

PRE-ASSESSMENT OF POPULATION,  
MATERNAL AND CHILD HEALTH AND FAMILY PLANNING  
IN ZAMBIA

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NOTE TO THE READER

The first two parts of this document, the Executive Summary and Introduction review all of the points made in the pre-assessment report and will provide most readers with sufficient understanding of our findings and recommendations.

Remaining sections of the document appraise, in more detail, Zambia's population and health problems, institutional performance and capabilities, and donor support and plans. The final section is a presentation, with supporting discussion, of the team's recommendations. These sections will be of particular interest to individuals responsible for follow-up activities, and to others involved in population, maternal and child health, and family planning programs in Zambia.

## 1. EXECUTIVE SUMMARY

This preassessment is intended to initiate a sector approach to population, maternal and child health and family planning problems in Zambia. Four basic premises underlie the sector approach. First, sustained progress in solving the main social and economic problems of many sectors in most developing countries depends mainly on the adequacy of the developing countries' problem-solving process. Second, the issue of scarcity, or the limitations in physical, financial and trained human resources, is a central issue that must be systematically and rigorously treated if the developing country problem-solving process is to be successful. Third, the problem-solving process consists of five major phases or stages: data collection, data processing, analysis, policy and program formulation, and execution or implementation. Satisfactory progress in solving the sector's main social and economic problems depends not only on adequate performance in carrying out each and every one of these phases, but also on effective communication linkages among the five phases. Fourth, one of the roles of foreign assistance should be to help initiate, consolidate and refine this process. Although this assistance can take various forms and should be tailored to the host-country situation, areas that tend to reappear as high-priority are: (a) improvements in the information base that is used for the formulation of programs and projects, and (b) strengthening of capabilities in these five stages, partly through formal training, but mainly through on-the-job training that can be provided by means of collaborative inquiries and collaborative interventions or projects. Moreover, to be successful, these projects must be an integral part of a financially and administratively feasible host-country sector strategy.

This Population, Maternal and Child Health and Family Planning (MCH/FP) preassessment is the product of a three-week visit to Zambia in November-December, 1983 by a five-person team from REDSO/ESA and the U.S. Bureau of Census. It is intended to be the first step in the long-term strengthening of a problem-solving process in Zambia that will gradually increase Zambian capabilities and gradually reduce Zambian dependence on technical and financial assistance. The preassessment should therefore be viewed as an introduction to two topics: (a) the Zambian problems of population and health; (b) the Zambian performance in, and capabilities for, dealing with its population and health problems. It is meant to be the first step of a continuing sector approach under which performance and capabilities are periodically assessed in terms of the effectiveness and efficiency with which the population/health problems are being solved. In accordance

with the attempt to strengthen a problem-solving process in Zambia, the preassessment avoids the common pitfall of presenting a blueprint or final solution for problems imperfectly understood. It views the gathering of population and health information and the execution of health and family planning activities as complementary endeavors that should be carried out in tandem. It offers recommendations for action in areas in which the evidence is clearly supportive of the proposed interventions. And it offers recommendations for initiating a process of improvement in and strengthened linkages among data collection, processing, analysis, policy and implementation.

Four main conclusions emerge from this preassessment of population, maternal and child health, and family planning in Zambia. First, a significant number of population and fertility-related problems are having a strong negative impact on the general welfare. Generally speaking, these problems are becoming worse. Second, the health status of mothers and children (with the exception of infant mortality) appears to be comparatively low for a country with Zambia's per capita income and, this status does not appear to be improving. Third, the performance or institutional response of the principal institutions responsible for managing Zambia's health and population problems is not adequate. This conclusion is based on the identification of institutional defects and deficiencies, as well as on the failure to date to reverse unfavorable health and population trends. Fourth, the foreign assistance provided by bilateral and multilateral donors appears to be reinforcing, rather than reducing and eliminating, many of the institutional defects and deficiencies. In sum, the present population and health situation is bad and is likely to get worse in the absence of needed changes in policy and management on the part of the host-country and donors.

Estimates of the population growth rate in Zambia for 1963-69, 1969-74 and 1974-80 are 2.4%, 2.8% and 3.2%. Will this steady increase in the growth rate continue? Although a more definitive answer must await the completed processing of the 1980 census, expected in March, 1984, as well as an analysis of the detailed tabulations, the present evidence indicates that crude fertility may be climbing above 7.0, the overall mortality rate is declining, and the population growth rate is therefore increasing. The combination of population growth and a level of urbanization that is extremely high for sub-Saharan/African countries (41% in 1980) is having the effect of increasing the problem of urban unemployment, a problem that has yet to be accurately estimated and adequately analyzed, but which is known to be disturbingly large. The

provision of social services, particularly in education and health, to a population with a growing dependency ratio is placing additional financial burdens on a country which is already facing the problem of insufficient revenue.

The lack of data concerning the morbidity and mortality of mothers and children impedes a proper assessment of trends in this area. Infant mortality has decreased since independence as the result of improved sanitation and public health measures. The tentative view that the health status of mothers and children has not improved since 1974 can be indirectly determined and needs to be further explored. It is inferred from the following facts: a) the incidence of morbidity for this group is invariably higher than for the group of adult males; b) expansion of health services in the rural areas has been restrained by the financial shortages afflicting the nation since 1974; c) the rural population has a higher proportion of mothers and children; d) more effective and efficient preventive, promotive and curative health measures have not been introduced in the rural areas during the period in question.

During the three weeks in Zambia the preassessment team could do little more than initiate the assessment of institutions needed for strengthening capabilities and improving performance. The team limited its examination to three key institutions and two major sub-sectors: the Central Statistics Office (CSO), the Ministry of Health (MOH), the Planned Parenthood Association of Zambia (PPAZ), the public sector hospitals and clinics, and the church-related and other private or non-governmental hospitals and clinics.

Section I, "Introduction" specifies many of the institutional defects and deficiencies. It also describes some of the ways in which donors appear to be contributing to the reinforcement of these institutional flaws. The description here will be brief.

The Central Statistics Office (CSO) is charged with the responsibility for all data collection, processing and analysis, and has statistical staff stationed in the MOH. CSO is very concerned by the fact that it is not providing the timely and appropriate statistics needed for planning, management and monitoring at the macroeconomic and sector levels. Moreover, it has correctly identified many of the constraints, one of the major ones being inadequate access to efficient data processing and the consequent need to develop its own data processing and analytical capabilities. The large-scale financial and technical assistance (including 170 health advisors) provided by donors has been characterized by

fragmentation and lack of coordination. This assistance program has ignored and neglected (with the exception of an insignificant amount of technical advice and training) the CSO, which is the institution responsible for obtaining the information needed by policymakers and managers. The team concluded that this was a major, although unfortunately typical, foreign assistance oversight or mistake.

Two key policymaking and management areas in the Ministry of Health (MOH) were identified by the team as characterized by poor performance and inadequate capabilities. One of these areas is analysis, policy formulation and planning. The MOH does not seem to have solid information concerning the levels and distribution of health and family planning expenditures and corresponding unit costs, nor has it made estimates of future financial availabilities or estimates needed for proper planning and resource allocation. Service statistics and information concerning incidence of morbidity, mortality and fertility, along with the impact of health services on morbidity, mortality and fertility are also lacking. The shortage of this latter kind of information is to be expected, but the probability of gradually filling these key information gaps would appear to be reduced by the fact that in the MOH Planning Department there is only one Zambian, whose tenure moreover is not assured. SIDA is providing advisors to this department, but they seem to be working more on projects than on analysis and planning, and they are not providing on-the-job training to Zambian counterparts. As we see it, this is another example of irrationality in the provision of foreign assistance. Zambia has only 22 years of independence and needs time to develop effective institutional procedures and trained human resources; but the process of developing these procedures and staff skills should have been initiated at least ten years ago. By providing advisors in this key area and not providing the assistance needed to develop indigenous skills and capabilities, Zambia is postponing an urgent task that should be given priority ranking.

Another area that is characterized by poor performance and inadequate capability in the MOH is family planning and maternal/child health services. Improved performance will probably depend in part on a better integration of the two services, and the coordination of these services within a primary health care approach that also needs to be more fully developed. However, a glaring deficiency is informational. Obtaining better information concerning fertility and family planning is an urgent task. For example, an extremely rough estimate of contraceptive practice is 2-3% of the women at risk. But why that percentage is so low is a question that cannot now be answered, and that could be answered if the

appropriate inquiry were made. Using the scarce facts that are now available, the team concluded that there are constraints on both the demand and supply side, and that some of the supply constraints can be eased in the short-run.

The Planned Parenthood Association of Zambia (PPAZ) has had the main responsibility for the importation and distribution of contraceptives. Various facts led the team to conclude that contraceptive use could be extended in a relatively short period. Fertility surveys have indicated that in Zambia, as elsewhere, existing demand for FP is greater in the urban than in the rural areas. It should be noted that both population and population growth in Zambia are geographically concentrated, and that the percentage of Zambia's population in the urban areas is 41%. To this prima facie evidence of potential expansion of contraceptive usage in urban areas, some other relevant facts can be added. First, PPAZ has often run out of contraceptives, through errors and delays in ordering; and as a consequence hospitals and clinics have frequently run out of supplies. Second, neither PPAZ nor the MOH have developed a good record system for ordering and tracking commodities and collecting statistics on usage. Third, the incidence of abortion appears to be high and increasing. For example, over 5,000 patients were admitted to University Teaching Hospital in Lusaka in 1982 alone for hospitalized septic abortions. While the exact causes are not known, it is certain that many are due to problems from unwanted pregnancies and induced abortions. Leaving aside needed improvements to include an adequate supply of contraceptives, better data and analysis is needed concerning forecasting, ordering and distribution of contraceptives and improvements on the collection of statistics on usage.

The three-week preassessment period was too short to include examination and comparison of clinics and hospitals in the public or governmental and non-governmental sector. Church and mission related health facilities provide an estimated 30 percent of health care nationwide, but it is not known exactly what proportion of these facilities provide family planning services. Previous visits to hospitals and clinics by one of the team members, and somewhat impressionistic reports of other observers suggest that the non-governmental centers may be more effective and efficient; but there is not enough data at present to make a reliable judgment. It would appear that the MOH, as presently organized, operated and staffed, is carrying an excessive workload and can be said to be over-extended. The development of a properly staffed analysis and planning unit that examined morbidity, mortality, and fertility phenomena, and related the findings to service statistics, and financial information might lead to a

reordering of priorities, and to a reduction in workload. For example, a determination that the partly-subsidized non-governmental health centers were providing health and FP services with greater effectiveness and efficiency could lead to the expansion of this sub-sector, and to long-run savings in public expenditures. Studies of the feasibility of extending fee for service arrangements should also be carried out.

Current bilateral and multi-lateral assistance to the health and population sector is not contributing to the data collection and analysis that is needed for significant improvements in health and population policies including appropriate changes in organization and resource allocations. Although the sector studies of other donors usually refer to the need for policy changes, they fail to identify the informational and institutional defects and deficiencies that stand in the way of such changes. Large-scale transfer of funds for health investments which do not contribute to expansion of the informational base and to the improvement of institutional procedures may serve to consolidate bad practices and to increase wasteful expenditures.

As previously suggested, the preassessment and the recommendations emerging from it can constitute, at best, a first step in the establishment of a Zambian problem-solving process aimed at reversing the unfavorable health and population trends. The four recommendations for immediate action involve the Central Statistics Office (CSO), Planned Parenthood Association of Zambia (PPAZ), non-governmental health centers, and coordination with donors, particularly the World Bank. All these recommendations should be assessed by the mission in the light of mission workload and mission staffing issues which the team has not considered. However, it is the team's judgment that a significant involvement in the sector would call for full-time dedication by a knowledgeable mission staff member.

CSO. It is recommended that the mission consider providing technical assistance, training and commodities in a multi-year program aimed at improving CSO's data collection, processing and analysis. Although improvement of CSO performance and capabilities will include macroeconomic activities, such as national accounts, and various sectors, priority under the project or activity will be assigned to population, agriculture and health. A central concern of the project will be to specify workloads that can be carried out, and schedules that can be met, and that reflect analytical, policy, and management priorities. Proper design of activities will require more detailed assessments of CSO performance and capabilities in the areas of data collection, processing and analysis. It is our understanding that CSO has expressed

interest in receiving such assistance from AID and in extending the services of a resident UNFPA systems analyst who would continue to collaborate with AID on behalf of CSO.

PPAZ. It is recommended that AID consider providing technical assistance, contraceptives, and support for establishing two urban family planning clinics. Commodities will be provided with the understanding that PPAZ will establish an accurate accounting of distribution, and estimate rates of usage for each service delivery point. It will also collect and analyze other relevant information concerning FP services, with particular attention to the kinds of staff involved, their levels of training, and the incentives for providing and managing FP services and increasing FP practice. Technical assistance and training from AID central funds may be provided for this purpose. To establish credibility in the FP area PPAZ also needs to establish one or two urban FP clinics in order to acquire its own direct experience. In sum, if commodity assistance, technical assistance and support for direct services is provided to PPAZ, it will serve to assure the obtainment of data needed for the analysis of demand for FP and for improved Zambian monitoring and management of family planning services.

Non-Governmental Hospitals and Clinics. It is recommended that the mission consider proposing an assessment of this sub-sector to the GRZ. As has been repeatedly pointed out, the present preassessment is, at best, the initiation of a problem-solving process that is guided by an increasing understanding of the interrelations among fertility, morbidity, mortality, unemployment, and the provision of social services, and the costs and benefits of health and family planning interventions. There appears to be comparatively little information concerning the non-governmental health centers, and it might be advisable to carry out an assessment of this sub-sector that initiates the process of evaluating the extent, nature and effectiveness of MCH and FP services provided, and the extent of subsidization, with a view to comparing costs and benefits with the governmental sub-sector. The assessment should be collaborative so that techniques and findings are internalized in the appropriate GRZ institution and unit. It should include as many areas and specialties as possible, including quality and cost of services, organization and staffing, administrative records, and it should help develop the conceptual framework for continuing inquiry.

Dialogue and Coordination with the GOZ and Other Donors. It is recommended that the mission and AID/W consider initiating a dialogue with the GRZ and other donors concerning

the possibility of taking a sector approach to health and population problems. If the preassessment team is not mistaken, current assistance programs in population and health are not contributing to the solution of priority problems. As has been repeatedly pointed out, this preassessment makes no pretense of being a comprehensive and definitive statement. Identification of its limitations, errors and information gaps by the GRZ and other donors would contribute to the development of the needed problem-solving process. Staffing issues and payment for GRZ staff is one of the topics that need to be explored and discussed. For example, consideration should be given to a 10-year period of financing by donors of an MOH Planning Unit that is fully staffed by Zambians, with a 10% reduction in donor contribution and corresponding GOZ budgeted increases each year.

To conclude, it is the view of the preassessment team that present health and population trends are unfavorable and that they can be reversed by a comprehensive, problem-solving, sector approach. This approach would place major emphasis on developing an information base and on using the information to carry out the changes needed in institutional organization and procedures and in health and family planning programs. In other words, the purpose of this sector approach would be to develop a more coherent and effective health and population strategy. This would be a major long-range undertaking that would require the agreement and cooperation of the GRZ and donors. It is also the view of the preassessment team that the situation in Zambia provides a good opportunity for AID to play a role in the development of the proposed sector approach, but if and only if the approach is developed and consolidated through the support, experience and understanding of the GRZ and donors, with particular emphasis on the World Bank. In the absence of such agreement and coordination, the team has considerable doubts concerning the advisability of a long-range or large AID assistance program to the health and population sector.

## I. INTRODUCTION

This preassessment of population and maternal child health/family planning in Zambia is based on a three-week visit to the country in November-December, 1983, by a five-person team from REDSO/ESA and the U. S. Bureau of the Census. The team was composed of a sector analyst, a population/health advisor, a demographer, a social analyst and a data processing expert. It is the first pre-assessment of the population sector to be undertaken by REDSO/ESA in its effort to assist AID missions to obtain a more comprehensive view of population, health and family planning problems, and to develop a more effective assistance program.

A. THE APPROACH

The scope of the preassessment takes into account several interlinked concerns:

First, as AID population assistance to Africa expands, population programs should respond to country-specific priority needs, be phased according to country capacities, transfer and institutionalize appropriate skills, and avoid the fragmentation of activities that, all too often, may overload both mission and host country capabilities.

Second, at present, required information is lacking on the specific problems and needs of countries, and regions within them, in order to develop and implement sound population strategies.

Third, explication of population problems as a basis for the development and implementation of population strategies must be a continuing process carried out by African countries themselves.

Fourth, information gathering is not an end in itself, but a means for host countries to associate present and planned resources with specific interventions responsive to priorities based on sound analysis.

