births in 1975 to 136 in 1986. However, there are great disparities in infant mortality rates between urban and rural areas. For example, in 1986, the rate in Sana'a city was between 105 and 110 per 1000 whereas in Dhamar and Al Jawf Governorates, it exceeded 160.

The infant mortality rate estimated for 1986 does not reflect the successful efforts by YARG in 1987-89 to extend child survival interventions throughout the country. In those three years, immunizations of children reached over 50 percent of the children in 1989 and are expected to reach over three-quarters in 1990.

The expectation is that Yemen will achieve further reductions of infant mortality and within a few years may succeed in bringing the rate closer to or below the average of the developing world (90 per 1000). Success will depend on strengthening the primary health care system and integrating MCH/Family Care/Child Survival components within it.

Maternal mortality rates apparently have not declined. They are currently estimated at 10 per 1000 for the nation as a whole, among the highest in the world. In the third five-year plan (1987-91) it was the declared aim of the Government to reduce maternal mortality from 10 to 5 per thousand (and to reduce infant mortality from 170 to 80). More recently, the YARG has concluded that efforts must be undertaken to address fertility issues by strengthening the program and services for maternal and child health care and child spacing. The objective is to achieve a significant decline in fertility rates through a combination of indirect determinants (education, women promotion, employment, etc.) relating to socioeconomic development and through direct action through MCH/Family Care.

2. Population Distribution

Urban population is estimated variously between 14 percent (YARG estimate) and 23 percent (1989 World Bank estimate) of the total. The YARG estimated urban population in 1988 of 1,168,000 (Ref:1988 EPI Coverage Data).

Most of the urban population is concentrated in the major urban centers of Sana'a, Taiz, Hodeidah, Ibb and Dhamar. These five cities make up about 80 to 85 percent of the total urban population. In all there are only 8 cities with a population over 10,000. One count showed 52 urban or semi-urban areas (see Attachment 1). These areas should be targeted for MCH/family care promotion.

In the past, through the 1960s there was very little urban growth and through the mid-1970s, the high rate of emigration appears to have acted to limit growth of the cities. From 1975 through 1986, however, urban population growth rates were extraordinarily high, averaging some 11 percent per annum in Sana'a, the capital and largest city, and ranging from 7 to 10 percent for other major cities. (In other parts of the developing world, urban growth in the 1980s ranged from 2 percent in China to 7 percent in Africa.) During this period, the decline in foreign employment opportunities apparently added to urban growth because a majority of returning migrants originally from rural areas probably settled in the cities.

It is expected in coming years that internal rural to urban flows will be substantial, and that Yemen will continue to experience high rates of urban growth, as in the case of most developing countries. If, as appears likely, urban growth continues to increase at about 7 to 8 percent per year, in eight years the urban population of the country will have doubled. Thus the urban population could reach about 2.4 million (circa 1998).

Expectations about urban growth should be verified by demographic and social studies of the urbanization process currently under way in Yemen. The extent of the urban population and its growth are of strategic interest in formulating family care programs for two reasons:

- First, because it is relatively easier to introduce and develop MCH/FC in the socioeconomic situations obtaining in urban areas;

- Secondly, because the development of MCH/Family Care services in the city serves to promote their acceptance and adoption in rural areas (as country cousins become acquainted with them through their city relatives).

Currently, family care is much more widespread in the urban areas than in rural areas, mainly because of greater knowledge and receptivity of families and better access to service delivery. Although precise data on contraceptive prevalence is not available, the impression is that a large percentage of educated women in urban areas are practicing family care and that contraceptive prevalence in major cities may amount to about 10 percent. With promotion through information, education, and communication programs and continued increasing availability of MCH/Family Care services, a doubling or tripling of child spacing in urban areas to levels approaching 20 to 25 percent could be realized during the period of the fourth Five-Year Plan and to 35 to 45 percent by the year 2000.

Rural population currently totals about 80 percent of the total resident population. Because of urban migration, it is growing somewhat more slowly than the national average. A characteristic of this population is that it is widely dispersed in some 30,000 hamlets and villages.

The scattered distribution of the population, and the difficulty in recruiting local female health personnel in rural areas, has hindered development of primary health care (PHC) services, including MCH/Family Care, in rural areas. It is estimated that perhaps 40 percent of rural areas are presently covered by the PHC system. Many of the health centers and nearly all the rural primary health care units are poorly frequented, however.

There are no studies available describing the situation with respect to fertility, nuptiality, health, and knowledge, attitudes and practices with respect to family care. Local observers indicated that probably 2 percent of rural women currently space their children using a modern method of contraception. Data on contraceptive supply in 1988 and 1989 suggest, however, that if imports are being fully used, the indicated level of contraceptive prevalence would be about 2.5 percent in rural areas, and about 10 percent in urban areas, with a national average of roughly 3.5 percent. This very rough indicative estimate compares with the figure of 1.7 percent for contraceptive prevalence determined by the 1979 fertility survey. On the other hand, breastfeeding appears to have been declining, particularly in the urban and semi-urban areas.

3. Proximate Determinants of Fertility

Contraceptive prevalence is the principal determinant of moderated fertility rates. As pointed out by John Bongaarts of The Population Council, contraceptive prevalence is not the only proximate determinant of fertility rates. Indeed research has established that the principal proximate determinants of natural fertility (i.e., "couples do not practice deliberate parity-specific birth control to achieve family size goals") are

- the marriage pattern (particularly the age of marriage)
- the duration and intensity of breastfeeding.

These two factors vary among societies in correlation with variations in natural fertility. Natural fertility can range greatly in different societies: The highest total natural fertility rate recorded is twice the lowest.

Bongaarts' research has shown that in four countries (Yemen, Syria, Jordon, and Kenya), very high fertility rates exist because marriage and breastfeeding behavior in these societies exert less restraint on fertility than in the case of other societies at the same level of contraceptive prevalence. This research also found that short durations of lactational infecundability were responsible for larger proportions of "excess" fertility than was early marriage. (Note that the term excess fertility means the excess over what would have been estimated on the basis of a model using only modern contraception as a factor in changing natural fertility.) A further conclusion of the research is that it is likely that one or more of the factors --breastfeeding, age at marriage, and/or marital disruption -- decreased over time. This indeed seems to be the situation with breastfeeding in Yemen.

A conclusion to be drawn is that at the onset of the fertility transition, it is quite possible for fertility to remain constant or even rise temporarily, even as contraceptive use increases, because other proximate determinants can exert offsetting upward pressure on fertility. This points to the desirability of YARG policies encouraging breastfeeding (health education) and later marriage (education, literacy, urbanization and other social factors may work to delay the age of marriage).

Bongaarts also notes that "As a society develops, desired family size declines, causing a rise in deliberate birth control and a reduction in fertility. Supporting evidence for this view of the transition in reproductive behavior includes the high degree of correlation ($r = 0.92$) between the total fertility rate and the contraceptive prevalence in contemporary populations" (74 countries). According to the regression model worked out by Bongaarts and his colleagues using data from 74 countries:

a) the total fertility rate equals, on average, 6.8 births per woman in the absence of contraception; and

b) fertility declines .62 births per woman for each 10 percent increment in contraceptive prevalence. Longitudinal data from several societies support the conclusions.

4. Economic Consequences of Declining Fertility Rates and Moderated Population Growth Rates

CPO has examined the financial and economic implications of faster or slower population growth in various sectors for the period 1986 to 2016. These studies indicate the economic gains resulting from reduced public investment levels which would be required to maintain existing levels of services (housing, power, schooling, health) if population growth is moderated as a result of declining fertility.

For example, CPO analysis shows that the requirement for annual recurrent expenditures for primary education simply to maintain the level of service existing in 1986 (same proportion of children in school) would rise from 0.8 billion rials per year in 1986 to an annual 1.9 billion rials in year 2016 under CPO's low-fertility-moderated-growth scenario, whereas the continued-high-fertility-high-growth scenario leads to an increase in these expenditures to 2.7 billion rials by year 2016.

Similar calculations show the extent to which investments will be required in other areas such as housing, electricity and heating, water supply, and health to maintain existing levels of service.

Rapid population growth and shifts in population structure and distribution also aggravate problems of desertification and environment, and requirements for increasing food imports.

Analysis of the economic impact of programs that moderate population growth may be based on a comparison of costs of such programs and the economic benefits obtained by savings in required capital investments to maintain a given per capita gross national product. Typically, such analyses for developing countries show benefit/cost ratios on the order of 10 to 15; that is, every rial invested tends to produce economic savings in terms of investments of 10 rials or more.[4]

Worldwide comparisons of the experience of developing countries indicate that the cost-effectiveness of MCH/FC programs in terms of impact on fertility is considerably higher than that of other socioeconomic changes.[5] However, these comparisons do not take into account that socioeconomic programs, such as those that promote widespread literacy, more education or more productive employment, have crucial primary goals other than lowering fertility; that family care programs also have other benefits, such as reducing maternal and child health mortality. . .[and most important]. . .these different approaches are really not alternatives but in fact reinforce each other.[6]

[4]The economic analysis carried out for the Senegal Population and Family Health Project showed a benefit/cost ratio of 12; copies of this analysis were provided to CPO.

[5]John Hopkins University, Population Information Program, Population Reports: "The Impact of Family Planning Programs on Fertility," Series J, Number 29, January-February 1985.

[6]J-762, op cit.

Attachment 1

Urban and Semi-Urban Areas in YAR

A. Taiz Governorate

1. Taiz city
2. Al Rahida
3. Al Turbah
4. Al Mukha
5. Hajjah*
6. Shora'b*
7. Al Qa'dah

B. Hodeidah Governorate

1. Hodeidah City
2. Hays*
3. Zabid
4. Al Husaynihay*
5. Bayt al-Faqih
6. Al Mansuriyah*
7. Al Sukhnati*
8. Al Marawia'h
9. Al-Qutay*
10. Bajil
11. Al Mighaf
12. Al Qunawis*
13. Az Zurah*
14. Az Zayidah

C. Hajjah Governorate

1. Hajjah City
2. Midi*
3. Abs*
4. Harad*

D. Ibb Governorate

1. Ibb City
2. Jiblah
3. Al Makhadir
4. Al Qatabah
5. Yarim

E. Marib Governorate

1. Marib

F. Sa'dah Governorate

1. Sa'dah City

G. Al Jowf City

1. Al Jowf City

H. Sana'a Governorate

1. Sana'a City
2. Al Harth*
3. Hoth
4. Khamer
5. Raydah
6. Amran
7. Thula*
8. Radaa
9. Kawkaban*
10. Wa'tan*
11. Manakhar*

I. Dhamar Governorate

1. Dhamar City
2. Ma'abar

J. Al Baydha Governorate

1. Al Baydha City
2. Al Taffah*
3. Al Sawwadiyah*
4. Rada'a

K. Al Mahwit Governorate

1. Al Mahwit City
2. Shibam

Total No. of Urban Areas: 52

Characteristics of Urban or Semi-Urban areas:
Administrative center, population, school(s), hospital or health center, post office, main road, hotel(s), bank(s), daily market, street lights, police.
** Semi-Urban*

Appendix C

List of Illustrative Population Studies

Appendix C

List of Illustrative Population Studies

1. Urbanization

Expectations about urban growth (see Appendix B) should be verified by demographic and social studies of the urbanization process currently under way in Yemen. Such studies are needed to provide national and regional authorities a better base for urban development planning including generating employment and meeting needs for housing, water, power, health services and schooling in major and secondary cities. Knowledge of urbanization is of strategic interest in formulating family care programs because a) it is relatively easier in the socioeconomic situations obtaining in urban areas to introduce and develop MCH/family care (as evidenced by the higher rates of family care in major cities); b) the development of MCH/family care services in the city serves to promote its acceptance and adoption in rural areas as rural families become acquainted with it through their city relatives.

2. Internal and External Migration

Studies are needed to provide better data on patterns and tendencies for internal movements of population and trends in resettlement of overseas migrants.

3. Population, Employment and Health Surveys by Governorates

As an aid to regional and national planning, surveys are needed to obtain demographic, health and socioeconomic data by Governorate. Data collected would reflect particular regional situations and concerns including migration tendencies, employment, family income and welfare, housing, health and education. Such regional surveys would be based on census and national DHS survey data. They should be designed using representative sampling techniques, to provide more detailed and extensive data than national surveys can furnish. A program to carry out these surveys would require four to five years of effort by the CPO statistical office.