And, finally, donor resources should strengthen the capabilities of African institutions to develop sound population strategies and implement effective service delivery programs. The dearth of information needed for policy and planning and of mechanisms whereby countries can use such information to allocate resources more efficiently is a major constraint to dealing effectively with population problems. Countries often do not have adequate measures of demographic processes, do not comprehend as well as they should the medium and long-range consequences of sustained high population growth rates, and have not adequately examined the social, economic and cultural conditions which are contributing to rapid growth. They lack estimates of unit costs and of the future physical, financial and human resources necessitated by planned programs, and often do not draw upon program evaluations in an effort to improve program effectiveness. This situation can lead directly to misallocation of resources. For example:

- population may not be viewed as a major country problem, when in fact it is, and population growth is a critical factor inhibiting growth in all other sectors;

- countries may not know to what extent low contraceptive user rates reflect limited demand, and to what extent they represent inadequate or inappropriate supply systems;
- family planning may be given low priority, on the grounds of limited demand, when in fact such demand is substantial but insufficiently understood, measured, located or analyzed;
- service delivery systems may not be adapted to the particular needs of different regions and groups and as a result be highly inefficient.

It is our view that the most important donor contribution, given this situation, is to help to establish a strong, host-country problem solving process that includes data collection, data processing, analysis, policy formulation, program design, and program implementation.

To this end, the preassessment team has examined the adequacy of the information base required for sound policy making and management of population and maternal child health/family planning in Zambia; reviewed the decision making and planning process undertaken by key Zambian institutions involved in population and maternal child health/family planning; and assessed the performance and capabilities of Zambian institutions in providing the required information base (especially the Central Statistical Office of the National Commission for Development Planning) and in implementation and management of service programs (especially the Ministry of Health, along with several private institutions). The team hopes to have identified not only defects and deficiencies, but also possible measures for improvement. The team's recommendations concern ways to assist Zambian institutions to improve their capabilities and performance, both in the collection and use of information and in management of service programs. In a few cases, the assessment team has made recommendations which could affect program implementation in the short to medium term. However, given the short time available to the team at this preliminary stage, many of the recommendations necessarily point to areas which will require more in-depth assessment before specific types of assistance can be recommended.

## B. REVIEW OF FINDINGS

The team's findings can be divided into two types, first, findings which have bearing on the nature, dimensions

and location of health and population-related problems in Zambia, and secondly, findings which refer to the performance and capability of Zambian institutions to manage the population sector. The first category of findings result from the team's review of the information base (including demographic, socioeconomic, and health information and program statistics), and identification of information gaps. The second category is based on our preliminary assessment of key Zambian institutions, their organization, staffing, resources, and operations, involved in data collection and analysis, policy and planning, and program implementation.

#### 1. Population Characteristics

Zambia is characterized by high fertility, high but declining mortality, rapid population growth, high dependency ratios, a high proportion of illiterate or semi-literate persons, and high rates of unemployment. Zambia has also had an unusually high rate of rural to urban migration since before Independence. The proportion of the population living in urban areas is estimated to have been 41 percent in 1980.

The 1980 census, when fully analyzed, will provide Zambia with very extensive and detailed demographic data, including tabulations of fertility, education and employment at the District level by urban and rural zones, as well as other demographic and socioeconomic characteristics.

The fragmentary demographic information which is currently available for Zambia suggests that the total fertility was about 7.0 for 1969, and the population growth rate has probably increased somewhat since that year. Calculated annual growth rates are 2.4 percent, 2.8 percent, and 3.2 percent for the intercensal periods 1963-1969, 1969-1974 and 1974-1980, respectively. A declining trend in mortality is suggested from the 1969 census, and from 1974 and 1978-79 surveys, but mortality estimation remains indirect.

Although fertility is very high throughout the country, fertility differentials exist, as suggested by a 1978-79 survey in selected rural and urban areas. However, these differentials -- among them a large drop in fertility among women with secondary education -- need to be better disaggregated as a basis for more effective policy making and programming.

No information on labor force or education is yet available from the 1980 census. 1969 census data suggested very high unemployment rates at that time especially for women. This situation has probably persisted, given Zambia's

known history of economic decline. According to the 1969 census there was a very large educational differential by sex especially for attainment rates of those who have had at least some upper primary education. 1980 census results will provide much needed information on education and employment levels and differentials by urban-rural residence and sex.

## 2. Government Commitment to Family Planning Services

There is some evidence of growing awareness among Zambian leaders of the economic strain and demands put on the national budget as a result of rapid population growth, but growing awareness of the relationships has yet to be translated into an explicit population policy, or, more importantly, into strong commitment to and proper design and effective implementation of family planning programs.

Health services are provided by the Ministry of Health's hospitals and clinics, by mission hospitals and clinics, and by private organizations, including the health services of mines and other industries. An estimated 50 percent of health care in rural areas and 30 percent of health care nationwide is provided through mission facilities. However, statistics are not available on what percentage of Ministry, mission and other private health facilities provide family planning services. Obviously, such an information gap is a major constraint on effective national planning and resource allocation.

Maternal-child care has been inadequate, especially in rural areas. It was reported that, in 1982, whereas 90 percent of women attended clinics for at least one antenatal visit, 65 percent of all deliveries took place at home and only 18.7 percent attended clinics for postnatal care. Only 5 percent of women attended postnatal clinics in rural Western Province, as compared to 34 percent in Copperbelt Province.

Government support of family planning is relatively recent in Zambia, with child spacing an explicit part of the national primary health care program since 1980. The private family planning association, the Planned Parenthood Association of Zambia, (PPAZ), with support from IPPF, has been providing contraceptives to government and nongovernment service facilities since 1972. Strong government commitment to family planning is absent, as evidenced by the limited emphasis given to child spacing within the PHC program. Very little, if any, child spacing information is included in most pre-service training programs for health practitioners.

### 3. Demand for Family Planning

Our analysis suggests that probably only two to three percent of Zambian women at risk of pregnancy are using contraceptives. However, there is evidence of significant unmet demand for family planning services in Zambia, especially among certain categories of women.

Reporting on use of family planning is sporadic and unreliable, but there is substantial evidence that there has been for some years a chronic shortage of contraceptives in Zambia to meet existing demand. Prior to 1982, PPAZ was the sole supplier. UNFPA and FPIA have also provided contraceptives since then. The vast majority of users choose the pill.

There is a lack of information on knowledge, attitudes and practices of adults affecting birth planning, but it appears that the majority of the population do not know about or properly understand methods of family planning. More information is needed in this area, in order to plan more effective programs.

Given the lack of studies, or measures of program effectiveness, actual demand for family planning is not measurable. However, findings from the 1978-79 survey show that rural women wanted more children than their urban counterparts, and that, within the urban areas, desired family size was lower among those in higher income groups. The most salient, indirect evidence of unwanted pregnancy, however, comes from abortion statistics. Over 5000 patients were admitted to University Teaching Hospital in Lusaka in 1982 alone for hospitalized incomplete abortions. While the exact causes are unknown, in a country with a fairly liberal elective abortion policy, these figures are quite high.

Survey findings show that nearly all Zambian women breastfeed their children. However, the duration of breastfeeding appears to be shorter in urban areas, and further information is required in order to verify whether there is a trend toward shortened duration of breastfeeding in rural areas, in urban areas, or nationwide. Decline in breastfeeding, without compensation by effective family planning methods, will tend to contribute to higher fertility rates.

Data are limited on the socioeconomic determinants of fertility in Zambia. Although aspects of urban life seem to be fostering a family lifestyle whereby parents will choose to have fewer children, some of the characteristics of

urbanization which have tended to bring large declines in fertility -- such as improved education, labor force participation and social status for women -- do not yet obtain, to any large extent, in Zambia's towns. There is some evidence that a critical shortage of labor for family farms, in part a result of the urbanization process, may be fueling demand for large families among rural, smallholder farmers.

Existing evidence suggests that demand for family planning, in order to limit family size, is much stronger in urban Zambia than in rural Zambia. If appropriate services were readily available in urban areas, this could result in significant drops in fertility, especially among certain groups of women. In rural areas, birth regulation methods are needed to space births rather than to limit family size, and fertility may not drop significantly in the near term.

These differences in unmet family planning demand in Zambia bear further examination, in order to better prioritize family planning investments, design information and service programs, and train health practitioners.

#### 4. Performance and Capabilities: Management of the Information Base

Zambia needs to develop a comprehensive management approach that helps synchronize the collection, processing, analysis and use of basic data for development planning. The lack of timely demographic and related socioeconomic information severely hampers the development of population of FP policies, as well as national planning in major sectors, such as agriculture and education.

Although Zambia has an organized, centralized statistical system, there are major problems with data management. Much more data has been collected that is now being expeditiously processed and analyzed. Also, data specification and questionnaire design should be more firmly based on analytical plans focussed on social and economic problems of importance for policy.

The human resource constraints to timely and professional analysis, and the continued state of limited access to data processing facilities, hinder nearly all of the activities of the Central Statistical Office. This problem severely affected tabulation and analysis of the 1980 census, which should now be providing basic data for policy analysis, and serving as the statistical frame for further socioeconomic and agricultural surveys. Satisfactory tabulation of the census by mid-1984 will depend on continued support from the

UNFPA-funded technical advisor in CSO. Satisfactory analysis of the census will require a team of well-trained analysts and computer specialists, as well as adequate access to computers. CSO staff need to acquire new skills in order to carry out a thorough analysis of the 1980 census in a reasonable period of time. Under present conditions such analysis is likely to suffer from data processing bottlenecks similar to those for census tabulations.

There is insufficient coordination between CSO, the National Commission for Development Planning, and the various Ministries, regarding prioritization of the types of surveys and analyses required to produce timely and appropriate statistics over time. With reference to population, data on socioeconomic variables related to fertility or family planning have not been collected as part of an organized effort by Zambian institutions to provide findings for policy and planning purposes. What socioeconomic surveys have been conducted to date have been organized, implemented and analyzed by outside institutions.

The Central Statistical Office would benefit from management improvement and on-the-job training, in order to properly sequence projects and schedule a more feasible workload for efficient data collection and timely analysis of critical information.

#### 5. Performance and Capabilities: the Ministry of Health

Major population and maternal child health problems are not adequately treated under GRZ programs nor in the pattern of donor assistance. The urgently needed information base that is required for effective planning has been badly neglected by the MOH and donors. This information base would be developed in part from continuing analysis of the existing health/FP system. The analysis would include estimates of unit costs and cost effectiveness studies of various kinds. Development of a system to provide comprehensive family planning and maternal child health services will be an enormous, difficult and time-consuming task. However, such a task can and should be carried out by Zambians, with assistance from donors.

The history of the health system in Zambia is one of expansion from the time of Independence until the economic decline which began in 1974. Unfortunately, issues concerning the selection of priorities and efficiencies of performance tended to be neglected as a result of the successful effort to expand health services. While financial stringencies since 1974 highlight the need for greater efficiencies and effectiveness, neglect of statistics for analysis and planning lingers on from earlier, better times.

The budget for health care continues to decline in real per capita terms. If health services continue to be provided free of charge, the government will experience increasing problems in covering recurrent costs of health care and maintaining the current level of service. Although all health facilities in Zambia are expected to offer a broad range of PHC services, including child spacing, the expansion of PHC came at a time of financial constraint to the health budget and this has affected the implementation of the program. As a result of budgetary constraints, prior investments in physical plant and other sunk costs, the focus of health care activities has continued to be on curative rather than preventive services, and expenditures continue to be concentrated along the line-of-rail, in urban areas, and in the Copperbelt Province. A better understanding by the MOH of existing efficiencies and inefficiencies, past and present resource allocations, and current unit costs and benefits, is a prerequisite to improved resource allocation and use.

There are major problems with service providers. Although nurses, midwives and traditional birth attendants are receiving refresher training in family planning information and services as part of the UNFPA Family Health Project, there has been no follow-up to determine if the new skills are being used. PPAZ has also supported family planning training for nurses, but follow-up revealed that most were not, in fact, providing family planning services. The reasons for these problems are not adequately understood, but it is clear that if maternal child health and family planning are to reach urban and rural areas, paramedicals will require adequate training, incentives and supervision.

The MOH Planning Department is relatively new, and beset by severe problems of shortage of Zambian staff. Most key functions are provided by expatriate advisors. Priorities among programs are not established on the basis of analyzed information about socioeconomic and health conditions, or program costs. The health information system is very poor. Too much information is collected, it is unreliable, data are often inappropriate, and much of the reported information lies unprocessed. There is a lack of coordination between PPAZ, the MOH and other organizations in the collection and use of service statistics related to family planning. There is no joint planning among involved institutions for contraceptive supply and commodity management.

An effective, national program for delivery of maternal child health and family planning services will not be possible without the development of an expanded and utilized base of information concerning health, health services and finances.

It will also require the development of tested procedures, training and assistance, directed toward the effective provision of services.

6. Performance and Capabilities: Other Institutions for Service Delivery

The team was unable to adequately assess the performance and capabilities of the range of non-governmental organizations involved, or which would like to be involved, in family planning service delivery. It appears that such institutions already provide health care to a substantial proportion of the Zambian population. Supporting family planning efforts with these private institutions may very well be an effective and efficient way to reach increasing numbers of couples through existing programs, especially as clientele using these services may already be more receptive to family planning.

The Planned Parenthood Association of Zambia has, since its inception in 1972, served a coordinating function for family planning as well as provided contraceptives to Zambian institutions involved in service delivery. Church and mission related health facilities provide an estimated 30 percent of health care nationwide, but it is not known what proportion of these facilities provide family planning services. Private and parastatal companies provide basic health services to employees and their families. Although many of these facilities may already provide family planning, the proportion of them which do so, and the scope of the programs, is unknown. It is likely that a substantial proportion of the wage earning population, who are probably among the most receptive to family planning, already receive health services through parastatal and private companies.

PPAZ has had severe management problems, as identified in the 1983 IFPF management audit. Most, if not all, of the current PPAZ staff do not have technical expertise in family planning or health. PPAZ is, however, interested in improving its operations, and in strengthening its role in promoting, supporting and coordinating family planning activities in Zambia. In particular, PPAZ would like to operate two family planning clinics in urban Zambia, to help meet the demand for family planning, and to serve as a base for the training of nurses, midwives and other personnel.

There is evidence that the PPAZ, missions and private groups are interested in strengthening their role in family planning service provision. Constraints to their doing so -- including lack of access to contraceptives, management problems, or shortage of trained staff -- bear further

examination. In some cases such expansion may require minimal inputs to relatively strong and efficient institutions, while in others, overcoming management problems may require considerable effort. Constraints and potentials for expansion of services through non-governmental institutions should be assessed, especially given the possibility that such institutions might vastly increase service delivery in the near term with relatively little increase in administrative burdens on government.

#### 7. Donor Support and Plans

Donor support to the health sector has been fragmented and uncoordinated. Only one project, the UNFPA Family Health Program, directly supports family planning service provision as part of the national PHC program. Less than one percent of 1982 donor health funds were spent for family planning and very little of these funds have supported institutional development activities or built Zambian expertise. Any large injection of donor funds into the population/health sector in the near future must address the fundamental issue of severe institutional deficiencies which, unless corrected, preclude sound allocation of resources.

The approach taken by donors to date has been, in the team's view, fundamentally irrational. An example of misplaced donor priorities is that at least four years will have passed before the 1980 census results -- the country's basic data for planning -- have been tabulated. A considerable amount of technical assistance is provided, but it is provided in a way that, in some respects, tends to reinforce less than satisfactory GRZ procedures. Over half of donor health activities provided expatriate advisors only -- in 1982 there were over 170 health advisors in the country.

Illustrative of this problem is the nature of support for health planning, a key function if programs are to be prioritized and phased in concert with institutional capacities. With SIDA support, expatriates have been filling staff positions without, for the most part, any counterparts receiving on-the-job training. After several years of funding, the sole Zambian trained abroad under the SIDA program has just returned and is the only non-expatriate functioning in the Planning Department, and he holds an as-yet untenured position. Without Zambian involvement, it is not surprising that the expatriate planning advisors have not focussed on careful identification of constraints, have not highlighted the importance of very basic statistical omissions, and have not addressed the seriousness of the steps needed to begin to address planning problems.

The reluctance within the GRZ to staff key planning positions is understandable in times of financial hardship, but

doing so is ultimately self-defeating, given the key role of information and analysis in a national problem-solving process. In their willingness to place expatriate advisors who are unmatched by counterpart Zambians, donors have, in effect, contributed to a crippling of GRZ capability. (One possible solution in times of severe government financial crisis is for donors to fund key staff planning positions on a gradually diminishing basis. Although doing so is not consistent with current donor practices, it bears consideration.)

In October, 1983, the World Bank sent a team to Zambia to conduct a Population, Health and Nutrition Sector Review. The team's final report may be the basis for a GRZ request to the World Bank for major assistance to the health sector through the National PBC program. Assistance would focus on MCH/FP program development, including training, supplies and infrastructure.