4. Quick Urban KAP Surveys

Surveys of family care should be carried out in major urban areas. There is no current information on the extent of family care, of contraceptive prevalence, or of women's knowledge concerning birth spacing. Although a Demographic and Health Survey is programmed, the results will not be available for several years.

A survey carried out in a few major population centers could provide information on the current situation. These could be carried out with small sample surveys of up to 1,500 to 2,000 women in three to four cities.[1] The surveys could possibly be financed as preliminary studies under the proposed national DHS survey.

5. Male Attitudes

There are no data on the attitudes of males concerning family health and/or population problems. A study of male attitudes can be carried out in a relatively short period of time using pre-tested questionnaires and focus groups. Initially a study in Sana'a city of perhaps 1,000 males, broken down by males in the informal sector, professionals, and students, and those employed in the formal sector will

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[1] Dr. Dale Huntington and Dr. Halima Maiduka, "Family Planning Attitudes and Behaviors in Urban Niger, West Africa," Niger, 1989 (manuscript).

provide information on which to base IEC programs for family health. In other countries, such studies have shown that commonly accepted views concerning the conservatism of male attitudes need to be modified.

6. **Village Monographs**

Sociological surveys in small rural communities are needed to obtain hard data on health, family welfare, employment, education, women's status, water availability, etc., to help planning of rural social and economic development programs. Initially, 3 to 4 communities can be chosen in one Governorate, with the plan to continue progressively in other Governorates. Three to four years would be required to complete such a program in all Governorates.

7. **Sale of Infant Formula**

Studies are needed on commercial promotion of infant formulas and the need for regulatory measures or voluntary health guidelines for the private sector.

8. **Studies of Literacy Training**

Studies are needed on the extent of literacy training and its impact on family welfare, family health, and employment. Studies would examine the correlation between literacy and family health/family welfare; the effectiveness of literacy training; and the potential for expanding literacy training to reach a much higher proportion of rural population, and for achieving sustained functional literacy, i.e. the trainees' retention of the ability to read, through such programs.

9. **Studies of Women's Associations**

Studies would cover the role and contribution of Women's Associations in programs promoting family welfare and the status of women, including vocational and training programs for females.

10. **RAPID-Type Macro-Economic Analysis of Population Impact**

Analyses already in existence show the impact of population growth and high fertility on health, education, labor force and employment, food imports. Additional studies should be undertaken in the other areas, such as

- Development of the housing sector to meet demands of a growing population and to provide increasing employment opportunities, especially in urban and semi-urban areas
- Water supplies and requirements for changing population patterns.

11. **Research on Demographic Topics**

Applied research on demographic subjects such as fertility (determinants of, biological and behavioral), marriage patterns (trends, regional differences, impact of education, impact of economic activity), infant mortality, maternal mortality, and informal sector employment using data collected from the 1986 census and the programmed Demographic and Health Survey.

Appendix D

Supply and Use of Contraceptives and the Private Sector

Appendix D

Supply and Use of Contraceptives and the Private Sector

Yemen has permitted the importation and use of contraceptives for health reasons for many years. Imports are approved by license granted by the Supreme Council on Drugs (SCD) in the Ministry of Health and are duty free. The sources of supply are

- The private sector;
- The Ministry of Health using supplies provided by the UNFPA;
- Hospitals operated by the MOH with assistance from donors which may supply drugs and contraceptives; and
- The Yemeni Family Care Association using supplies provided by IPPF and The Pathfinder Fund.

The Private Sector

The Government permits duty free imports of contraceptives for physicians in private practice and distribution through pharmacies and drugstores. There are 1,320 doctors practicing in Yemen. They practice in public health facilities in the mornings[1] and are free to operate a private practice in the afternoons. Many if not most reportedly do so. There were 217 pharmacies and 719 drugstores in 1988 (1988 Statistical Year Book).

The SCD reports that licensed imports of oral contraceptives by the commercial sector in 1989 amounted to 138,385 cycles, equivalent to about 10,000 couple years of protection (CYP). The brands were Lundiol, Femulan, Ovulin 50, Microgynon 30 and Neogynon. Licensed imports of IUDs that year amounted to 5,432, equivalent to about 13,500 CYP.

Principal suppliers registered with SCD are Organon (Holland), Searle (U.K.), the Yemen Drug Company (YEDCO), Afsofari, a large wholesaler, and Cilag (Switzerland). In addition to YEDCO and Alsofari, large pharmaceutical firms such as Schering, Cilag, Organon and Searles routinely send salesmen to the field to market their products to both pharmacies and doctors. SCD estimates that it licenses not more than 30 percent of the pharmaceuticals that enter the country each year. The bulk of imports are "territorial" and unrecorded in import statistics.

Pharmacies and drugstores are located next to all health centers and hospitals and are also widely distributed in market towns and large villages as well as in urban and semi-urban areas. According to the trade, all pharmacies and drugstores stock contraceptives. All indications point to supply problems in the face of growing demand. Pharmacists and drugstore operators also are often poorly informed about family health and care and the use of contraceptives. Contacts with the trade indicate a need and desire for training in this area.

A survey organized for this report in 20 pharmacies/drugstores chosen more or less at random in Sana'a revealed the following:

All stores carried contraceptives.

[1]There are also doctors not committed to work in the public sector who practice privately full time.

- Many clerks were poorly trained to handle them.
- Microgynon (OC) and Durex (condoms) are the most widely available and most popular contraceptives. Eighty percent of the stores carried Microgynon and 85 percent carried Durex.
- Not more than 20 percent of the stores had IUDs in stock.
- Contraceptives tend to be in short supply. Clients often complain that they have to visit 5 or 6 stores to get their prescriptions filled.
- Prices of OCs range from 15 to 50 rials with the mean in the range 20 to 25 rials (one US dollar = 12 rials).
- Sixty-five percent of the sample reported that demand for contraceptives is increasing; 30 percent indicated stable demand. One store (5 percent) in a competitive neighborhood indicated declining demand.
- No apparent promotion by storekeepers or point of sale advertising.

The foregoing suggests a need to improve the supply of contraceptives for the commercial sector and a need to improve marketing and "consultation" by storekeepers and clerks.