Although the report notes that deficiencies in long and short term planning are impairing development of the health sector, it is more a description of overall sectoral problems than an analysis of causes or prescription of steps needed to begin to solve them. For example, the almost complete lack of appropriate, analyzed data upon which to assess priorities is not given due recognition as a part of health sector problems.

We see the sector review as a beginning which can serve to initiate a continuing host country process of inquiry. Before this can be done, however, a more realistic assessment of current institutional performance and constraints will be required.

### C. CONCLUSIONS: PROBLEMS AND CAPABILITIES

Population-related problems are major factors constraining Zambia's development prospects, and substantial need and demand for maternal-child health and family planning programs has been demonstrated. However, comprehensive solutions cannot be simply prescribed or easily implemented. A major limitation is that management of the population and health sectors in Zambia does not incorporate a problem-solving process involving learning and self-correcting procedures. The necessary integration of data collection, processing and analysis with policy and program formulation and implementation does not now exist.

The execution of adequate analyses of population problems and solutions would constitute an inquiry involving MOH headquarters and field staff and staff from other ministries. It would require an extended period of time. Doing so effectively is constrained by the existing limitations of financial, physical and trained human resources. However, although foreign specialists can help and financial assistance

is needed, the fundamental problems will be solved by Zambians or not solved at all.

As a result, injections of donor resources at this time, whether in small or large amounts, are likely to bring limited impact unless resources are accompanied by across-the-board institutional reform in health planning and delivery systems, and the initiation of a rational problem-solving process. These reforms would involve (1) more detailed and reliable data, data processing and comprehensive analysis, (2) adequate Zambian staffing, formal and on-the-job training of Zambian staff, both abroad and in Zambia, with the assistance of resident advisors, and (3) improvements in the design and implementation of programs, including changes in current institutional procedures at headquarters and in the field. Financial assistance to date has placed insufficient emphasis on strengthening the health sector. Assistance in the future should recognize and take steps to reverse this situation. In order to do this, donor support must be phased to permit sensible solutions to the most important and urgent problems. It must also provide the appropriate composition of technical and capital assistance and training to permit sound analysis of institutional strengths and weaknesses, and of how long the necessary steps will take, how they should be undertaken, and by whom.

#### D. RECOMMENDATIONS

Population problems are severe in Zambia, related development trends are unfavorable, and maternal-child health and family planning is one of the weakest aspects of the national health programs. However, the team does not believe that, at this time, AID should provide large scale financial assistance to the MOH. Key institutional improvements, which will take time to realize, must precede development of a major public sector service delivery program. In addition, we believe that stronger demonstrated evidence of GRZ commitment to MCH/FP -- which does not now exist -- is another prerequisite before large scale donor assistance in population will be appropriate.

We recommend steps which we believe are feasible for AID to undertake at this time. Our recommendations address improvements in institutional capability, and point to focussed areas for support to service delivery through non-governmental channels, which can serve to meet some of the country's most urgent needs and at the same time build a base -- in improved management, in information collection and use, and in tested models for service delivery -- for later, large scale donor assistance. The recommendations incorporate, where we feel appropriate, dialogue with Zambian officials and with donors, support for information and analysis, and technical assistance, commodities and training to expand service provision. They are

based on the team's assessment of problems and their urgency, and of Zambian capability to respond, as well as our understanding of AID's own areas of comparative strength in the population sector.

Discussed more fully in Section V, the recommendations are (1) support for information collection and analysis, beginning with the 1980 census, through the Central Statistics Office, (2) direct support for technical assistance, contraceptives, and service provision, coupled with improvement of the national service statistics system, through the PPAZ, (3) an assessment, with the involvement of Zambian officials and experts, of the potential role of a range of nongovernmental organizations in family planning service provision, and (4) dialogue with the GRZ and donors, especially the World Bank, regarding a sector approach to health and population problems, and AID participation in major decisions affecting sectoral development.

### III. POPULATION AND HEALTH PROBLEMS IN ZAMBIA

#### A. POPULATION CHARACTERISTICS

##### 1. Introduction

The relationship between demographic trends and other population characteristics are multiple, diverse and different in each country. Mortality, fertility and migration are the basic demographic variables which affect other population characteristics. They determine a population's age structure and growth, and its geographical distribution, and they also create conditions which affect other socio-economic characteristics.

For example, with different levels of fertility and mortality, and the same difference between crude birth and death rates, two populations will have the same growth rate but different age structures. Although the population growth rate will be the same, the population with higher fertility and mortality will have a younger age structure--and a higher dependency ratio--than the population with lower levels.

If country A has similar mortality as country B, but A's fertility is higher than B's, not only the population of A will grow faster than B but the age structure of A also will be younger than B. Problems such as educational needs, job supply, dependency ratios, housing requirements, and public services (such as police, health, sewer systems, water supply, and transportation) will have to be solved at a faster pace in A than in B. Furthermore, migration could worsen the situation in particular regions of the country. Migration to a city, together with high rate of natural increase, may double the city's population in astonishingly short periods of time.

At any given moment in time the labor force of the next 15 years is already determined by past mortality and fertility conditions. In other words, the population that will be demanding jobs over the next 15 years is already born. This time lag separating fertility changes from labor force changes has considerable significance. Any policy decision taken today to reduce the population growth rate or change fertility will affect the composition of the population demanding jobs only after 15 years. This effect calls for detailed, careful planning and forecasting, if large rates of unemployment are to be avoided.

To know the population characteristics of a country at regional levels is, therefore, a must for effective development planning. Population characteristics are not the only characteristics affecting development, but they define critical conditions which are favorable or non-favorable for development. A country with a rather low population growth rate, together with an older age structure, generally has better prospects for development than a country with a very rapid population growth rate and a young age structure.

## 2. Information Base

In 1950, information on the population of Zambia was obtained by means of a demographic sample survey. The sample did not contain detailed age information. It collected information on deaths and births during the previous 12 months and on children ever born and children surviving. The quality of information has been questioned, and the lack of detailed age information made it almost impossible to estimate fertility and mortality.

The first national census was taken in two steps. The non-African de facto population was enumerated in September 1961 together with a census of urban employees. The African de facto population was enumerated from May 15 to July 29, 1963. The final 1963 census count of 3,490,000 was around 35 percent higher than the expected population based on the 1950 demographic sample. Although the 1961-1963 census constituted a better count of Zambian population, tabulation in terms of wide age groups once again impeded demographic analysis.

In 1969, a national census was held, which provided useful information for understanding the demographic situation in Zambia, as well as other socio-economic characteristics. The publication of the 1969 census provided detailed information at the district level.

In 1974, a de facto census was taken from August 26 to September 7. The sample was taken from large and small urban areas and from rural areas. The sample was supposed to

represent an overall sampling fraction of 14 percent (CSO, 1979, p. 3). Another sample demographic survey was conducted in urban Lusaka and one rural area, Keembe, from August 1978 to August 1979 (ECA, 1982).

Finally, during August 15 to September 7, 1980, another national census was conducted. At present, only limited and preliminary data are available. Plans exist for detailed tabulation for urban and rural areas within each district and tabulations are being prepared. It is planned that such tabulations will be ready in mid 1984. The tabulations will permit a useful analysis of population characteristics for the formulation of national plans.

Current knowledge of the demographic and population characteristics of Zambia is quite limited, and the limitation is an impediment to the formulation of a sound and informed population policy and a plan of action. In this connection, the analysis of the 1980 census data will be crucial for determining recent demographic trends and population characteristics.

### 3. Historical Growth, Changes in Composition and Distribution

#### a. Fertility

Fertility has been estimated as high in Zambia. The CSO has estimated a crude birth rate of 47.7 births per thousand population for 1969. The U.S. Bureau of the Census gives a range of variation in crude birth rate from 48 to 51 for 1969. A report from the World Bank suggests total fertility rates fluctuating around 7.0 for 1969 and a probable increasing trend after that year (World Bank, The Demography of Zambia, October 1983). Although there are some fertility differentials by province, fertility is still high in all of them. The 1978/79 Urban Lusaka and Rural Keembe survey (ECA, 1982) provided some fertility information. The report shows a large difference in fertility between women with less than upper primary education and the rest of the population. The analysis of the 1980 census data will provide useful information on fertility by geographical area and in terms of some of the social characteristics of females, including education.

#### b. Mortality

The fragmentary information provided by census and demographic samples indicates that although Zambia has rather low mortality by African standards, comparison with nations in other parts of the world suggests that a large number of deaths can be reduced.

Information on registered deaths is not complete and cannot be used for estimating mortality. Census and survey information for indirect estimation of mortality is limited to the 1969 and 1974 census and to the 1978-79 Lusaka-Keembe survey.

Using information from the 1969 census, life expectancy at birth has been estimated at 43 and 46 years for both sexes combined. The Central Statistics Office has published a report indicating a 1969 crude death rate of 19.7 deaths per thousand population, an infant mortality rate of 129 deaths per thousand births, and a male and female life expectancy of 41.8 and 45.0 respectively. (CSO, 1973). A report from the World Bank on the population of Zambia suggests lower levels of mortality. Information from the the 1969 census and 1974 surveys indicates that mortality was declining during that period of time. (World Bank, The Demography of Zambia, October 1983).

Information concerning mortality was collected in the 1978-79 Urban Lusaka-Rural Keembe survey, but no generalization for the whole country can be made. However, tables presented in one of the survey reports would indicate the continuation of the mortality decline. (ECA, 1982, paper ECA/PD/WP/1982/7). Information from this survey indicates the existence of high mortality differentials among social groups and between urban and rural areas. Finally, an infant mortality rate of 141 deaths per thousand births has been given for both sexes combined for the period 1969-74 (CSO, 1979).

#### c. Population Age Structure

As a consequence of past high fertility and declining mortality, the age structure of the Zambian population is very young. The proportion of the population under age 15 was 46 and 52 percent in the 1969 and 1974 censuses, respectively. The latter figure might be affected by some irregularities found in the 1974 population age and sex structure. Nevertheless, it is expected that the 1980 census will show a higher proportion of population under age 15 than in 1969. The Zambian age structure implies a high dependency ratio per worker (more than 4 in 1969) and a rapidly increasing demand for education.

#### d. Population Growth Rate

The population information provided for 1963, 1969, 1974 and 1980 show an increasing population growth rate (See Table 1). The calculated annual growth rates are 2.4, 2.8 and 3.2 percent for the intercensal periods 1963-69, 1969-74 and 1974-80 respectively. The lack of recent information on fertility and mortality permit only an estimation of the population growth rate between 3.1 and 3.4 per cent for 1983. Tabulation of the 1980 census should provide more precise estimates.

e. Urban-Rural Differences and Internal Migration

Zambia's population has been subject to unusually high rural to urban migration. Consequently, the proportion of people living in urban areas has been increasing up to a level of 41 percent in the 1980 census. Because of the migration movement, the urban population living in cities over 5000 inhabitants grew at high annual rates of 8.5 and 6.1 percent during 1963-69 and 1969-80 respectively. However, the rural population grew at annual rates of 0.5 and 1.4 percent during the same period. (Rates calculated from Wood, n.d.g Table 5).

In Zambia, several large towns, primarily in the Copperbelt and Lusaka, coexist with large areas of very sparse and scattered rural settlement, with the exception of relatively heavily populated rural zones near the towns and along the line-of-rail in Central and Southern Provinces. Urban migration, in response to the growth of industry and perceived opportunities in towns, has continued from colonial years to the present, although there is evidence that urban growth rates have slowed somewhat since the 1960's. There are significant income disparities both within urban and rural areas, and between them, and evidence suggests that urban dwellers have three to four times the real income of rural dwellers. In the last 5 to 10 years the rural-urban disparity has probably increased, with rural areas suffering proportionately more from the nationwide decrease in real income.

It is likely that some of the social characteristics of rural-urban migration have changed since Independence. Colonial policies restricted property ownership and residence and investment in towns, thus preventing workers from bringing wives and dependents with them and encouraging continued social and economic ties with home villages, and return to them following retirement. After independence, migration of nuclear families and of women to join their spouses appears to have increased, as a result of employer and government policies concerning property ownership, residence and retirement.

Small cities grew faster than large cities during 1963-69, and this trend continued during 1969-80. Nonetheless, if the growth of cities is analyzed in terms of the number of persons added to cities during each intercensal period, during both periods the large cities continue to get more people than small cities. If such growth during the intercensal periods could be disaggregated according to natural growth and migrants, the results will probably show a changing migration pattern. While in the 1963-69 period most of the migrants (around 90 percent of them) were attracted to the largest cities, during the 1969-80 period almost the same amount of migrants went to the largest small cities. The change is not

necessarily permanent. The analysis of migration data from the 1980 census during the last 12 month period prior to census data could reveal interesting migration tendencies. A preliminary analysis of population growth by province using the 1980 census has shown that most of the migrants from all parts of the country are still attracted to the Copperbelt and Central Provinces.

4. Labor Force and Education

a. Labor Force

Unfortunately, no information on labor force from the 1980 census is available at present, and hence our knowledge of the labor force situation is limited.

If the 1969 census data is accurate, 25 percent of the males and 55 percent of the females aged 15 and over were unemployed. (For non-Africans the unemployment was only 2 and 12 percent respectively for males and females). Only 57 percent of the males in ages 15 and over were working, while for females the percentage was an astonishingly low 13 percent. There were more females seeking jobs than those who were able to hold a job. (Calculated from CSO, 1973, Table 21).

It is not known whether or not the situation has changed in 1980. Were the same proportion of persons seeking work as in 1969 (28.1 percent), then the population demanding jobs in 1980 would be 1,595,412 instead of the 756,256 in 1969. Elimination of unemployment would have required jobs from 1969 to 1980 to increase at a rate of 6.8 percent per year. Even with an unemployment rate of 10 percent in 1980, the supply of jobs would have had to grow at a rate of 5.8 percent per year during the 11-year intercensal period.

Official projections of the labor force, from 1969 to 1984, are available. These projections by sex and age include those seeking jobs. The annual growth rate of labor force in such projections is 3.3 percent from 1969 to 1980. If it is assumed that unemployment would have been only 10% in the projection for 1980 the supply of jobs should have grown at a rate of 6.7 percent per year. Such average growth rates of job supply during a period of 10 or more years are difficult to maintain. If Zambia has not been an exception, unemployment in 1980 probably was much higher than 10 percent. Finally, the unemployment is not evenly distributed among all ages: highest unemployment rates are concentrated in the young adult population.

For planning purposes, it is particularly important to disaggregate urban and rural employment data. The 1980 census information will permit a detailed analysis of the urban/rural labor force situation within each district.

b. Education

Levels of educational attainment in Zambia seem to be improving, with younger cohorts achieving higher levels of education than older cohorts. Nevertheless, the 1969 census (the best information source to date on education attainment and attendance) showed a large educational differential by sex. For instance, the school attendance rates in 1969 were similar at age 5-9 for each sex: 28 and 29 percent for females and males respectively. At age 10-14 the differential started to widen, and rates for females and males at age 15-19 years old were 30 and 60 percent. Practically no females were attending school for ages 20 years and above (see Table 2).

These attendance rates lead to large sex differentials with respect to educational attainment. For ages 15 to 49, 85 to 46 percent of the male population has some school education, whereas the percentages for females were much lower, ranging from 71 to 12 percent (Table 3). These sex differentials were even greater for the attainment rates of those who have had at least some upper primary education. In this case, the percentage for males varied from 61 to 17 percent for ages 15-19 to 45-49 respectively, whereas for females the rates varied from 43 to 3 percent (see Table 3).

5. Morbidity and Causes of Death

Zambia is not an exception in the developing world with regards to morbidity. Deaths under the age of 5 represented 62 and 44 percent of all deaths in the urban and rural areas of the 1978-79 survey, respectively (ECA, 1982, Document ECA/PD/WP/1982/7).

Nationwide information on causes of death does not exist, and the only available sources are information collected in some hospitals and from the Urban Lusaka - Rural Keembe 1978-79 Survey. While hospital information gives as leading causes of infant deaths measles (26 percent) and pneumonia (14 percent), the Lusaka-Keembe 1978-79 survey lists infant deaths from high temperature (30 percent) and deaths connected with digestive systems (15 percent), and a high proportion of unknown causes. (ECA, 1982, Document ECA/PD/WP/1982/7). Although the classification is different and hence not comparable, there is no doubt that in both cases, most of the infant deaths are due to infectious, contagious and parasitic diseases. Some illnesses, for example, malaria and sexually transmitted diseases, have tended to increase proportionally from 1978 to 1981.

6. Conclusions: Demographic Characteristics and Development Problems

High unemployment rates, high fertility and rapid population growth, concentration of population in the largest cities, and high rates of illiterate or semi-illiterate persons are social characteristics unfavorable for economic development.

It is always desirable to sustain the effort to reduce mortality. However, account should be taken of the impact of a further decline of mortality on other population characteristics. Although reducing mortality will bring better health (and, hence a healthier labor force) it will also accelerate population growth and bring about an even younger age structure, thus increasing the number of dependents per worker, which was more than 4 in 1969. If mortality continues to decline, it is likely that most of the saved deaths will be in young age groups. Most infant and child deaths are still due to infectious, contagious and parasitic diseases, which frequently can be reduced faster than degenerative and renal-cardio-vascular diseases. Consequently, the life-saving is likely to be concentrated in young ages, widening the proportion of population under age 15.

Only a reduction of fertility will counteract the unfavorable effect of declining mortality on the age structure and growth rate. If fertility is reduced, better population conditions for development will be created. In the meantime, the labor force will continue to grow at very high rates. Demographic trends have created conditions that will not be favorable for reducing unemployment up to the end of this century, and forecasts of possible high unemployment should be taken into account in planning capital investments during the next 15 years. To avoid carrying such a burden for longer periods of time, the country's fertility must be reduced.

During the next 15 years, housing requirements will grow faster than in the past. Cities will double their population in periods that fluctuate between 10 and 15 years. Consequently, in 10 - 15 years there will be a need to construct as many housing units as were available at the beginning of the period. Total construction needs increase sharply if housing replacements are added.

A reduction of fertility seems to be a must for raising the general standard of living. In the short run, the goal should be to reduce the population growth rate and hence reduce the pace of emerging requirements in areas such as food, child-care and health facilities, and school and teacher requirements. In the long run, reductions in fertility will

bring a better age structure of the population, and as a result a reduction in the rate of growth of the demand for housing and jobs. Reduced fertility could also contribute to increasing the per capita income within each family.

## B. POPULATION POLICY AND PROGRAMS

Official interest in population and family planning in Zambia dates back to 1974, when Zambia sent a delegation to the World Population Conference at Bucharest. While at that time Zambia stated that it did not have a population problem and in fact was under-populated, following Bucharest, the government held a conference in Zambia to discuss population issues. One of the recommendations that came out of the conference called on the government to strengthen MCH services, including family planning. In 1977, the government invited a UNFPA-WHO-UNICEF Mission to come to Zambia and advise on how a national health program incorporating family planning could be established. In 1980, the Ministry of Health approved a UNFPA-funded Family Health Program, which included equipment and supplies for MCH/FP.

Although the GRZ still does not have an explicit population policy, the attitudes of GRZ leaders appear to be changing. Widespread pronatalist attitudes of about 10 years ago, as couched in statements that the population remains small relative to land size, are less prevalent today. The pronatalist view is understandable considering the political realities of a large -- and to the casual observer, sparsely settled -- state surrounded by numerous neighbors. The last decade has brought, however, new political realities: unemployment, shortages of education and services, and a drastic reduction in the country's financial resources. It seems that, more and more, GRZ leaders are becoming aware that the critical equation is now the measure of population relative to resources, rather than to the land base.

As an indication of a more active GRZ role in analyzing its population situation openly, a committee composed of representatives from NCDP, CSO, MAWD, MOH and other agencies was established to prepare Zambia's input to the 1984 World Population Conference to be held in Mexico City. In preparation for the meeting, sub-committees are examining four broad topics: fertility and the family; population distribution and migration; population, resources and the environment and; mortality and health.

Realizing that the lack of a population policy is limiting effective action, the recent World Bank Sector Review recommended that a high-level committee be formed to study

population issues and recommend a policy. According to the World Bank recommendation, the committee should prepare a report which can form the basis for an open dialogue between GRZ, the National Party, and various government and private groups. We understand that, in reviewing the recommendations made in the World Bank Sector Review, the GRZ has agreed to establish such a committee, but it is still in the process of being developed.

Government commitment to family planning and support for programs are indirect but important measures of official thinking. While the government has not come out with strong statements in favor of family planning, family planning is one of the interventions mentioned in the new government strategy on Primary Health Care, outlined in the 1980 document, "Health for the People." As part of this strategy, the government stressed the importance of preventive health care along with a plan for implementing a primary health care program. The strategy defines primary health care to include health education, nutrition, food supply, sanitation, safe water, MCH/FP, immunization and control of locally endemic diseases, mental health and treatment of common diseases and injuries. Discussion of MCH/FP refers to the provision of child spacing to reduce maternal and child mortality. The government, through the Family Health Program, has trained over 1000 nurses and traditional birth attendants in Family Health, including child spacing. While the MOH reported 54 clinics offering FP and 59,068 users for 1982, the reporting has been sporadic and unreliable.

Previous to these efforts, in 1974, the University Teaching Hospital (UTH) became interested in family planning when the Department of Obstetrics and Gynecology was designed as a WHO Field Research Center and began conducting studies on various contraceptive methods such as Depo Provera and IUD's. The hospital started offering family planning services and after the Sister in Charge attended a family planning course at Maharry in the United States, she returned, trained others and set up a family planning service that is almost completely run by nurses. UTH has the largest FP clinic in the country and provided FP to cover 6000 clients in 1982.

The private Planned Parenthood Association of Zambia (PPAZ) was established in 1972 to support population and family planning efforts in the country by increasing awareness and educating political, government and health policy makers and planners to the importance of population and family planning. PPAZ has provided support to government and non-governmental agencies in the provision of FP instruction and services. PPAZ does not provide services directly, but has been the major supplier of contraceptives and has been collecting statistics

on usage and coverage, albeit not adequately. The Association has also taken the lead in conducting educational talks and campaigns in rural communities through a field force of 40 educators.

PPAZ has had serious management problems over the last few years which have affected their program and, among other things, resulted in a chronic shortage of contraceptives in the country. As PPAZ was the sole supplier of contraceptives, those facilities offering services frequently ran out of supplies. In 1982, the UNFPA supplied contraceptives directly to the MOH and this has helped to alleviate the problem. PPAZ supplies contraceptives to MOH, to mission health centers and mines health facilities. While statistics are not available on what percentage of these institutions provide family planning, missions account for the delivery of 50 percent of the health care in rural areas and 30 percent of the overall health care for the country. Various private groups have indicated interest in expanding FP efforts and, for example, groups like the Zambia Flying Doctor Service and Makeni Ecumenical Center have received limited FP support and are anxious to expand FP information and services. While PPAZ reports 98,278 users in 1982, the actual user figure is probably much less as statistics collected are incomplete due to lack of an organized system to collect and analyze the data.

The Ministry of Health and PPAZ are interested in expanding family planning efforts but some of the existing problems and constraints include lack of information on fertility and on the knowledge, attitudes and practices of adults affecting birth planning, chronic shortage of contraceptives, and a poor system for collecting FP statistics. Other problems are a weak PPAZ program and the need for more training of FP health workers.

Solutions to these problems, and a successful expansion of family planning in Zambia, will require the cooperation of PPAZ, MOH and other organizations in terms of sharing and consolidation of information and coordination of activities. Despite steps toward a more active discussion of population concerns, overall government commitment to family planning remains very limited, as measured by the budgetary priority given to maternal child care and family planning within the overall national health care structure.

C. DEMAND FOR SERVICES: THE KNOWLEDGE, ATTITUDES AND PRACTICE OF ZAMBIANS

1. The Information Base

Given the limited scope of family planning programs in Zambia, and the lack of assessment of program effectiveness, or of contraceptive knowledge, attitudes and practice in the country, actual measure of demand for services is not possible. However, an analysis of the broader country context -- those social and economic processes which may be sustaining extremely high fertility or which are likely to be the basis for fertility decline -- provides indirect evidence of demand.

Our documentary review revealed few studies to date of variation and trends in the determinants of fertility in Zambia. The 1969 census could have provided additional background but the data were never adequately analyzed. The 1980 census results will provide information to permit analysis of fertility variations by urban/rural, by province and district, by age group, by occupational class and education of women, as well as more detailed analysis of birth spacing, age of marriage, economic activities of household members, employment and labor force statistics, school attendance and educational attainment, and migration and urbanization patterns. Census analysis will also serve as the necessary frame for more focussed studies. Nationwide data on contraceptive prevalence or attitudes toward family size, family planning and service delivery do not exist. In addition there are no evaluations of program effectiveness which might be used to define contexts in which family planning services are meeting demand. The 1978-79 survey (ECA, 1982) covering Lusaka and one rural area, Keembe, provides some useful information on family patterns, fertility attitudes and economic variables. Several small rural economic surveys and surveys of fertility attitudes conducted by the University of Zambia also provide some information.

2. Socio-Economic Background

In Africa, large family norms are rooted in tradition and reinforced by the fact that most women lack any alternatives to early marriage and childrearing. Children provide critical support to the family as unpaid workers. Demand for family planning and effective utilization of family planning services have tended to accompany such changes as improvements in education and employment of women, improvements in economic status, and reductions in infant and child mortality. African data, especially as shown in the relatively well documented case of Kenya, suggest, however, that a variety

of socio-economic improvements may be associated with higher fertility in their earlier stages, as improved health and education of mothers brings less pregnancy wastage and better care of children and as the modernization process leads to abandonment of traditional methods of birth regulation such as breastfeeding, and abstinence after childbirth.

Even in Kenya, with one of the highest recorded fertility rates in the world, there are significant variations within the country. (For a summary of the population situation in Kenya, see Fleuret, et al., 1982, chapter VII, February). A group of family planning innovators tend to be those in the highest income and occupational classes, the best educated women, women with wage employment and those from social classes or groups which have adopted western family lifestyles. Although in the minority and clustering in urban areas, such women have significantly lower fertility and use contraceptives to limit, as opposed to space, births. On the other hand, the majority of the women in rural Kenya have very high fertility; their modest use of contraceptives seems to be serving only to compensate for a drop off in traditional fertility regulation provided through such practices as abstinence after childbirth and breastfeeding. For these women, family planning may compensate for traditional spacing. In both cases there is need and demand for family planning programs, although the purpose, design and effect of programs will differ in each.

Zambia shares with other countries many of the general characteristics which support large family norms and high fertility: women begin to bear children early in life and continue throughout their productive years; women have limited opportunities for employment outside the home or the poorly rewarded informal sector and thus low social status; women have significantly lower levels of education than men; children provide economic support on the farm and support through the extended family structure to parents in their old age; and, a high proportion of women have sole or primary economic responsibility for household members.

However, Zambia differs from nearly all the rest of sub-Saharan Africa in one major way: it is relatively highly urbanized and industrialized. 1980 census figures suggest that the urbanized population is 41 percent. Migration from colonial times to the present, to towns built upon mining, industry or services, has set in motion changes in social and economic life in the towns. There is a large, settled, and poor urban population.

### 3. Salient Findings

There appears to be lack of knowledge about FP by many women in both urban and rural areas of Zambia. Consequently the number of women practicing family planning is very low: probably less than 2-3 percent of the women at risk are using contraceptives. Yet, unwanted pregnancy appears to be high. When one looks at the figures for hospitalized incomplete abortions (many self-induced) especially in a country that has a liberal abortion law, it is astounding. (The Abortion Act No.26 of 1972 states that a women can have an elective abortion if three physicians approve the procedure.) It was estimated by a physician working at University Teaching Hospital that over 5000 patients were admitted to UTH in 1982 for complications of abortions and about 50 requests are made each week for elective abortions. This is a good indicator of indirect demand for FP.

Sample data from 1978-1979 suggest that variations are likely to exist in demand for family planning along key variables, particularly rural-urban residence, level of female education, and social class. There is an apparent shift towards shorter breastfeeding periods. There are differences between urban and rural areas in terms of desired family size, perceptions of the economic contribution of children, the strength of the extended family support structure, and mean parity of women.

Because of their relevance to the definition of population problems in Zambia, findings from the 1978-79 ECA survey are discussed in more detail, below:

--Ages at first marriage were low: 17.1 years in urban Lusaka and 16.2 years in rural Keembe. Early age at marriage seems to be associated with higher fertility. For example, Lusaka women aged 20 to 24 years who had married at an age under 15 years reported two more children than counterparts who married later; the corresponding differential for rural Keembe was three children.

--Data on mean number of children desired show that rural women wanted more children than their urban counterparts (7.2 vs. 6.6). Within the urban sample the number desired was inversely related to social class:

	Mean Number Children Desired
Lusaka low density	5.98
Lusaka high density	6.15
Lusaka squatter	6.92
Keembe rural	7.18

--Lusaka women who had lived in rural areas over 20 years had a mean parity similar to women in rural areas who had never lived in urban areas. Lusaka women who had never lived in rural areas had a mean parity of 3.8 as compared to 7.2 for Lusaka women who had lived 20 years or more in rural areas.

--Data suggest widespread ignorance of birth regulation methods. Although 63 percent of Lusaka women and 66 percent of Keembe women said they know of no method of birth regulation, it is unclear whether this means that these women did not know about birth regulation, or merely could not name a method. The higher a woman's education, the more knowledge she had of birth regulation. Two thirds of the 2729 women sampled expressed a willingness to use contraceptives if prescribed by a doctor.

--15.2 percent of Lusaka women, and 16.4 percent of Keembe women, stated that they had used the pill. 26 percent for Lusaka and 24 percent for Keembe married women of reproductive age had ever used any method of birth regulation. Only 1 percent of women interviewed said they had ever discussed the use of family planning with their husbands. The number of women willing to practice birth regulation was highest among Lusaka women aged 20-39 years.

--Questions concerning opinions about the effect of children upon economic participation showed strong divergence between rural and urban women. A much smaller proportion of rural women felt that having many children would hinder a woman's participation in the economic life of the society.

--Higher female educational attainment was associated with lower fertility. However, attainment at the secondary level was needed to significantly affect fertility. Illiterate women married earliest and bore about three more children than those women with secondary forms 1-2 education.

<u>Women's Education</u>	<u>Lusaka</u>	<u>Keembe</u>
None	6.5	6.4
Primary-Grades 1-4	6.0	6.8
Primary-Grades 5+	4.1	3.6
Secondary, Form 1-2 or higher	3.7	3.2

--Nearly all women sampled (97-99 percent) breastfed their children and were as likely to breastfeed first and subsequent children. Mean duration of breastfeeding for Lusaka was 15.1 months for the first child, 14.5 months for the child before last, and 14.8 months for the last child. For rural Keembe, corresponding figures were 16.9 months for the first child,

17.1 months for the child before last and 17.0 months for the most recent child. The overwhelming majority of women recommended a breastfeeding duration (about 18.5 months) which was longer than they practiced. However, only 1.8 percent of the sample linked breastfeeding to delay of pregnancy.

--Data on expected and actual birth intervals show mean reported interval to be higher in Lusaka than Keembe (24.6 months as opposed to 20.0 months). Without better data on contraceptive prevalence and the components of the birth interval, however, it is difficult to interpret the reasons for this difference.--Indirect evidence concerning family nucleation is suggested by the number of relatives of the household head reported to be resident in the household. 14.9 percent of household members in Lusaka, and 20.3 percent of household members in Keembe were classed as relatives. Persons still seek homes of relatives when going to urban areas (including the old who move in with their children), but the data also suggest a gradual reduction on the part of urban households to accept rural kin, and the difficulty of doing so in urban areas where accommodations are limited. Urban males established independent households earlier than rural males. Most households were headed by men, but there were many more female headed households in rural areas (18.5 percent) than in Lusaka (6.5 percent).

The extent to which urban families are taking on values whereby fewer children are preferred because of the high costs to educate and support them, remains to be fully understood. Aspects of urban life appear to be fostering modern, western family lifestyle. However, some of the characteristics of urbanization and industrialization which tend to bring declines in fertility -- most notably education, labor force participation, increased social status of women -- do not obtain, to any great extent, in Zambia's towns. Evidence from studies of urban women in Zambia shows vast disparities in female and male employment rates and educational levels. (Hansen, 1980) Most women must rely upon self employment in the unstable (and by some accounts, stagnating) informal sector, in such occupations as beer brewing and petty trade. 1969 census figures showed labor force composition of 28.9 percent women and 71.2 percent men -- this disparity is even greater in urban areas alone.

The impact of urbanization upon families remaining in rural areas has also brought significant changes which may bear directly upon family roles and family size. One of the effects of Zambia's urbanization has been its draw on the rural labor supply. A 1975 survey in selected provinces nationwide, (Murter and Honeybone, 1976) estimated that 41 percent of rural

households in the sample had a critical labor constraint. Thirty percent of the sample were female-headed households with a shortage of economically active males. The sample rural population was disaggregated into subgroups according to farm size and available labor supply: households which were smaller also had smaller farm size, less per capita crop income, and a lower number of males per females aged 15 to 55. The vast majority of smallholder farmers relied on hand tools and farmed less than one hectare. It might be postulated that such labor shortages have limited the ability of households to effectively use agricultural inputs, new equipment or techniques and that only families having adequate labor can take advantage of opportunities for farm improvement. This situation could be directly related to family size.