2. **The Ministry of Health with UNFPA**

Under its program to assist the MOH in MCH/family care, the UNFPA financed imports of contraceptives totaling $105,000 in 1988 and 1989 and has ordered $50,000 worth of contraceptives for 1990. The dollar figures are as follows:

Product	1988	1989	1990
Orals/pills	30,000	30,000	30,000
IUDs	25,000	25,000	10,000
Spermicides	25,000	25,000	0
Condoms	25.000	25,000	0

It did not prove possible to obtain from UNFPA the number of contraceptive products corresponding to these dollar figures. On the basis of costs of different products and estimates of shipping costs, it appears that the amount of pills provided probably totaled about 135,000 cycles per year (a separate report from another source indicated that the pills ordered in 1990 totaled about this amount), or about 10,000 CYPs.

IUDs cost about $1.05 each, and shipping costs would probably not exceed $O.20 since they are very light and not voluminous. This suggests that about 20,000 IUDs were supplied each year in 1988 and 1989 and that about 8,300 have been ordered in 1990. The reason for the reduced procurement in 1990 was not explained by UNFPA but may be due to an adequate supply of end-of-year stocks.

The quantities of contraceptives supplied by UNFPA in 1988 and 1989 suggest that in 1989, UNFPA contraceptives could have provided some 40,000 women a full year's protection.[2] The figure might be higher if carry-over stocks to 1990 were not high.

UNFPA reports that it established a comprehensive logistic system for the Ministry in 1988 and 1989. The system is supposed to guide distribution to MOH health facilities and to track stocks.[3] UNFPA reportedly has not been able to obtain data on distribution of contraceptives to centers or stocks, however.

Clearly, any program to strengthen MCH delivery through MOH hospitals and primary health care facilities will also need to improve use of the logistics system (as well as the quality of service).

3. YFCA with IPPF and Pathfinder

YFCA is a private voluntary organization established in 1978. Until 1986, when the MOH started to provide family care services, the YFCA was the main source of supply of family care services (some Family Care services were available from hospitals and from the Yemeni Swedish Health Clinic in Taiz, as well as the private sector). The objectives of the Association are to provide service provision (currently through its clinics in Sana'a and in Taiz); distribution of contraceptives to private and MOH clinics; information programs on family care to women and school girls; and training medical care providers.

With A.I.D. central funding, Pathfinder is providing IUDs, gloves, and IUD insertion kits, audio-visual equipment and funding for community awareness meetings, and administrative support. The Pathfinder budget for the current 18-month program is $68,000. As of February 1990, Pathfinder had supplied a total of 15,000 IUDs to YFCA: 5,000 were supplied in 1987, 5,000 were supplied in 1988 (they were lost but later found) and 5,000 were shipped in 1989.

IPPF provides YFCA budget support in the order of $240,000 per year. Included in this support are oral contraceptives, spermicides and condoms.

As of March 1990, YFCA was providing contraceptives to a total of 43 clinics throughout the country as well as to a few private doctors in Sana'a. The director of YFCA reports that the association provided an estimated 18,000 couple years of contraceptive protection in 1989 compared to 6,110 CYPs in 1986:

1986	6,110 couple years of protection
1987	8,428 couple years of protection
1988	15,011 couple years of protection
1989	18,000 est. couple years of protection.

[2]It is assumed that 10,000 women obtained a full year's protection, using oral contraceptives supplied by UNFPA, in both 1988 and 1989. It is further assumed that in 1989, there were the equivalent of 30,000 women benefiting from a full year's protection gained from IUDs provided by UNFPA and inserted either in 1988 or in 1989. These figures are purely indicative for the purpose of estimating contraceptive prevalence in the absence of service data or proper surveys.

[3]See reports by Dr. Madani, UNFPA Consultant: "Designing a Comprehensive Logistics System for the Primary Health Care Services in Yemen Arab Republic," Sana'a, 1988; and Dr. Said Khalafallah, "Development of Health Statistics and Information System for Primary Health Care and Maternal Child Health Care Services in YAR," Sana'a, 1988.

Distribution of contraceptives are reported by YCFA as follows:

Year	Cycles of pills	No. of IUDs	No. of condoms	Tablets
1986	20,900	533	20,700	
1987	18,000	2,600	na	1,400
1988	33,000	4,654	31,668	27,040
1989	44,881	34,683	30,417	2,680

It is not clear how the Association calculates its couple years of protection since the data on contraceptive distribution suggest lower levels of CYP than estimated.

Service points covered were reported by YFCA to include the following:

Ibb	1 service point: Jiblah Baptist hospital (23 kms outside Ibb city)
Hajjah	Hajjah health center in Abs (supported by UK)
Hodeidah	Five health centers, including two LCCD centers
Dhamar	9 service points, 1 hospital (Dhamar) and 8 health centers
Sa'dah	Sa'dah hospital
Al Baydah	Rada'a hospital
Sana'a	22 service points - 3 hospitals, 17 health centers, YFCA clinic, 1 private ob-gyn clinic
Taiz	3 service points, the first LCCD clinic, the Yemeni Swedish Clinic, and the Taiz YMCA clinic (probably not operational as of 3/90)

4. Analysis of Indicative Levels of Contraceptive Prevalence Based on Data on Contraceptive Product Supply

In 1989 it appears that the various sources of supply provide enough contraceptives for 108,000 couple years of protection. The sources were:

YFCA (with IPPF and Pathfinder) . . . 18,000 CYP*
Commercial - duly licensed imports . . 23,000 CYP
MOH/UNFPA - Oral Contraceptives . 10,000 CYP
MOH/UNFPA - IUDs . . . . . 56,000 CYP

Total . . . . . 108,000 CYP

*Estimate by YFCA

In addition, an unknown quantity of contraceptives was provided by donors through hospitals (for example, hospitals in Sa'dah and Hajjah) and by the private sector as "invisibles." The quantity coming in as invisibles is thought to be substantial, probably sufficient for 30,000 CYP per year or more.

The quantity of pills and IUDs supplied in 1989 can be estimated as follows:

Source	Pills	IUDs
Private Sector	138,000	5,432
UNFPA	135,000	20,000
YFCA	30,417	4,683
Total	303,417	30,115

It can also be assumed that IUDs supplied in 1988 probably totaled about 30,000. The quantity of contraceptives provided in 1988 and 1989 and being provided for 1990 suggest that at the end of 1989, some 23,000 women contraceptors were using the pill and perhaps 50,000 women were protected by an IUD for a total of about 73,000 contraceptors. This does not count couples using other methods (condoms, spermicides, Depo Provera -- which comes into the country in unrecorded imports -- and contraceptors supplied from invisible sources). Taking into account such other sources of supply, it appears reasonable to estimate that the total number for women contraceptors amounts to at least 85,000. Comparing this estimate with a rough estimate of the number of women of reproductive age, about 2.3 million, leads to an estimate of contraceptive prevalence for the country of about 3.5 percent compared to 1.7 percent found in 1979 by the national fertility survey of that year. A 3.5 percent contraceptive prevalence estimate for 1989 may well be an underestimate because contraception based on invisible supplies may be much higher than has been assumed.