There is a great need for additional information on household labor organization and the nature and timing of any critical labor shortages. Research is underway, by staff of the Rural Development Studies Center, University of Zambia (UNZA), on the relationships between different forms of agricultural production, household labor organization and household income, especially to determine any effects of changes in the organization of labor at the household level on vital demographic processes of migration and fertility. Based on a previous survey conducted by the investigators, the hypothesis was made that capital investment in farm modernization implies rigorous, new labor demands involving all household members. Based on preliminary survey findings, a strong correlation between improved farm production and high fertility is proposed. The key hypothesis of the study is that, in the absence of outside labor, the success of improved farming depends on increased and active participation by women in both agricultural production and childbearing, and that, in the absence of hired labor, the larger the cropped acreage the greater the benefit from a larger family labor force.

Thus, efforts at agricultural modernization and farm improvement may now be sustaining the historical demand for very large families among a significant subgroup of the rural population. This is a critical area which requires further understanding and findings of the above research may help to answer key questions. Another factor operating in both urban and rural areas which could serve to sustain, or even bring a rise in fertility, is diminished adherence to traditional child spacing practices, especially as evidenced through trends toward a reduced duration of breastfeeding among younger women. Research needs to be undertaken on this critical area. Findings from Kenya surveys suggest that even a modest reduction in the duration of breastfeeding can result in a 25 percent rise in marital fertility unless the decreased protection is compensated for by contraception.

#### 4. Conclusions: Program Planning Considerations

Two tentative conclusions derive from the above discussion. First, there is likely to be significant demand for family planning services in urban Zambia, as a reflection of existing demand for smaller families. The existence of readily available services could bring a significant drop in fertility, especially among specific subgroups of women.

Secondly, fertility may not drop significantly in rural agricultural areas in the near term and in order for such a drop to occur, major economic and social change may be required. Agricultural improvements in rural areas may exacerbate the need for larger families to provide economic support from children. In addition, if the duration of protection due to breastfeeding is decreasing and the decreased protection is not compensated for by a rise in contraceptive use, fertility is likely to rise in the near term. Only modern contraception can compensate for ongoing changes in traditional practices that have in the past kept fertility under partial control.

A different kind of demand for and use of fertility regulation may characterize rural and urban areas: in the former, services will be used to space births, and in the latter, services will be used to limit family size. These basic differences should be taken into account in prioritizing family planning investments, designing information and service programs, and training health practitioners.

#### IV. ASSESSMENT OF PERFORMANCE AND CAPABILITIES

##### A. DATA COLLECTION PROCESSING AND ANALYSIS: THE STATISTICAL SYSTEM

###### 1. Organization

Zambia has a centralized statistical system. The Central Statistics Office (CSO) is under the National Commission for Development Planning (NCDP). CSO is responsible for overall coordination of statistical activity and is the focal point for the development of statistics. The CSO is functionally organized under a Director and two assistant Directors. There are nine subject matter divisions headed by Senior Statisticians: (1) National Accounts; (2) Industrial Production and Transport Statistics; Public Finance Statistics; (3) External Trade and Balance of Payments Statistics; (4) Agriculture, Fisheries and Forestry; (5) Labour and Manpower Statistics; (6) Census and Survey Administration;

(7) Prices and Consumption Studies; (8) Population and Demography.

The Annual Report for 1981 (NCDP, 1983) indicates that on December 31 there were a total of 282 staffed or occupied positions, of which 221 were personnel in CSO headquarters and 61 were seconded officers in Ministerial statistical units. The classification of headquarters personnel shows a staff of 28 professionals (some of which are expatriates), 150 technical and administrative personnel (including 14 "principal statistical officers", 12 "senior statistical officers", 44 "statistical officers" and 69 "assistant statistical officers") and 43 secretarial and clerical personnel. The seconded officers in ministerial statistical units were distributed as follows: 46 in Health; 7 in Agriculture and Water Development; 6 in Education and Culture; 1 in Labor and Social Services; and 1 in Mines. CSO and these statistical units comprise the Department of Census and Statistics, headed by the Director of CSO.

## 2. Data Collection

The CSO also has Provincial Statistical Offices in each Province, headed by a Provincial Statistical Officer. The field work for collection of data is directed by the Provincial Officers.

Although the field staff of interviewers is not permanent, a substantial amount of data collection is carried out each year, some of it on a regularized basis, and some of it ad hoc. The volume of collected data has been much greater than the amount expeditiously processed; backlogs and delays of two to four years are frequent.

Processing capabilities and performance issues aside, the two basic issues regarding the data itself concern quality or reliability, and appropriateness. There is a need to make data collection more regularized and to introduce systematic procedures for assuring correctness. Equally important, data specification and questionnaire design need to be more firmly based on analytical plans focused on social and economic problems of importance for policy, as well as on the information needed for monitoring programs and projects. New plans for policy analysis should provide criteria for questionnaire design; and this analysis should also contribute to the identification of flaws and errors in collection, and the consequent improvement of data quality.

More attention will probably need to be given to the field testing of questionnaires, and the training of interviewers.

After data collection workload levels have been more firmly established, a cost/benefit study of having a permanent field staff would be desirable.

### 3. Data Processing

The processing of data is performed for the CSO by the Data Processing Centre, Ministry of Finance (MOF). The MOF provides both programming and computing resources. The major problems in the processing of statistical data have been the low priority given to this work by the Centre and the lack of data processing resources and expertise within the CSO to design and implement projects efficiently. This has caused extensive delays in tabulations and in the publication of results. For example, External Trade Statistics have not been processed since 1979, and vital statistics since 1976, while the annual agricultural surveys (1972-1978) had to be processed manually.

The situation has improved in connection with the 1980 Population Census. UNFPA provided a data processing advisor in 1982 to assist the CSO. This advisor has installed generalized edit and tabulation packages, CONCOR and COCENTS from the US Census Bureau and the statistical analysis package SPSS from SPSS, Inc. on the computer at the Ministry of Home Affairs (MOHA) where computer access is better. He has written computer input edit programs and has helped write the edit programs for the data entry systems (IBM 5280). Even more important, he has trained statisticians in the use of tabulation commands for COCENTS and SPSS. As a result of these activities, census data for the Central region are now ready and data for the Central and Copperbelt regions should be released in January 1984. All data had been expected to be released by the third quarter of 1984. Unfortunately, the MOHA computer is now having reliability problems, and this is causing major difficulties. Until January 1982, when the UNFPA advisor arrived in CSO, minor data entry was the only data processing being carried out. The departure of the UNFPA Data Processor at the end of the Census tabulations, would leave CSO without any significant data processing capabilities. Unfortunately, the UNFPA data processing advisor is expected to be transferred by the UN at the completion of the census.

Even when data reports are prepared, the printing is usually delayed. As noted in the 1980 annual report of the Department of Census and Statistics, the monthly digest of statistics has almost been turned into a quarterly if not a biannual publication, and the Statistical Yearbook for Zambia has not been printed since 1971.

#### 4. Data Analysis

Completion of the Census tabulations in mid-1984 will provide Zambia with very extensive and detailed demographic data. Fertility, education, and employment information tabulated at the district level, by rural and urban zones, will constitute a data base which, after analysis, should provide information of greater utility for the formulation of policies. Although similar tabulations were available for the 1969 census, subsequent analyses were not carried out, mainly because of problems of access to computers. A satisfactory analysis of the 1980 census will require: (1) a team of well-trained analysts and computer scientists; (2) adequate access to computers.

CSO has done a very good job of organization and staffing. There appears a sufficient number of statisticians specialized in each of the nine subject-matter areas specified in the introduction. Fairly recently CSO decided to acquire its own data processing skills. It hired three programmers who are presently undergoing training in the U.K. However, the priorities of the MOF have the effect of strongly reducing CSO access to the MOF computer, and a similar situation prevails with respect to the MOHA computer. Moreover, as the flow of completed work increases, it is likely that additional required skill capabilities in data processing and analysis will be identified by CSO.

Census Analysis. A limited amount of demographic analysis has been carried out in CSO. The most detailed report is probably the population projections, 1969-1999, for Zambia. There is scope for improving the techniques that were used, particularly the projection of total population at the district level.

The most exhaustive analysis of a data set was carried out with the collaboration of Economic Commission for Africa, for the 1978-79 survey of urban Lusaka and rural Keembe. A review of the survey reports suggests that the development of additional analytical expertise for interpreting survey results and evaluating the quality of information is desirable.

Improving demographic analysis in CSO might involve redirection of staff time away from administrative activities, as well as training. Apparently there are only three staff members that have received some demographic training. It appears that none have a post-graduate degree. None of the three are trained in all the demographic areas that should be continuously analyzed in Zambia. Nevertheless, with some additional training they could develop the expertise for application of techniques in the area of mortality, fertility,

migration and/or population projections. At present, CSO does not appear able to carry out the thorough analysis of the 1980 census that is desirable in a reasonable period of time. However, the three CSO officials with statistical training would like to receive assistance and training in this area.

CSO has no equipment for conducting the recommended analysis. The office does not have its own computer and the access to other computers is unsatisfactory. Desk calculators are obsolete and programmable pocket calculators with magnetic cards (as TI-59) do not exist. If these circumstances continue, CSO will not be able to produce the recommended analysis of the 1980 census.

#### 5. Administration and Management

The timely production of statistics that are of utility for policy-making and the monitoring of programs will depend on sound administration and management of the phases previously described. This management calls for: (1) a proper balance between the resources/staff capabilities and the organization's workload and; (2) efficient utilization of the resources and staff capabilities in executing the tasks that comprise the workload.

The information required by the Government of Zambia for policymaking and management should determine the magnitude of CSO's data collection, processing and analysis workload. Once this workload has been defined it will be possible to specify the physical, financial and trained human resources required for each component, with greater accuracy than at present.

Another aspect of improved management that requires attention is how to achieve greater efficiency and some economics through the proper sequencing of projects. For example, a rapid and complete tabulation of the 1980 census might provide the statistical frame for the selection of samples for agricultural surveys and obviate the need for an agricultural census.

Improvements in the management process along the lines described above should lead to the timely production of useful statistics, and avoid the accumulation of unprocessed and unanalyzed data that has characterized the past decade.

CSO's decision to break the data processing bottleneck and assume responsibilities in this area will lead to sharp increases in the workload. Execution of data collection, processing, analysis, tabulation and publication at significantly higher levels will create new problems in the

areas of operation and coordination. The correct handling of these problems will require forward planning in administration and management.

#### 6. Budgets and Expenditures

The Central Statistical Office was created in 1977, as the single agency in GRZ charged with statistical data gathering responsibilities.

The trend in budget allocations in both current and constant terms has been upward although somewhat erratic (See Table 4). In constant terms, the 1983 budget allocation is less than that of 1982, but exceeds the 1981 allocations.

Since 1980, the distribution within the budget to individual line items has been relatively constant (See Table 5). Personnel emoluments was 36-37 percent, special expenditures were 55-51 percent of the total budget and recurrent charges ranged from roughly 8 to 12 percent. (Budget allocations for individual surveys can be found in Table 6).

Actual expenditures by CSO have been considerably less than the budget allocations, with 1981 an exception. (See Table 7). In 1978, expenditures were only 67 percent of the budget allocations. By 1982, the percentage had increased to 79 percent of budget, however, 1981 expenditure was 116 percent of the budgeted amount. (It is suspected that 1981 expenditures were over budget due to the need to "clean up" after the 1980 population census).

In 1982, 7/100 of 1 percent of the GDP was spent by CSO. If the nation's sole statistical agency is inadequately funded for its assigned tasks, the informational needs of GRZ will not be met. The importance of timely and accurate data for policy making, planning, resource allocation and management is obvious. Close attention needs to be given to the full data/information needs of the GRZ, and to the availability of funds for meeting those needs.

#### 7. Data Priorities for Planning

The implications for foreign assistance of the need for continuing analysis of population problems in the various sectors--for example, education, employment--is a central issue in this pre-assessment. There is a need for timely statistics and continuing analysis in all sectors, including health and family planning. A discussion follows on how improved data on demand for family planning can facilitate clear and sound program planning.

Better understanding of the demand for family planning, and the economic, social and cultural factors which condition demand, is needed for policy makers and planners to (1) assess the need for investment in family planning and maternal child health; (2) provide a basis for choice and prioritization among different types of programs; and (3) determine the design of particular programs. Particularly useful are findings which can discriminate among sub-groups of a national population, for whom demand for family planning or norms about family size may differ, and for whom different types of interventions are more appropriate.

This requires timely, analyzed census results and carefully-designed household surveys on health status, contraceptive prevalence, attitudes regarding family size and family planning, and other socio-economic variables.

Study of the determinants of fertility or of demand for family planning has not been part of any organized effort by Zambian institutions to collect and use such data for policy making and planning. Institutional linkages between those who would be responsible for data collection and analysis, and those responsible for planning (especially between CSO, NCDP and MOH) appear to be weak. Where coordination among representatives of several ministries, NCDP and the University is occurring, such as in the preparation of the 1980 Census Analytical Report, it is being done on an ad hoc basis and only for a single purpose.

Social and economic surveys of use for population planning have been conducted apart from regular operations, or have been separate from the planning process. In the ECA/CSO survey, ECA staff were involved in a substantial way in design, organization and implementation of the survey, and bore almost exclusive responsibility for data processing and analysis. While this served to minimize chronic data processing problems, it also meant that analysis of key issues was performed almost exclusively by outsiders.

The University of Zambia (UNZA) is one institution which may be able to conduct socio-economic studies relevant to population planning. For example, the Rural Development Studies Bureau (RDSB) of UNZA has conducted numerous, small, rural household surveys. A review of the utility of these surveys for agricultural planning showed problems in data collection (sampling and non-sampling errors), limited analysis of the data due to manpower shortages, and presentation of findings in forms of little use to planners. These problems would have to be overcome if RDSB or another University body

were to support data collection and analysis for population-related variables. In the case of two ongoing, donor-funded, population-related studies involving RDSB staff, even well presented findings may not be used by planners, given the lack of institutional mechanisms to share results. Of note is that RDSB, with an establishment of 10 research positions in the social sciences (3 at Ph.D level, one of whom is an expatriate, 5 at MA level, and 2 at BA level) is seeking to become more responsive to specific GRZ requests for applied research and analysis in several topical areas, one of which concerns demography and rural development. The proposed reorganization of RDSB (not yet funded) would strengthen its ability to provide guidance to program planners.

Ways to structure the necessary institutional linkages between the MOH, the NCBP and CSO, and Zambian researchers, should be examined as part of larger review of data collection and analysis priorities for both CSO and the MOH, and form part of improved procedures for the management of data collection and analysis. These linkages will be critical if the results of the 1980 census are to be used by the range of people who could benefit from them.

## B. POPULATION AND MCH/FP: PROGRAM PLANNING AND IMPLEMENTATION

### 1. Planning Department of the Ministry of Health

The planning and management function in the Ministry of Health (MOH) is relatively new, and weak. The purpose of the Planning Department is to improve allocation of budgetary, informational and capital resources. Its responsibilities are budgeting; programming for health facilities; manpower planning; coordination of Primary Health Care; maintenance of a health information system; and preparation of health plans and guidelines. Support for many of these functions has been provided by SIDA-funded expatriate advisors and through the cadre of statisticians seconded from CSO.

The lack of trained Zambian planners has been a problem from the inception of the Planning Department. SIDA has provided a Health Planner/Economist (since March, 1983), an Architect (since June, 1980), and a Transport Planner (since August, 1983). SIDA also supported the training of one Zambian Health Planner, who completed a two-year master's program in October 1983 and returned to the Department. Although this person does not yet have an approved position, he is acting as head planner. SIDA plans to add three additional advisors: Senior Health Planner, to serve as Deputy Head of the Planning Department, to assist with overall organization of the Department, and coordination within the Ministry; a Building

Supervisor, to assist with planning and implementation of building projects; and an evaluator, who will be charged with creating a system for continuous evaluation of the PHC program.

While this list of advisors is impressive, the lack of trained Zambian staff remains a constraint to the institutionalization of health planning. SIDA is aware of this and has noted in its reports that transfer of planning and management skills is insufficient and its advisors are overloaded with work. However, SIDA strategy remains one of adding technical advisors, with very limited counterpart arrangements to the small number of established key positions in the Department.

Another problem area is the poor quality of the health information system. Too much information is collected, it is unreliable, data are often inappropriate, and much of the reported information lies unprocessed. There are few or no reliable service statistics or statistics on program costs. Although CSO provides 46 persons (30 of which are at Central level), 12 positions are vacant and nearly all of the rest are filled with poorly qualified individuals.

The most basic health planning problem is that priorities are not established using an assessment of need on the basis of demographic, economic, or epidemiological considerations. Socio-expenditures do not reflect government priorities or long range health strategy. Donor assistance to date--primarily several expatriate advisors--has been piecemeal rather than comprehensive. Although the Planning Department has been in existence for several years, only now are planning problems beginning to be addressed. Most officials indicated a willingness to review health planning organization and procedures. They mentioned as critical problems those of Zambian staff shortage, gaps in the monitoring and evaluation of programs, poor budgeting procedures, and an inadequate information system.

## 2. Financial Constraints Affecting Primary Health Care

In 1981, a strategy for the development of Primary Health Care (PHC) was adopted by the Ministry of Health. The Plan was developed in the document "Health by the People" and proposes to make all essential health services accessible to the entire population. This document, frequently referred to as the "Yellow Book," outlines a program of health facilities, manpower development and services necessary to achieve health for all of Zambia's population. All health facilities in Zambia are expected to offer PHC services, which include an expanded program of immunization, nutrition, health education,

mental health, environmental health, pre-natal and post-natal care and child spacing services.

The expansion of the Primary Health Care Program came at a time of financial constraint in the health budget and this has affected the implementation of the program. In terms of constant 1981 prices, per capita health expenditures were over \$19 million from 1971 to 1976. The real per capita expenditure began to decline in 1977. It was \$14.20 million in 1981 and \$15.6 million in 1982. The estimate for 1983 is \$13.80 million (World Bank Sector Review, October 1983). Generally, resource allocation and expenditures for health services continue to be concentrated along the line of rail, in urban areas, and in the Copperbelt.

In part, due to budget constraints, the focus of health care activities continues to be on curative rather than preventive services. In 1982, for example, only 7 percent of current health expenditures went to support PHC. Another problem experienced in delivery of health services has been the lack of foreign exchange to purchase essential drugs. What drugs are available go to hospitals and health centers in urban areas, often leaving rural health centers without even the basic drugs. As the budget for health care declines in real per capita terms, and health services continue to be provided free of charge, the government will experience increasing problems in covering recurrent costs of health care, including PHC services, to a growing Zambian population.

### 3. The Role of the Planned Parenthood Association of Zambia

Since its inception, the Planned Parenthood Association of Zambia (PPAZ) has played a coordinating role in commodity provision, service statistics, and family planning information. PPAZ was established in 1972 and has received almost all of its funding from the International Planned Parenthood Federation. The Association has 38 paid staff, including 20 Field Officers based in each of the country's 18 provinces who are responsible for the distribution of contraceptives, collecting statistics and family planning counselling. The Association supports the provision of FP services to government and other agencies by providing contraceptives directly to clinics and collecting information on users from all health facilities offering services in the country. PPAZ is also responsible for conducting seminars and workshops for government officials, parliamentarians, community leaders and others on various family planning topics, in order to increase awareness and support for FP.

Over the past few years, PPAZ has had severe management problems. There has been an almost complete turnover of senior staff, including change in the Executive Director three times in the past three years. A recent Management Audit, conducted by IPPF in August 1983, identified some of these problems and made recommendations for improving the management and increasing the effectiveness of the program. Briefly, recommendations included ways to improve communication and clarify roles between staff and volunteers, develop tighter controls of project funds, and increase staff input into program planning and implementation. The audit report also recommended that the Association hire four new staff members: a Program Director, a Finance Director, a Program Officer and a Supply Management Officer. These management problems experienced by PPAZ have affected their role in promoting, supporting and coordinating FP activities.

Two major problems that PPAZ continues to have are lack of staff expertise in FP and a chronic shortage of contraceptive supplies. PPAZ does not operate any FP clinics and has no one on its staff with a health or family planning background. When PPAZ conducts FP training programs or seminars, the services of outside experts from other institutions must be secured. It is difficult to determine how an organization can effectively promote FP, or determine priorities, if they have no one on their staff with expertise in this area. This weakness was corroborated during interviews with staff from a number of other institutions.

PPAZ is interested in developing its professional expertise in family planning by opening two model clinics in urban areas of the country. The clinics would not only assist in meeting demand for services but would serve as training sites for nurses, midwives and other personnel.

The second problem, mentioned in greater detail below is that of logistics management and collection of service statistics. PPAZ needs to coordinate with all agencies providing contraceptives, develop a uniform and simple recording system and provide training to all those responsible for distributing contraceptives and collecting statistics. However, this will require technical assistance and close monitoring.

#### 4. Maternal Child Health and Family Planning Services

MCH/FP care has been inadequate. Very little mention is made of maternal care and child spacing in the PHC plan. In 1982, it was reported that, whereas 90 percent of women attended clinics for at least one antenatal visit, 65 percent

of all deliveries took place at home and only 18.7 percent attended clinics for post natal care. However, figures vary widely throughout the country. For example, only 0.06 percent of pregnant women received tetanus toxoid in the Northern Province compared to 46 percent in Lusaka. Likewise, only 5 percent of women attended post natal clinics in Western Province compared to 34 percent in the Copperbelt. It is estimated that less than 7 percent of the at risk women came for child spacing. Overall, utilization of existing facilities for MCH and FP care is particularly low, especially in rural provinces.

Family planning is one of the preventive services to be provided in health facilities throughout the country, but due to poor quality of reporting, the statistics for the number of facilities offering services and usage rates are unreliable. For 1982, the MOH reported that 54 of its 701 health clinics and hospitals were providing family planning services and a total of 59,088 acceptors were recorded for MOH facilities. However, not all provinces reported. The PPAZ reported that 210 hospitals and clinics were delivering family planning for 1982. PPAZ is supposed to collect data from all 880 health facilities, including MOH, Mission and Mine health facilities. PPAZ collects data directly from all health institutions through their 26 field officers located in each of the nine provinces. The lack of coordination between the MOH and PPAZ in identifying delivery points and recording usage may have led to double-counting of the same information for MOH facilities.

a. Shortage of Contraceptives

There has been a chronic shortage of contraceptives in the country. Prior to 1982, PPAZ was the sole supplier of contraceptives. Due to a fire at their headquarters most supplies were destroyed. This, coupled with a weak contraceptive ordering and distribution system, caused some facilities to completely run out of supplies. In May 1981, University Teaching Hospital was completely out of stocks for four months. In 1982, the UNFPA, through the MOH Family Health Program, ordered contraceptives which helped to alleviate the supply problem. These contraceptives are stored at MOH stores and are distributed throughout the MOH system. UNFPA ordered 199,520 cycles of oral contraceptives in 1982, and has plans to order 58,000 cycles in 1984. Other contraceptives have also been ordered, but the preferred method has been the pill, with approximately 80 percent of all users choosing it (see Table 8).

The Family Health Project has fallen short of its target of reaching 494 service delivery points by the end of the project, and at present only 54 service delivery points provide

FP services. This has been due in part to the general shortage of contraceptives. In 1983, the only reason that there was not a shortage of supplies was due to multiple sources of supply by PPAZ and the MOH. IPJA also supplied Makeni Ecumenical Center with some contraceptives which they shared with both MOH and mission facilities when their stocks ran short.

b. Collecting Statistics on Users

All reporting on users by PPAZ and the MOH is incomplete, due to a lack of an organized system to collect and analyze the data. PPAZ sends its supplies to its 20 Field Officers throughout the country, who are responsible for distributing them to clinics. In the past, PPAZ has been accused of hoarding supplies and physically taking contraceptives to the family planning clinic and distributing directly. It was not possible to determine whether this is still a problem. Each clinic is supposed to submit monthly returns to the PPAZ Field Officer. However, reports are often received late, or filled out incompletely, due to the Field Officer not understanding what information is needed, how to fill out the forms, and lack of transport to follow-up on defaulters. As PPAZ is not the sole supplier of contraceptives, it is conceivable that they may experience problems in collecting statistics from those clinics which they do not supply. In any case, it is clear that PPAZ still needs assistance in logistics and commodity management, and that no assistance has been received to date in this area from either IPPF or any other source.

At the same time, the MOH collects statistics from its facilities on family planning usage by methods on a monthly basis. These figures, as they appear in the MOH Annual Report of the Family Health Program for 1980-82, are clearly suspect. Figures on the Family Planning Statistics charts do not add up, and there are errors of up to 18 percent for both over and undercounting. For example, for 1982, when columns are added, there is a 13,219 difference in the number of users. MOH reports total users and total visits as the same, which is also incorrect. Because of the way that both PPAZ and MOH recorded visits, it is impossible to tell how many users are in the program. For example, PPAZ recorded 98,278 new and continuing users for 1982. Given the number of contraceptives available in the country for that year, there would not have been enough to supply 29,536 of the women, or one-third of the purportedly recorded users. Given the problems of collecting this information from health facilities and in collating and recording it correctly, a simplified and uniform system to give a more accurate reading of users should be considered, such as counting the contraceptives used in the program on a yearly or bi-yearly basis, rather than collecting statistics on client

usage. In addition, consideration should be given to collecting statistics on a quarterly rather than a monthly basis, as staff are now overburdened.

c. Lack of Coordination

Perhaps as serious as the shortage of contraceptives and collecting information on usage is the lack of coordination between PPAZ, the MOH, and other organizations, such as Makeni Ecumenical Center, providing family planning services. For example, service statistics are collected twice for most facilities and PPAZ does not routinely receive MOH statistics from headquarters in Lusaka. It is unclear if the reporting information is uniform. If joint planning is not done between PPAZ and MOH, then it is likely that the supply shortage will continue. For example, the MOH has ordered only 58,000 cycles for 1984, which means that only 4,461 women would be covered for one year. That is only one eighth of the number recorded as new users in 1982.

The Provincial Health officials have recently asked PPAZ for assistance in collecting FP statistics and PPAZ plans to train their Field Officers in FP data collection as well as hire a Supplies Management person at Headquarters. This is a step in the right direction. However, PPAZ and MOH will have to coordinate the needed FP supplies and activities much more closely in the future if the program is to expand and meet the FP needs of Zambian couples.

d. Manpower

Primary Health Care services, inclusive of Maternal Child Health/Family Planning, are provided by various categories of personnel: physicians, registered nurses, ZEN/ZEM's (Zambia Enrolled Nurses/Zambia Enrolled Midwives), medical assistants, health assistants, community health workers and traditional birth attendants (TBAs).

There is a medical school at the University of Zambia, four schools for registered nurses and 17 ZEN and two ZEM training schools. There is also a school for Medical Assistants and Health Assistants. New categories of PHC workers, the Community Health Worker (CHW) and TBA, have also been trained to provide community based health services including MCH care.

Except for the CHW and TBA, all basic curricula for health workers stress curative rather than preventive aspects of health care. This is, in part, why facility based health care continues to focus on curative services. Very little, if

any, information on child spacing is included in most pre-service training programs. And while there has been some refresher training which covers family planning information, the basic curricula for all health workers will have to be reviewed and revised in keeping with the new PHC strategy.

The majority of health workers are concentrated in urban areas and along the line-of-rail, where over 70 percent of the physicians and 65 percent of the nurses are posted. A major problem for the delivery of health services in rural areas results from this imbalance in manpower distribution. Consequently, Rural Health Centers are understaffed and underutilized.

The Ministry of Health Family Health Program started refresher training courses for ZEN/ZEM's in 1980 as part of the UNFPA Family Health Project. The course is a twelve week program emphasizing concepts of mother and child health and child spacing. Health Education is also covered. Six weeks of didactic training are followed by six weeks of field practice. The goal was to train 620 ZEN/ZEM's, or 75 per province. This has proved to be too ambitious an undertaking, and due to delayed start up and cuts in funding, only 372 have been trained to date. While it was reported that skills in family planning information and services to include distribution of pills, barrier methods and natural family planning are taught, there has been no systematic follow up to determine if the nurses are using their new skills. There also does not appear to be a list of specific tasks describing the role and responsibilities of ZEN/ZEM's in MCH/FP care.

As of 1982, the Family Health Program also trained 797 TBA's in hygienic deliveries, which included health education and information on child spacing. Again, there has been little follow-up. The training programs for both ZEN/ZEM's and TBA's will be evaluated in February 1984 as part of a larger evaluation of the entire Family Health Project. In addition to evaluating the application of skills taught during training, other areas to look at should include supervision of MCH/FP workers, handling of problems and referral, adequate space to deliver services, drugs and supplies, outreach (to include any contact between TBA and health centers), recording and reporting information and general problems in the delivery of MCH/FP services.

Over the past few years PPAZ has also supported family planning training programs for nurses. 97 nurses have been trained at University Teacher Hospital in Lusaka, which has the largest FP clinic in the country. A recent follow-up of trained participants revealed that most were not providing

family planning services, primarily due to rotation to other services and resistance by physicians in letting them practice. The Nursing Council of Zambia is also unclear as to the role of the nurse in family planning and is concerned about the issue of accountability for problems and referral.

If MCH/FP services are to reach urban, and especially rural areas of the country, nurses and other paramedical workers will have to be adequately trained and supervised. A greatly expanded training effort in PHC, both pre-service and in-service, will have to take place, coupled with a general reorientation program for physicians as to the aspects and importance of PHC.

Zambian doctors are virtually missing in primary health care, as there are no Zambian doctors at any of the 53 Districts or at seven of the nine Ministry of Health Provincial Offices in the country. Physicians and senior nursing personnel are important members of the PHC team and need to understand the importance of PHC, reproductive health and child spacing, including the roles that each member is expected to perform in the management and delivery of services. Realizing this important aspect, the Family Health Program is planning to organize short courses for district and provincial medical officers and public health nurses in aspects of family health care and supervision.

The MOH recently appointed a task force to review health manpower. In addition to determining additional manpower requirements for current and proposed facilities, the existing training programs for all health workers, from the physician to the CHW and TBA, should be reviewed and revised.

#### 5. Other Institutions Providing Health Services

During this assessment there was not enough time to visit the large number of nongovernmental institutions that offer health services in Zambia. A group such as the Churches Medical Association of Zambia (CMAZ) provides over 50 percent of the health care in rural areas and 30 percent nationwide, through 28 hospitals and 64 rural health centers. Also, the Zambia Copper Consolidated Mines operate 11 hospitals and 62 health centers in the copper producing areas of the Copperbelt and Central Provinces. Other private companies and parastatals, such as railways, factories, INDECO Milling and the Zambia Sugar Company, provide health services to employees and their families. There are also about 100 private practicing physicians in urban areas in Zambia. The Zambia Flying Doctor Service is very interested in expanding its family planning efforts.

The extent to which private and parastatal organizations are already providing or interested in improving FP services is unknown. However, a substantial proportion of the wage earning population, who are probably among the most receptive to accepting FP, already receive health services through these institutions.

Because of the potential to reach a large number of couples relatively quickly and efficiently through existing services and programs, and given AID's emphasis and interest in working with the private sector, this area should be explored further. It is possible that direct support to strengthen private sector family planning might be an appropriate AID activity.

#### 6. Family Planning Information

There is a need to organize educational and promotional programs on FP information for both men and women. Due to causes including resistance by husbands, misconceptions about certain methods, and non-available and inaccessible services, women do not come to clinics for FP. Staff from UTH and Makeni Ecumenical Center also stated that they experience a high percentage of clients discontinuing services. Whether this is due to lack of education or counselling, is unknown. Reasons for discontinuation, and more broad information on knowledge, use and access to FP, must be determined to answer many of the questions needed to plan and make programs more effective.

At the same time, educational campaigns and counselling sessions need to be strengthened. The decision to use FP may not necessarily take place in a ten minute session with a doctor or nurse in a busy clinic. Messages have to be designed and information presented to help couples make an informed choice about FP. While PPAZ is providing some help in this area, efforts should be expanded to select appropriate media to get information to target audiences in the community.

#### 7. Natural Family Planning

Natural Family Planning (NFP) is still a new movement in Zambia. NFP activities are coordinated through a local voluntary organization called the Family Life Movement (FLM) of Zambia. The FLM was created in 1979 and among other things, provides leadership, guidance and education in the fields of family life and NFP. Primary activities have included NFP teachers training and the FLM has assisted the Ministry of Health in NFP training of primary health care workers. The Ministry of Health fully supports NFP activities and in 1980

issued a circular endorsing natural methods and advising they should be integrated into MCH and FP programs.

The FLM is a member of the International Federation for Family Life Promotion, which is an international Non-Government Organization based in Washington, D.C. IFFLP has over 150 members in 50 countries. The IFFLP is seeking to expand NFP program efforts in Africa and in August 1983, AID provided \$138,000 through the IFFLP to the FLM in Zambia to support NFP training and service delivery. A key component to the project will be evaluation to determine the cost and service program effectiveness of the FLM approach to NFP training and delivery of services. While it was not possible to meet with FLM staff, during our visit, as they were out of the country, reports are that project activities are progressing well and according to plan.

#### IV. DONOR SUPPORT AND PLANS

##### A. SECTOR SUPPORT

According to the 1982 UNDP Report on External Donor Assistance, support to Zambia totalled \$121,562 million dollars for 1982. Of this amount, \$15,500 million or 12.8 percent went to the health sector. Only one of the listed 58 health projects and activities directly supported family health and family planning. This was the UNFPA Ministry of Health Family Health Program. Less than 1 percent of 1982 donor health funds were spent for family planning activities. While donor assistance to the population sector was reported as nil, the UNFPA did give population assistance to the Central Statistics Office (CSO) by supporting an ongoing three year project to assist in analyzing the 1980 census. Also of interest is the number of projects providing expatriate advisors to the health sector. According to the report, over half of donor health projects or activities provided expatriate advisors only; and, in 1982 there were over 170 health advisors in the country.