Since most service points for the supply of contraceptives are located in urban or semi-urban areas, it is supposed that most of the contraceptors are urban-based. In Taiz, service statistics suggest that contraceptive prevalence exceeds 10 percent. Many knowledgeable persons judge that in Sana'a birth spacing is practiced by a majority of educated women and that probably one women in ten is practicing contraception. The large number of public MCH/FC service points, combined with widespread private sector service for birth spacing, supports this judgment. To conclude, possibly 10 percent of the urban and semi-urban population of Yemen is practicing birth spacing, while the proportion of rural couples using birth spacing probably amounts to at least 2.5 percent.[4]

The estimates derived above are purely indicative. For purposes of programming and evaluation, surveys by sampling techniques are badly needed to establish scientifically objective and reliable estimates of actual rates of contraceptive prevalence. The Government needs also to establish better records of service statistics and distribution of contraceptives by pharmacies.

[4]It has been assumed for this analysis that in 1989 the number of women of reproductive age was about 2.3 million of which 300,000 lived in urban and semi-urban areas.

Appendix E

Primary Health and Maternal/Child Health Care System

Appendix E

Primary Health and Maternal/Child Health Care System

Latest national data show a total of 39 hospitals, 297 health centers (HCs) and 361 primary health care units (PHCU) commissioned by the Ministry of Health as of the end of 1988. Another 30 or 40 PHCUs are understood to have been commissioned during 1989. These facilities combined with those established by Local Councils for Cooperative Development (LCCD) constitute the components of the primary health care system of the YAR.

Some 70 health centers are established as "clinics" with hospital beds for in-patient care. A total of 70 clinics are also established with training facilities for health workers. These centers, known as "health training centers," are for the most part congruent with the clinics equipped for in-patient care.

Health centers are normally staffed by several professionals including a physician-chief health officer, a midwife when available, one or more nurses, an X-ray technician and a pharmacist assistant. PHCUs are a pair of male and female family health workers, both with a year's professional training, who are located in a central geographic area (see Attachment 1, Figures 1, 2, and 3).

Health centers of the MOH usually operate only in the mornings. MOH medical personnel are thus at liberty to work privately in the afternoons. In some instances LCCDs operate MOH health centers in the afternoons. LCCDs have also built and operate their own health centers, often with assistance from foreign donors/private voluntary agencies. No inventory of centers operated by LCCDs was available but it appears that the number may be substantial. For example, regional health authorities in Hodeidah reported that the Governorate counted 42 health centers of which 28 had been built by the MOH, leaving 14 presumably built by donors and LCCDs. Similarly, in Taiz Governorate, the regional authorities reported a total of 88 health centers compared to the MOH list of 62 clinics and subclinics.

Several well-functioning health centers were observed. It is recognized, however, that in general health centers and PHCUs are operating well below design capacity. Based on interviews with knowledgeable specialists in the Governorates and several available studies, the following conclusions emerge:

•Probably a majority of health centers are operating at a low level with only 10 to 30 clients per day;

•Many commissioned PHCUs are in fact inoperative due to the absence of the male primary health care workers and the non-availability of female health primary care workers.

•Many if not most PHCUs that are operational function at very low levels of 2 to 4 clients per day.

•MCH services are available only in a small proportion of health centers. The MOH was unable to provide data on Health Centers currently providing such services, but it seems fair to assume that MCH services are probably not available in more than one out of three health centers and probably not in more than one out of five PHCUs.

•Family care (birth spacing) services are even less available, probably limited to less than 100 delivery points in the country (including hospitals but not counting the private sector).[1]

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[1]For example, the USAID Team determined there were only two service points for family care services in Sa'dah region, and only 7 in Hodeidah and Zabid towns in Hodeidah.

A major constraint to extending and maintaining quality MCH care has been the unavailability of trained, qualified female health service providers (midwives, nurses, health care workers). This situation appears to be gradually improving with respect to recruiting young women for health training and work and with respect to more and better training facilities.

Among the deficiencies facing the PHC system are the wide-spread lack of supervision (and motivation that good supervision generates), the lack of a reliable logistical system to supply centers and the inadequacies of the management information system. Part of the problem appears to be the organizational lines of authority over HCs and between HCs and PHCUs.

Several studies carried out since 1988 document problems being encountered in establishing the primary health care system and suggest remedies. Of these, perhaps the most penetrating analysis is that made by Dr. C.R. Wilison Pepper for WHO in 1988.

YARG is attempting to remedy the present deficiencies of the PHC system in cooperation with donors and to introduce MCH/family care through the system. Of note are the programs being carried out with Dutch, Swedish and U.S. assistance. The Dutch are particularly active in Dharma Governorate and Radda Barnen, the Swedish Save the Children organization, is particularly active in Taiz and Ibb Governorates. USAID is providing assistance to strengthen the primary health care system under a joint project with the government entitled "Accelerated Cooperation for Child Survival (ACCS)." This project, just beginning, includes actions in 7 Governorates and will attempt to improve operations of 12 health centers and 180 PHCUs.

The Government's expanded program of immunization (EPI) against childhood diseases has made significant progress in the past three years. Immunizations in 1989 are reported by UNICEF to have reached the goal of 50 percent and it is expected that 1990 may see a level of 80 percent of children reached through the program. The program of EPI and ORS have both tended to reinforce the PHC system in recent years, as well as to demonstrate the need and effectiveness of a) working with local communities and b) using multimedia (especially TV) to obtain the active participation of communities and parents.

The YARG is negotiating with the World Bank for a health sector loan directed essentially at strengthening the organization and management of the health delivery system. YARG has also requested additional technical and financial assistance of donors to install MCH/family care services in the PHC system. Requests have been made to USAID, the Peace Corps, UNICEF, Sweden and the Netherlands.