The following donors provide support to the MCH/FP program: UNICEF provides vaccines for the Expanded Program for Immunization (EPI); SIDA provides equipment to improve the cold chain for the EPI program and also gives assistance to nutrition activities; UNFPA supports the Family Health Program; and, the International Planned Parenthood Federation (IPPF) provides family planning support to the private Planned Parenthood Association of Zambia (PPAZ). The World Health Organization (WHO) is the executing agency for both the UNFPA and SIDA MCH projects.

Specific support to population and family planning includes two UNFPA projects and IPPF support to PPAZ. The UNFPA supported National Family Health Program is a three year 1.9 million dollar project which began in 1980. The objectives are to develop a country wide Family Health Program to include services for children under five (both immunization and nutrition), prenatal and postnatal care for mothers, and child spacing services. Project components include training, expatriate advisors, vehicles, audio-visual and clinical equipment and contraceptive supplies. UNFPA funding was cut after the first year and consequently many of the planned project activities had to be dropped. Training of Zambian Enrolled Nurses (ZEN's), Zambian Enrolled Midwives (ZEM's), and Traditional Birth Attendants (TBA's) has been the major project activity. This project will be evaluated in February 1983, after which determination will be made whether to continue support for this activity.

UNFPA is also supporting a 1.2 million dollar seven year project with the CSO to assist in planning, executing and analyzing the results of the 1980 census. The project was to have been completed by 1983, but due to the late arrival of UN experts and data processing delays it has been extended until 1985.

IPPF has given support to PPAZ since it was established in 1972. Yearly grant funds have averaged around \$200,000 to \$300,000 per year. In 1982, IPPF funding totalled \$270,000 and support went for contraceptives, administrative support and ten projects which included Womens' Self Help Projects, Seminars for Parliamentarians, Seminars for Traditional Rulers and a Youth Instructors Workshops, to name a few. IPPF has just approved the 1984 PPAZ Budget for \$462,000.

The World Bank sent a team to Zambia to conduct a Population, Health and Nutrition Sector Review in October 1983. According to a meeting held with the Zambian World Bank Resident Representative, the report and recommendations were recently reviewed by a multi-ministry population committee chaired by the Permanent Secretary of the Ministry of Health. The Report emphasizes problems of population growth and outlines the various problems of health care financing, health, nutrition and family planning programs and services. The World Bank Sector Review Report (perhaps in the form of main findings and recommendations) will be reviewed by a Zambian Special Economic Unit that meets weekly and was set up by the President. In the event of a positive outcome, the GRZ will ask for World Bank assistance. As a first step, the MOH has requested short term assistance from the WB, which includes support for the following studies and activities: (a) a study

of health services financing with particular reference to cost recovery; (b) a review of medical education and the possibility of expanding the University of Zambia Medical School; (c) strengthening the planning capacity of the MOH with special reference to MCH activities, and; (d) training of Zambian staff.

Within the GRZ, the MOH has proposed to NCDP that a request for a long term 40 million dollar assistance program be submitted to the World Bank. The assistance would cover areas such as national MCH/FP program development, improvement and maintenance and upgrading of existing health facilities and staff houses, assistance to PPAZ, development of health manpower, procurement and manufacture of essential drug supplies, and distribution and expansion of the National PHC Program.

The World Bank Representative suggested that, in the case of a follow-up request by the NCDP and the Special Economic Unit, a project identification mission would be available to come to Zambia sometime early next year. As the World Bank will not be able to provide all the needed assistance, the Bank and GRZ plan to hold discussions with other potential donors interested in providing support to the population/health program.

#### B. APPRAISAL OF DONOR ASSISTANCE RESPONSES

From the time of Independence the health service system in Zambia has grown rapidly, obtaining and retaining a significant share of government outlays and GDP. MOH expenditure as percentage of GDP averaged 2.25 percent during the period 1970-80. Recurrent MOH expenditures as a percentage of total government recurrent expenditures averaged 6.7 percent during this period. In 1981, these two percentage shares were 2.6 percent and 5.9 percent. The budgeted shares for 1982 were 3.3 percent and 9.2 percent.

So long as copper prices were high, and GDP and government revenues were increasing at higher rates than the growth of population, expansion of the health system could take place at a favorable rate. It is common, though regrettable, that during periods of a system's expansion, issues concerning the selection of priorities and improved performance tend to be dismissed or ignored. The drop in copper prices and the sharp economic decline that began in 1974 led to financial stringencies and has served to highlight the need for greater efficiency and effectiveness.

Attempting to service a population with an increasing growth rate and a growing proportion of infants, children and

mothers that have an incidence of health problems and mortality that is higher than the health problems and mortality of adult males (this has been estimated in certain places to be as much as 50 percent higher) places the present health system under considerable pressure. The GRZ and donors have begun to identify the more serious areas of weakness. These areas are not only of an informational nature. Obviously, information alone, i.e., information that is not followed by appropriate interventions or actions, will not reduce morbidity and mortality. However, improvement of the information base is a precondition of the selection of priorities, and the redirection and improvement of programs required for better health service performance. Moreover, these needed informational improvements involve not only statistical collection and tabulation, but the analysis and interpretation of these statistics, and a presentation of the findings in condensed formats that will be useful for policymakers, planners and managers.

The main informational areas and kinds of statistics involved are the following: (1) geographically disaggregated population and health incidence statistics, along with related socio-economic factors; (2) service statistics that contribute to better appraisal of performance, and the identification of needed corrective measures; (3) financial statistics that lead to better estimates of unit costs, areas of waste and potential savings. Since the more important findings in any one of these areas will usually have policy implications for the other two areas, it is highly advisable to have these areas reviewed and integrated in some properly staffed analytical unit.

It might be useful to consider the current donor assistance response in the light of the above observations. Unfortunately, the large number of donors providing assistance in some form to the population and health sector makes this difficult to accomplish in the time available for the present assessment.

However, three basic premises underlie the views that follow. First, Zambian population/health problems are complex, and the difficulties in solving them are increased by the existing limitations of financial, physical and human resources. Second, these problems will not be solved by foreign specialists -- although foreign specialists can help, and financial assistance is needed. The fundamental problems will be solved by Zambians, or not solved at all. Third, the execution of an adequate analysis of these problems would constitute an inquiry involving staff in MOH headquarters and the field. It would also require an extended period of time.

One way that such an inquiry could be carried out is in the form of a collaborative sector analysis.

A recent World Bank sector review noted: "The survey of the health sector noted that deficiencies in long and short term planning are impairing development of the health sector. The current long term development plan does not detail where resources should be distributed ... donor activities and expenditures in the health sector are not coordinated in accordance with national priorities ... there is a need for a cohesive strategy for the development of the health sector ... Priorities among programs should be established on the basis of demographic, epidemiological and operational information, including a specific consideration of cost effectiveness and distributional objectives."

A considerable amount of technical assistance is now provided, but it is provided by various donors in a piecemeal, uncoordinated fashion that in some respects tends to reinforce current unsatisfactory procedures (such as expatriates holding down staff positions without a counterpart who is receiving on-the-job training).

One recommendation of the WB report states that form a committee and make statements to acknowledge the nature of the country's population problems. As such committees are often a one time effort, formed at the request of a donor, it does not usually provide a forum for continued policy discussion. If the purpose of the committee is merely to generate a statement that population growth is a problem, government agreement may be coalesced. However, a deeper issue is that population problems need to be analyzed by Zambian institutions so that the relations of fertility, mortality and morbidity to production, incomes, employment, housing, health and education expenditures and opportunities are better understood by Zambians.

In sum, reductions in fertility, mortality and morbidity rates call for reforms in the health delivery system, particularly in the areas of family planning and maternal child health. These reforms would involve: (1) more detailed and reliable data, data processing, and comprehensive analysis; (2) adequate Zambian staffing, formal and on-the-job training of Zambian staff carried out abroad and in Zambia, with the assistance of resident advisors, and; (3) improvements in the design and implementation of programs, including changes in current institutional procedures at headquarters and in the field. Such a coherent assistance program that properly integrates the required technical, financial and training components is desperately needed.

## VI. RECOMMENDATIONS

### A. INTRODUCTION

The population and health problems of Zambia are serious and are likely to become more serious. Creating reduction in fertility should be given high priority. The failure to reduce fertility--particularly in the urban areas--will seriously prejudice Zambia economically, placing immediate pressure on the provision of health and education services that are already experiencing financial and trained personnel pressures and shortfalls.

An improvement of the health services aimed at reducing morbidity and mortality should concentrate on family planning and maternal child health programs that are intimately related and mutually supportive programs. To date, these have been badly neglected. Zambia has performed quite well in extending the provision of health services to its population, but efforts at further extension or coverage run the risk of being reversed by recurrent cost shortfalls. During the next decades emphasis should be given to increasing the quality and effectiveness of services, with emphasis on FP and MCH in order to reduce the fertility rate and reduce morbidity and mortality where they are highest - among infants, children and mothers.

These priorities are not adequately reflected in GRZ programs, nor in the pattern of donor assistance. Although there is increasing awareness of the economic and health advantages in reducing the population growth rate, translation of this growing perception into a system that is providing effective FP and MCH services is an enormous, difficult and time consuming task. The task calls for planning and resource management that will not be satisfactorily accomplished without the development of an expanded and utilized base of information concerning health, health services and finances. It also calls for the development of tested procedures, training and assistance, directed toward the improvement and effective provision of MCH and FP services.

The urgently needed information base that is required for effective planning has been badly neglected by the MOH. In certain ways this neglect is being reinforced by donors, who have tended to place expatriates in line positions, and who have neglected the priority which should be given to policy and institutional reforms. Since the GRZ confronts financial stringencies and has shortages of trained personnel, the use of expatriates in line positions is a legitimate, temporary need. Complete Zambianization will take time. However, the provision

of staffing by a foreign assistance agency should be accompanied by planning for Zambian replacements and a reexamination of the health problems and the health system by Zambian officials. Without such reexamination the needed reorganization and reorientation of the health system is not likely to take place.

This reorganization and reorientation would involve significant changes in both CSO, NCDP, and MOH and the improvement of coordination and information flows among these three key institutions.

The implications for foreign assistance of the need for continuing analysis of population problems as they relate the various sectors is a central issue. The present approach places great reliance on six to eight week sector surveys that do not, in our view, provide an adequate basis for sector planning and management. There is a need for timely statistics and continuing analysis in all sectors, including health and family planning. This is a host-country task. However, donors have a contribution to make. Assistance in any sector should contribute to a strengthening of developing country capabilities, with particular attention to informational needs for proper sector management. But the present patterns of assistance do not conform to this need. There is little coordination between the large-scale financial assistance, and the various kinds of technical assistance that are usually provided by bilateral donors. Integration of capital and technical assistance is needed. If the present assessment leads to greater cooperation between the World Bank and AID in helping strengthen Zambian capabilities in data collection, processing, analysis, planning and management in population and maternal/child health, it will have accomplished one of its purposes.

## B. RECOMMENDATIONS

A brief discussion of the four major recommendations of our review follow. A more thorough discussion of each recommendation can be found in the annex of this report.

### 1. One: Improving the Information Base

Major institutional support, through a multiyear AID-GRZ collaborative effort, is recommended for the Central Statistics Office, which manages Zambia's statistical system and provides information and analysis to other GRZ agencies, including the Ministry of Health. This support should permit tabulation and full analysis of the 1980 census, and at the same time lead to overall management improvement for CSO's data collection,

processing and analysis functions. The purpose of AID support should be to lead to an integrated, properly balanced process for information collection and use, and a central office responsive to the priority information needs of other government agencies, especially the MOH and MAWD.

In addition, we recommend that high priority be given, within a strengthened CSO, to a joint CSO-MOH household survey related to family planning or family health and population. Such a survey would incorporate information on maternal and child health status, attitudes toward family size and contraception, and contraceptive practice, including traditional methods and the practice and prevalence of breastfeeding.

Technical assistance, training and commodities will be required under a broad program for assistance. A 2-3 week assessment by data processing and analytical experts will be required to further specify institutional deficiencies prior to design of program support. After its completion a decision can be made regarding the most appropriate funding mechanism (e.g. a new bilateral project, or through existing USAID/Zambia project) and the viability and extent of technical assistance from the U.S. Bureau of the Census.

## 2. Two: Family Planning Services: PPAZ

Assistance to PPAZ will begin to address two of the most urgent problems in the population sector: the lack of commodities, and the lack of a system to effectively distribute them according to need and demand. AID support is recommended to strengthen PPAZ's established role in Zambia as national coordinator for family planning commodity provision, information and service statistics. Provision of contraceptives to PPAZ should be coupled with technical assistance to establish improved procedures for ordering and distribution and an information system to monitor contraceptive use and demand nationwide. Also recommended is support for two urban family planning clinics, which will serve to enhance PPAZ's expertise in service delivery, provide training for health practitioners in Zambia, and demonstrate an effective model for delivery of services. In order for PPAZ to expand in this way, technical assistance should be provided to help the organization solve its acknowledged management problems. Funding will be required for commodities, training and for technical assistance in logistics and management. Decisions regarding the appropriate mechanism for assistance, e.g. bilateral, regional or centrally funded support, should await further discussions among PPAZ, IPPF, the MOH, and USAID.

### 3. Three: Private Sector Family Planning Assessment

An examination is recommended of the potential and advantages of stepped up support for family planning service delivery through private organizations involved in health service provision, including missions, mines and other industries. It will serve as a feasibility study for possible AID support for private sector family planning in Zambia.

A preliminary fact finding visit should be undertaken in the very near future to gather information on the scope of health activities undertaken by private sector organizations and their interest in expanding family planning services, as well as the extent to which the MOH might play a supportive role. REDSO/ESA should work closely with the individuals contracted to conduct this preliminary study.

Depending on the results of the preliminary visit, including the responses of Zambian officials, a full scale assessment of several months duration, with Zambian participation, should be undertaken to define specific areas for assistance. This collaborative effort should focus not only on private sector potential but also involve Zambian officials in the examination of questions of efficiency, cost and effectiveness of alternate channels for service delivery. Thus, planning and management of public sector programs can benefit as a result of careful examination of private sector programs.

### 4. Four: Dialogue with GRZ and Donors Concerning a Sector Approach

Direct support to the MOH is not recommended at this time, due to the lack of emphasis on MCH/FP; its severe budgetary problems; its very weak planning and management capability; and the need to improve overall planning and management of the national primary health care program prior to any significant improvement in MCH/FP, its weakest component. Another consideration is the fact of other donors' current commitments, specifically continued SIDA assistance to the MOH Planning Department and support from UNFPA for training and services. UNFPA's plans will be known following a February 1984 evaluation of its Zambia program. The most important fact affecting the likelihood of expanded national MCH/FP program -- and any potential role for AID in supporting it -- is, however, an expression of interest on the part of the World Bank in supporting a major sectoral initiative, perhaps with the involvement of other donors. World Bank interests will be further defined following GRZ response to recommendations from the recent World Bank population assessment.

Given the very important potential role of the World Bank in the Population sector, we recommend that USAID begin a dialogue with the GRZ and the World Bank concerning a sector approach to health and population. Using this assessment as a starting point, and perhaps with the involvement of REDSO population and sector analysis experts, the dialogue should lead to examination by donors, along with GRZ officials, of the institutional weaknesses and information gaps to be overcome in order to lead to effective program implementation, and of ways that donor assistance can bring about a strengthened GRZ analytical and planning capability. Discussions with the World Bank should include examination of such key issues as appropriate phasing and timing of assistance; MOH staffing needs and the possibility of temporary, phased donor financing of selected recurrent costs; the proper mix of technical and capital assistance; and key institutional reforms. The dialogue would also lay a foundation for any discussions regarding if, when, and how AID might participate in a GRZ and multidonor sector approach.

TABLE 1:

Urban and Rural Population of Zambia 1963 - 1980:

	Population		
	1963	1969	1980
Total	3,490,170	4,056,995	5,679,808
Urban	715,020	1,192,116	2,322,328
Large Cities	682,338	1,117,736	1,900,276
Small Cities	32,682	74,380	422,052
Rural	2,774,484	2,864,879	3,357,480

  

	Population Growth			
	Total 1963-69	Period 1969-80	Annual 1963-69	Average 1969-80
Total	566,825	1,622,813	94,471	147,528
Urban	477,096	1,130,212	79,516	102,747
Large Cities	435,398	782,540	72,566	71,140
Small Cities	41,698	347,672	6,950	31,607
Rural	90,395	492,601	15,066	44,782

Annual Population Growth Rates (%)

	1963 - 69	1969 - 80
Total	2.5	3.1
Urban	8.5	6.1
Large Cities	8.2	4.8
Small Cities	13.7	15.8
Rural	0.5	1.4

Source: Calculated from Adrian Wood "Population Trend in Zambia: A Review of the 1980 Census", Table 5.