In conclusion, existing health centers and commissioned health units can be strengthened to provide quality MCH/family care services to surrounding populations. Such a development is deservedly a priority target of the Government. Its realization will mean that MCH services should become much more widely and readily available, reaching the 40 percent of the population that is now covered by the PHC system.

Coverage of the remaining 60 percent poses a challenge. Until recently, the YARG planning for health for all by year 2000 envisaged the continued construction and commissioning of more health centers (by the hundreds) and more health units (by the thousands). The experience of the last decade has raised questions about the effectiveness and feasibility of extending the PHC system in this manner, however. For example, the Government has agreed to a study in Taiz Governorate currently being carried out by Radda Barnen and the Regional Director General of Health. This study is examining alternative methods of providing health care to the isolated and dispersed rural communities not now covered by HCs and PHCUs. The approach is to increase levels of community involvement to ensure community health.

A second conclusion to be drawn is that measures to utilize the private sector more fully and effectively, as well as to increase local community participation in bringing health to all, are likely to be elements of a sound strategy for extending primary health care services throughout rural areas.

Appendix E
Attachment 1

Figure 1

Ministry of Health
Health Facilities Commissioned

Units	1975	1984	1988	% Increase 1975-1988
Hospitals	25	33	39	56
Beds	2,688	4,158	4,703	75
Clinics with Beds	12	51	70	483
Beds	350	1,277	1,342	283
Total No. of Beds	3,038	5,435	6,045	99
Clinics & Sub-Clinics	27	184	297	1,000
Rural Health Units/PHCC	75	299	361	381

Figure 2

Ministry of Health
Health Units by Governorates

Governorate	Hosp.	Beds	Clinics	Beds	Total Beds	Clinics & Sub-Clinics	Rural Units	Pharmacies	Drug Stores
Capital Secretariat Area	6	1,677	-	-	1,697	8	-	115	44
Sana'a	3	44	18	258	302	43	54	-	143
Taiz	9	1,106	5	120	1,226	62	36	54	193
Hodeidah	3	904	4	220	1,124	28	85	17	82
Hajjah	2	117	13	203	320	17	88	-	68
Dhamar	1	150	7	140	290	16	24	10	64
Saadah	2	87	4	92	159	12	13	-	23
Beidha	2	85	1	20	105	10	8	3	43
Mahweet	1	35	4	40	75	8	10	1	22
Marib	3	95	3	37	132	32	13	3	15
Al-Jawf	-	-	3	52	52	24	12	-	10
Ibb	7	383	8	160	543	37	18	14	92
Total	39	4,703	70	1,342	6,045	297	361	217	799

Figure 3

Health Unit Manpower Specializations: 1975 and 1988*

	Specialization	1975 Yemen Nationals	1975 Non-Yemeni	1975 Total	1988 Yemen Nationals	1988 Non-Yemeni	1988 Total	% Increase
High Qualifications	Physicians	181	114	295	980	351	1,331	351
	Dentists	9	7	16	42	31	73	356
	Chemists	20	15	35	153	32	185	429
	Bio Chemical Lab. Specialist	-	-	-	4	3	7	-
Technical Nurses	Qualified Nurses	181	119	300	776	1,177	1,953	551
	Qualified Midwives	15	30	45	48	45	93	107
	Ops. Prep. Staff	-	-	-	3	23	26	-
	Asst. Nurse	619	-	619	1,538	1	1,539	149
	Anaesthetic Technicians	11	2	13	20	10	30	130
	Health Controller/ Officer	79	-	79	-	-	-	-
Secondary School Level Technician	Asst. Doctor	-	-	-	29	4	33	-
	X-Ray Tech.	14	5	19	52	64	116	563
	Lab. Tech.	4	8	12	211	82	293	2,341
	Med. Sets Tech.	-	-	-	22	12	34	-
	Statistics Tech.	-	-	-	3	5	8	-
	Dental Tech.	25	-	25	7	2	9	-64
	Druggist	-	-	-	60	10	70	-
	Physical Treatment Instructors	-	-	-	82	11	93	-
Auxiliary Technicians	Woman Guide	-	-	-	219	-	219	-
	Supervision Woman Instr.	-	-	-	22	-	22	-
	Sup. Male Instr.	-	-	-	63	-	63	-
	Nourishment	-	-	-	2	1	3	-
	PH care Personnel	-	-	-	566	-	566	-
	Locally employed Birth Attendants	-	-	-	492	-	492	-

The Military Medical Services Manpower is excluded from this list.

Appendix F

Review of
Training Programs for Health Personnel

Appendix F

Review of Training Programs for Health Personnel

There are three institutions responsible for training health professionals and paramedicals in Yemen: the Health Manpower Institute, the Ministry of Health centers, and the Faculty of Medicine.

HEALTH MANPOWER INSTITUTE (HMI)

The HMI is responsible for training the following paramedicals: sanitarians (or health supervisors), nurses, midwives, laboratory technicians, X-ray technicians, assistant pharmacists, and medical assistants. The HMI has just started a new course in medical equipment maintenance. All of these categories are trained at HMI's main center in Sana'a; additionally, nurses and midwives are trained at its centers in Taiz and Hodeidah. HMI/Sana'a has a total of 600 students, who are mostly male except for the midwifery students and 4 or 5 nursing students each year. All of the 50-member (including 10-12 female) faculty is Yemeni, although some of the newer teachers have received no training as trainers.

All categories of trainees have the same first-year course, which includes a family planning module (developed by USAID).

Training for the nurse and midwife categories takes three years; the entrance requirement for midwifery students is the completion of elementary schooling. The dropout rate is high: only 13 out of 44 students graduated in 1988 and 11 out of 15 in 1989. The over-whelming majority of midwifery students are urban. Demand for the course in Sana'a is increasing: out of 70 requests in 1989, 40 were accepted. The Pathfinder Fund/USAID are currently working with the HMI in Hodeidah to revise the midwifery curriculum; the new curriculum includes family planning. Once this new curriculum has been successfully implemented, it will be replicated in the HMI centers in Sana'a and Taiz.

An important aspect of the work of HMI is the training of health supervisors/trainers who are responsible for the training and supervision of primary health care workers (PHCW). The candidates for this training are nurses, midwives or medical assistants with at least 3 years working experience and who have been successfully identified as potential supervisors. The training course for health supervisors/trainers is two years in duration.

The HMI is aware of the fact that the lack of female health workers is one of the main causes limiting women's access to health services, particularly in rural areas, and has adopted a policy of providing courses in other governorates in order to attract trainees who would otherwise be unable to travel far from their home towns and villages for training. Thus, a one-year course has been launched this year for practical nurses in Hajjah, where 10 girls are currently being trained (there are no men in the course). There are also plans to establish training courses in Ibb, Dhamar and Sa'dah over the next three years. HMI officials see mixed classes as one of the main constraints to the recruitment of a larger proportion of female students, particularly in nursing; they stated that a class for girls only could be arranged if there were 10-15 candidates.

The HMI is also going to introduce a new one-year post-basic course for community health nurses and midwives to provide training and supervision in rural areas.

USAID might wish to consider providing assistance in the development of the curricula for the community health nurses and midwives and for the practical nurses. Assistance might also be provided in reviewing the TOT curriculum for the health supervisors/trainers and making any necessary revisions to ensure adequate coverage of birth spacing, interpersonal communication techniques, etc.

One of the areas of possible USAID assistance mentioned by HMI was in-service training: it seems that there is no institutionalized in-service training system. Also, refresher training for HMI staff was stated as another area of possible assistance.

During its field visit to Hodeidah the team received information specifically related to the HMI training center there. The institute runs 3-year training courses for nurses and midwives. Until recently most of the nursing students were male, but a new building with dormitory accommodation has just been opened, with a positive impact on the number of female enrollments, as may be seen by the following table:

Nursing students, HMI Hodeidah, 1989/90

	Total	Male	Female	of whom rural
1st year	85	42	16	7
2nd year	27	22	5	2
3rd year	26	21	5	0

Midwifery students, HMI Hodeidah, 1989/90

	Total	of whom rural
1st year	24	8
2nd year	8	2
3rd year	11	2

The entrance requirement for female students used to be reading and writing, but now it is 6th year primary education. The requirement for male students is 3rd year preparatory. Students are selected in consultation with local schools and LCCDs.

The enrollment trends in HMI Hodeidah show that female student enrollment increases dramatically when adequate accommodation facilities are provided.

TRAINING OF PRIMARY HEALTH CARE WORKERS IN HEALTH CENTERS

As noted above, primary health care workers are trained by health supervisors/trainers in health centers. The duration of training is one year. The entrance requirement is generally a six-year primary education, but where there is a low supply of female candidates, the requirement is literacy. In some centers (e.g. the Dutch center in Dhahran), candidates are given literacy training prior to commencing training as PHCWs.

The Dutch-supported PHCW training center in Dhahran (Dhamar governorate) provides a 9-month training course for women from the governorate, selected in consultation with the local leaders. Accommodation is provided for both the trainees and their young children/infants, who are taken care of in the adjoining day-care center. The trainees in both Dhahran and a PHCW training center at Hodeidah stated that they had encountered no opposition from their fathers or husbands since they had been selected in consultation with the local community. All of the trainees were young, aged approximately 18-23.

The HMI training curriculum used by the health supervisor/trainer covers all aspects of primary health care and includes a section on family planning and midwifery. The curriculum design could be more specifically targeted for "barely literate" students: topics could be presented in a more simplified fashion and incorporate communication techniques which are appropriate for the level of the trainees. The family planning component is approximately 3 pages in length and contains few, if any, illustrations. Also,

the first five months of the course are devoted to theoretical classes, with practical training commencing in the sixth month.

HMI should be provided with assistance in revising the PHCW curriculum, given the limited level of education/literacy of the PHCW trainees, the relatively short period of their training and their relative young age, particularly in view of their need to deal with considerably older women during the performance of their functions. The revised curriculum should include hands-on training from the outset in order to provide the trainees with the maximum opportunity to practice their skills and to acquire experience in handling clients before going out into the field. It should also be designed to allow maximum assimilation by the trainees and should include simple interpersonal communication skills to be used by the PHCWs when dealing with their clients, particularly older women.

Curriculum development could be combined with the review/revision of the health supervisor/trainer. TOT curriculum would be revised first, all practicing trainers would be provided with refresher TOT training, and a group of trainers would collaborate to develop the PHCW curriculum which would then be implemented.

FACULTY OF MEDICINE

The Faculty of Medicine trains physicians, pharmacists, laboratory assistants and also has a higher school of nursing. The faculty includes 40 Yemenis and 60 expatriates. A total of 431 medical students (all Yemeni except for 34) were enrolled at the faculty during academic year 1987/88, over 50 percent of whom were female. The first group of physicians graduated in 1989.

The Faculty of Medicine has a community health department which is eager to develop programs to encourage students to work in rural areas upon graduation. All medical students study community medicine and population dynamics during their first year at the faculty. The community medicine department has a pilot center in a rural area located outside of Sana'a which it intends to use to provide its students with practical training in a community-based setting. Students are required to serve for two years in rural areas after graduation. As previously mentioned, 50 percent of medical students are female, although it would seem that the vast majority of these are from urban areas, particularly Sana'a. This means that it is very unlikely that they will be available to provide health services for rural women.

IN-SERVICE TRAINING

There is no institutionalized in-service training system. Some health centers (e.g. Taiz) and the HMI organize refresher training but this would seem barely to meet the needs. All categories of health workers, including physicians, require training in birth spacing and communication techniques. Very few of the health professionals and health workers have adequate knowledge of birth spacing methods, not to mention the skills required to provide acceptors with quality services. It will therefore be necessary to establish a decentralized in-service training system if all health workers and professionals are to be provided with training in all aspects of family care (methods, quality service delivery, education, interpersonal communication). Additionally, training should be provided to the appropriate local and regional staff in the management and evaluation of health care delivery systems.

Appendix G

Recent Trends in the Yemeni Women's Movement

Appendix G

Recent Trends in the Yemeni Women's Movement

Until recently there was no national women's federation in Yemen Arab Republic. However, there are five separate Women's Associations in Sana'a, Taiz, Ibb, Hodeidah and Dhamar with branches in rural areas. These associations perceive their role as improving the status of women, mainly through training, although they are also active in providing sewing classes, typing and other income generating activities. All associations have an elected executive committee, with elections once every two years in most cases. The associations receive a monthly grant from the Ministry of Social Affairs and also raise funds through membership and tuition fees. For example, the Sana'a Women's Association has 700 members who pay a 100 rial membership fee once every two years; a 100 rial fee is also raised on each annual training program, although this is reduced to 50 rials in poorer areas. Literacy teachers are seconded to the associations by the national literacy program, while the Ministry of Social Affairs seconds sewing instructors. At a branch of the Sana'a Women's Association, all of the students in the final year of the literacy program (equivalent to 6th grade primary) intended to join the formal education program at the preparatory school level (7th grade) and some even stated their ambition to attend university. Some of the Sana'a literacy graduates had obtained PhDs. Family care/safe motherhood education is not an integral component of any of the activities of the Women's Associations (other than the occasional educational sessions organized by the Yemen Family Care Association). The types of activities organized by the Women's Associations offer an ideal opportunity for health/family care education. They require minimum expenditure (development of simple modules, training workshops for YWA teachers/facilitators).

Some associations are more active than others and to date donor agencies (particularly USAID and the Dutch bilateral program) have focused their interventions on the more dynamic ones, namely Taiz and Hodeidah. The Dutch have provided the Taiz and Hodeidah associations with new centers and both the Dutch and USAID will develop the technical and institutional capacities of associations and branches in Taiz and Ibb. UNFPA, following the lead taken by USAID, has focused its interventions on developing the women's movement on the national level by providing the Ministry of Social Affairs with a Women's Advisor and support to the recently established High Commission on Women. Both UNFPA and the Dutch will continue to support the women's movement on the national level in order to develop the institutional capacities of the nascent National Union of Yemeni Women. A steering committee was elected during a workshop which was held March 4-8, 1990 and will be responsible for the establishment of this national federation. Although the women who participated in this workshop have many ideas for the different types of activities which should be implemented by Women's Associations, discussions with some of the members of the steering committee indicated their strong conviction that literacy and awareness raising are the vital first steps required in order to improve the status of women.

The momentum that has been given to the women's movement on the national level will probably have a positive effect on the Women's Associations located in the governorates, and may even lead to the creation of further associations at the regional level. At present, the leading figures in the women's movement are highly trained, qualified and determined. The associations lack the necessary management (including resource mobilization) and program development skills, however, to extend the coverage and further enhance the quality of literacy and vocational training which they already provide. Dutch and U.S. programs will develop these skills in the Taiz and Ibb Women's Associations. Similar assistance should be given to the associations in Dhamar, Hodeidah and Sana'a as well as any new associations that might be established. The Women's Associations are at present the only NGOs that actively seek to improve the role of women in society by providing them with the literacy and vocational training that will prepare them to make choices as citizens.

Appendix H

USAID and Other Donor Activities in Population and Family Planning

Appendix H

USAID and Other Donor Activities in Population and Family Planning

USAID Activities

Health

Accelerated Cooperation for Child Survival Project ($10 million) until 1994: three components, support of the primary health care system, health education, and special activities. The PHC component will improve management of 12 health centers and 180 PHC units in 7 governorates.

The Pathfinder Fund: centrally funded bridging program for development and implementation of new midwifery curriculum, including family planning, for Health Manpower Institute in Hodeidah. To be replicated in Sana'a and Taiz.

The Pathfinder Fund: centrally funded support to YFCA over an 18-month period, including equipment, contraceptives (IUDs) and IEC.

Pragma: training of 40 health facilitators in Taiz.

AVSC: training in voluntary sterilization clinical techniques.

JHPIEGO: centrally funded activities for training in reproductive health.

Johns Hopkins University, Population Communication Services: centrally funded activities in communications, education and information.

SEATS: support for development of family planning services in the private and public sector (project in preparation).

Pop Studies

USAID and IRD are supporting the national Demographic and Health Survey

Arrangements are being made to provide the services of The Futures Group for further population studies.

Women in Development

Upcoming project with Women's Associations in Taiz (6 branches) and Ibb to provide institutional development and income generating activities.

Multilateral Agencies

UNDP

Coordination of all donor activities; project funding and implementation.

UNFPA

Development of institutional capacities on a central level. Development of a national Women's Union. Supply of contraceptives.

UNICEF

EPI
Control of diarrheal diseases.
Requested to develop birth spacing.
Improving women's access to education.

UNESCO (UNFPA funded)	Integration of population education into all levels of the school system as well as non-formal education (one module in the literacy program).
WHO	Technical support to the health system.
WORLD BANK	Construction of offices for Regional Health Directors. Construction of regional medical supply and maintenance facilities. Training of administrative support personnel. Improve management of health services and programs, including establishment of a National Management Training Center. Support HMI in training of nurses, midwives, and environmental health personnel (includes construction of HMI centers in Dhamar and Sa'dah, expansion of Sana'a center for midwifery, environmental health and assistant pharmacist training).

Bilateral Assistance

China	Support for two hospitals, one in Hodeidah.
The Netherlands	Health activities in Dhamar, Rada and Hodeidah: The Dhamar project consists of support for 5 health centers including separate training centers for male and female primary health care workers. In Rada, the Dutch are supporting an integrated rural development project including health education and a PHC clinic. In Hodeidah city, the Dutch are supporting an urban poor health care and prevention program centered around two urban health clinics and involving training of urban PHC workers. Development of institutional capacities of the newly founded National Union of Women. WID program in Taiz including development of institutional capacities of the women's association and income generating activities.
United Kingdom	The British Organization for Community Development, a private NGO, has three on-going projects in Al-Jabin, Al-Habs and Abs. The first two are literacy projects. The project in Abs is an MCH project which started in 1978 and which was built with LCCD and Community Support. The Abs Center is open 24 hours a day.
France	Support for Mokha health center (Hodeidah).
W. Germany	Support for an Integrated Development of Rural (GTZ) Health Services Project in the Amran Area (Sana'a Governorate) since 1982. The objectives of the project include establishment of 45 PHC units (35 completed), training of health workers and health education. The project is carried out in cooperation with the LCCD. From 1982-1989, GTZ trained 50 female extension agents who work as health educators and midwives.
Kuwait	Financial assistance for the construction and operation of the University and the Faculty of Medicine.
Saudi Arabia	Financial assistance for the construction and financing of hospitals in Sa'dah and in Hajjah.
Sweden	Radda Barnen (Save the Children) is a Swedish NGO which has recently celebrated its 25th year in Y.A.R. It is funding important efforts for primary health care in Taiz, Ibb and Zabid.
USSR	Support for two hospitals, in Sana'a and in Hajjah.