TABLE 2:

Percent of Population Attending School at the 1969 Census Date  
by Sex and Age:

<u>Age Groups</u>	<u>Male</u>	<u>Female</u>
5 - 9	28.9	28.0
10 - 14	71.4	66.0
15 - 19	60.4	29.7
20 - 24	14.0	1.5
25 - 29	1.2	0.3

Source: Calculated from: Central Statistical Office,  
Census of Population and Housing 1969. Final Report, Vol.1,  
Total Zambia", Lusaka November 1973, Table 5.

TABLE 3:

Percent of Population with Indicated Educational Attainment  
by Sex and Selected Age Group - Zambia 1969:

Age Groups	Any School	Male		Female	
		Upper Primary and Above	Upper Primary and Above	Any School	Upper Prima: and Above
5 - 9	31.0	0.3	30.2	0.2	
10 - 14	79.3	26.9	75.5	25.0	
15 - 19	85.0	61.0	70.9	42.9	
20 - 24	79.2	56.9	50.0	20.4	
25 - 29	72.8	45.4	37.5	12.0	
30 - 34	67.8	37.8	28.4	7.6	
35 - 39	61.6	29.8	22.4	5.4	
40 - 44	56.4	25.3	15.7	4.2	
45 - 49	46.3	17.0	12.0	3.2	

Source: Calculated from same source, as Table 2.

TABLE 4: CSO Budget, 1977 to 1983, Total Budget in Current and Constant Terms

	1977	1978	1979	1980 (K000)	1981	1982	1983
1. Personal Emoluments	485	451	751	490	787	1050	1074
2. Recurrent Debt charges							
General Expenses	101	119	105	98	86	121	184
Travelling on duty	44	44	47	53	60	127	150
Other	13	13	19	13	13	72)	) 1423
3. Spec. Expenditure	110	831	734	6742	1160	1500)	
Total Current	755	1459	1657	7847	2105	2870	2883
Total Constant*	755	1315	1153	4923	1294	1711	1563

\* Deflated by the implicit price deflation 1975=100

\*\* Implicit price deflator assumed to be 10 percent higher than 1982 (historical average IPD increase 1977 to 1983).

Table 5: CSO Budget; Percentage Distribution of Selected Line  
Items and Total CSO Budget as a Percent of GDP, 1977-83 <sup>1/</sup>

	1977	1978	1979	1980	1981	1982	1983
Personal Emoluments	64.2	30.9	45.5		37.4	36.6	.37.3
Recurrent Departmental Charges							
General Expenses	13.4	8.2	6.3		4.1	4.2	6.4
Travelling on Duty	5.8	3.0	2.8		2.9	4.4	5.2
Other	1.7	0.9	1.2		.6	2.5)	51.0 <sup>2</sup>
Special Expenditures	14.6	57.0	44.3		55.1	52.3)	
Percentage of GDP	.059	.066	.064		.069	.089	3/

1/ The year 1980 was omitted as there was an inordinate amount included for the 1980 Census of Population.

2/ Accounting recording procedures were changed.

3/ GDP is unknown at this time.

TABLE 6: Budget Allocation to Selected CSO Survey Activities,  
1977 to 1983

Item	1977	1978	1979	1980	1981	1982	1983
	(000)						
Crop Survey	50	40	42	50	23.4	20	20
National Sample Survey	30	150	170	180	162	120	120
Census of Population	20 <sup>1/</sup>	10 <sup>4/</sup>	60 <sup>2/</sup>	6000	450	400	410
Census of Agriculture				100 <sup>3/</sup>	90 <sup>3/</sup>	577 <sup>4/</sup>	500
National Manpower Survey							300
Census of Mapping Survey	600		400	410	432	370	
Total Current Value	100	800	674	6740	1157.4	1487	1350
Total Constant Value <sup>5/</sup>	100	722	471	4228	711	887	732 <sup>6/</sup>

1/ Sample Census of Population

2/ Pilot Census of Population

3/ Pilot Census of Agriculture

4/ Pilot Census of Agriculture

5/ Deflated by the GDP Implicit Price Deflator 1977=100

6/ Implicit Price deflator assumed to be 10 percent above 1982

TABLE 7: Actual Expenditures of CSO, 1978 to 1982 and Actual Expenditures as a Percent of Budget Allocation

	1978	1979	1980	1981	1982
Personal Emoluments	401	488	566	691	929
Recurrent Departmental Charges					
General Expenditures	115	107	130	214	197
Travelling on duty	43	55	55	98	99
Others	11	12	7	9	28
Special Expenditures	408	580	5261	1441	1018
Total	978	1242	6019	2452	2271
Percent of Budget Allocation	67	75	77	116	79
Percent actual Expenditure is of GDP*	.04	.048		.08	.07

\* (Percent actual expenditure is of budget allocation) x (Percent of budget allocation is of GDP)

TABLE 3: Oral Contraceptives In-Country  
1982

	<u>Cycles</u>	<u>Couple Year of Protectio</u>
Ministry of Health <sup>1/</sup> (UNFPA Supplied)	199,520	15,347
Planned Parenthood Association of Zambia		
(IPPF Supplied)	195,100	15,007
Makeni Ecumenical Center (FPIA Supplied)	<u>60,600</u>	<u>4,661</u>
	355,220	35,015

<sup>2/</sup> Couple years of protection are the number of cycles (13)  
which are required to protect one woman for one year

<sup>1/</sup> Ministry of Health did not order contraceptives for  
1983, and only plan to order 58,000cycles for 1984

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## VIII. ANNEX FURTHER ELABORATION ON RECOMMENDATIONS

### RECOMMENDATIONS CONCERNING THE INFORMATION BASE

#### 1. The Statistical System

A request from the Central Statistic Office for microcomputers and vehicles was made to USAID in July 1983. The requested commodities were to support an expanded data collection program that would include household surveys, annual agricultural surveys, and a survey of establishments for manpower planning purposes. Some questions concerning the request arose as the result of a REDSO/ESA review. The main questions concerned the practicality of moving quickly into such a large data collection effort in view of the existing data processing bottlenecks and the very little amount of analysis that had been carried out to date. It was decided that these issues should be more fully explored.

At a meeting of CSO and USAID it was agreed that since the USAID pre-assessment scheduled for November-December 1983 included a review of CSO operations, a broader examination of data collection, processing and analytical activities would contribute to a better identification of needs and possible forms of assistance. It was also agreed that a data processing specialist should be a member of the assessment team.

Discussions that assessment team members held with the CSO Director and other CSO officials led to the conclusion that a much more comprehensive management approach to the problems of data collection, processing and analysis is desirable. Such an approach would increase the probability that the different phases of the statistical process would be properly balanced and integrated. For example, greater attention to the kinds of analyses needed by CSO and NCDP would contribute to an improvement of the process of data specification and questionnaire design.

One of the main recommendations of this assessment is that consideration be given to providing a phased program of assistance to CSO in the areas of data collection, processing and analysis.

The detailed program would be developed by NCDP, CSO and AID during early 1984. Various specialists would be involved in the preparation of this program, for example, a demographer and an economist with background in agriculture and health. The team would collaborate with NCDP, CSO, MAWD and MOH in selecting the first analyses to be carried out, the main problems, issues and questions to be analytically addressed,

and the consequent kinds of data that should be collected. Statisticians with expertise in sampling, design and management of surveys and specialists in data processing from CSO and AID would collaborate in laying down detailed plans for the sequencing of survey and analysis projects, survey design and execution, and for the processing, tabulation, and statistical computations needed for analysis. A central purpose of the collaboration would be to assure balance and coordination among the different phases of the statistical process to assure that each project is carried through to completion as expeditiously as possible.

Although the purpose of the task would be to prepare a detailed program, work plan/schedule and budget for multi-year GRZ/AID collaboration, certain features of such a program can be provisionally described. In the area of data processing, after obtaining a commitment from the Ministry of Finance data center to provide disk and computer resources (CPU time and communications lines), AID would provide additional equipment to connect terminals and printers to be located in CSO, MAWD, NCDP and MOH. Another initial activity in this area would be the installation and workshop training for CONCOR and CENTS-4. (These are the most recently developed programs for speeding up and facilitating computer edits and tabulations. CSO is now using older versions of these programs for processing the 1980 census.) A third initial data processing activity would be to provide microcomputers for improving administration and management in areas that include project scheduling and monitoring, budgeting, and word processing. Since these three activities would serve to significantly reduce the data processing constraint, they should be provided as soon as possible and have immediate pay-offs.

Another set of initial activities would involve consultations between U.S. and GRZ survey statisticians and samplers, data processors and analysts in determining a feasible workload and the proper sequence of projects to assure balance and timely execution of the various statistical tasks.

The above paragraphs describe activities of the possible program during its early phases. The nature and timing of activities during subsequent phases would depend partly on initial performance. For example, some of the commodities to be provided under the program would be delivered during this later stage, as determined by successfully completed activities. Expeditious and effective operation of microcomputers and terminals would precede the installation of a computer system in CSO. This would be only one feature of a collaboratively developed work plan aimed at assuring the acquisition of needed skills prior to the assumption of new and additional tasks.

One of the purposes of the work plan would be to assure periodic review and evaluation of all the elements and components needed for an effective and efficient statistical system. For example, as well as assessing current skill levels in order to identify training needs, attention would be given to the objective of retaining trained professional staff by increasing incentives and improving career development structures. Assessment of progress in the coordination of entities through the sharing of processed information and the execution of policy analyses would also be carried out.

Over the long run the development of more coherent and effective macroeconomic and sectoral policies depends not only on the availability of timely and appropriate statistics, but on their proper utilization by NCDP and the Ministries in presenting alternatives to policymakers. The statistical linkages between CSO and the other institutions participating in the program would contribute to this long-range objective.

## 2. Analytical Needs

### A. DEMOGRAPHIC ANALYSIS

The information collected in the 1980 census and the planned publication of statistical tables will provide CSO with a complete set of data for a detailed analysis of the population characteristics of Zambia. Consequently, tabulation and publication of the 1980 census should be executed as soon as possible. The Central Statistical Office is planning to have the Copperbelt and Central Provinces tabulated in January 1984, and the rest of the provinces by June 1984. These goals should be met. In addition, census analysis should be a priority activity within CSO.

#### (1) Mortality

The 1980 census information will be the basis for estimating infant and child mortality for urban and rural areas within each district. It is recommended that estimates of infant and child mortality from the 1969 and 1974 census data be processed at a province level for comparative purposes.

The recommended geographical 1980 estimates will be at the level of urban-rural areas within each district, for the whole district, for urban-rural area of the whole province, for the whole province, for all urban and rural areas of the country, and for the whole country. These are recommended in order to know the geographic variations of infant and child mortality to direct MCH/FP programs accordingly, and also because the estimates will permit detection of data errors, and errors resulting from applied techniques.

(3) Fertility

Information from the 1980 census will make possible the estimation of fertility at the same geographic levels as mortality, as well as levels of fertility by educational attainment of mothers, and the fertility of economically active and non-active females. Whenever possible, comparisons with the 1969 census should be made in order to detect fertility changes in certain areas of the country during the intercensal period.

The estimates of fertility by districts, together with the total population of the area and the educational attainment, can be used for identifying population targets for voluntary fertility reduction.

(4) Migration and Urbanization

Analysis of internal migration based on both the 1969 and 1980 censuses is recommended. Using 1980 census information, and comparisons with the 1969 census, migration estimates of origin and destination by sex and age can be obtained at a district level.

Rural/urban life migration also can be estimated at the district level from the 1980 census. Since life migration is not the best information for analyzing recent migration movements, intercensal survival techniques for estimating rural to urban migration should also be used.

(5) Labor Force

The 1969 census reveals astonishing unemployment rates for the male and female population. In order to know whether or not the situation has changed, there should be estimates of those rates based on the 1980 census. Furthermore, such analysis should be broken down by urban and rural level within each district to detect regional unemployment rates by age and sex. The analysis can go further, if necessary, by estimating the unemployment conditions in urban and rural areas in each district by educational attainment. Further analysis of labor force changes by industry and occupation should also be included.

(6) Population Projections

Population projections have been prepared by CSO for the period 1969-1999. Since they were based on the 1969 census population, they should be revised as soon as the 1980 census

population by age and sex is available. Improved techniques should be used.

Once the 1980 estimates of mortality, fertility and migration are available, population projections disaggregated by urban and rural areas, and at the provincial level, should be made using the component method. This will provide useful information on the future trends of population by sex and age. Furthermore, other techniques can be used for estimating the total population at urban and rural areas within each district.

These projections should be the basis for predicting the school population, labor force availability, and contraceptive requirements in each of the provinces and districts.

#### B ADDITIONAL SURVEY DATA NEEDS

In addition to analysis of the 1980 census data, there are several socio-economic topics which bear further study in order to ensure that MCH/FP programs are appropriate to need and demand.

In some cases, these topics can be addressed as part of analysis of census information. First, planners would benefit from estimation of variations in fertility by female labor force participation and education in rural and urban areas, and by district. Also of use would be additional analysis of fertility-education relationships, to examine whether or not there is a rise in fertility with primary educational attainment, and at what level of educational attainment a drop in fertility occurs. (This may require some new data).

Additional survey work, through a Family Health Survey, using the 1980 census to establish a sampling frame, is recommended in order to better understand family planning knowledge, attitudes and practice. The survey should be undertaken collaboratively between MOH and CSO. It should permit analysis of:

(1) changes in birth intervals and the components of birth intervals, including the effect of breastfeeding as well as contraceptive prevalence, disaggregated by rural, urban and administrative areas;

(2) perceptions and knowledge about fertility regulation, types of methods, norms about child spacing, and contraceptive and child spacing practice;

(3) evaluation of family planning program effectiveness, especially regarding perceptions of accessibility and quality of services.

The Family Health Survey, depending on its scope, may also

be able to collect data regarding the role of children in the family in both rural and urban areas; trends toward family nucleation or modernization, especially in urban areas; and, whether and how women's limited economic opportunities in the towns affect family change.

It is, in general, beneficial to national development planning for planners to understand, through further analysis of survey findings, along with review of national policies and programs, the way that investments in education, health and agriculture, or employment policies, may be affecting attitudes about family size and child spacing. For example, researchers at UNZA, are analyzing the relationships between agricultural change in rural areas, household labor organization, demand for children and family size. Some useful information bearing on fertility determinants may also be available from planned CSO agricultural surveys.

It is important to stress that further socioeconomic information needs should be carefully prioritized. They should fit into a rationalized and timely overall plan for future surveys and analysis to be coordinated through CSO, NCDP, MAWD or MOH. The timing of any additional surveys should take into account the institutional capability to perform the necessary data collection, processing and analysis.

### C. RECOMMENDATIONS CONCERNING MATERNAL CHILD HEALTH/FAMILY PLANNING

Our recommendations for MCH/FP address improvements in institutional capability, and point to focussed areas for support to service delivery through non-governmental channels. These channels can serve to meet some of the country's most urgent needs and at the same time build a base -- in improved management, in information collection and use, and in tested models for service delivery -- for later, large scale donor assistance. The recommendations incorporate, where appropriate, dialogue with Zambian officials and with donors, support for information and analysis, and technical assistance, commodities and training to expand service delivery. They are based on the team's assessment of problems and their urgency, and of Zambian capability to respond, as well as our understanding of AID's own areas of comparative strength in the population sector.

#### 1. Family Planning Services and Service Statistics: the PPAZ

Support to PPAZ is recommended in order to strengthen its present, national coordinating role for family planning activities, including information, commodity provision and

service statistics. Funding will be required for commodities, for training (especially to permit PPAZ to expand service provision) and for technical assistance in logistics and management. Decisions regarding the appropriate mechanism for assistance, e.g. bilateral, regional or centrally funded support, should await further discussion among PPAZ, the IPPF, the MOH, and USAID.

Assistance should provide support for the following current, or planned, activities of PPAZ: (1) distribution of commodities, (2) collection of service statistics, (3) training and limited service provision through two model family planning clinics in urban areas, and (4) coordination and family planning information. In addition, chronic management problems, as reported in the latest IPPF Management Audit, will have to be addressed. These problems have been acknowledged within the organization, and the necessary organizational reforms and technical assistance in management should be included in any AID support.

Assistance to PPAZ will begin to address two of the most urgent problems in family planning: the lack of commodities, and the lack of a system to effectively distribute them according to need and demand. Provision of contraceptives to PPAZ should be coupled with technical assistance to establish improved procedures for ordering and distribution, and an information system to monitor contraceptive use nationwide. A simple recording system should be established whereby information on use is collected and processed accurately and rapidly, and PPAZ's distribution system should be simplified and be responsive to the needs of the program.

Also recommended is support for two urban family planning clinics, which will serve to expand service delivery in areas of high demand, provide training for health practitioners in Zambia, and demonstrate an effective model for delivery of services. Provision of clinical services will help to enhance PPAZ's expertise in family planning. There are several distinct advantages to working through PPAZ at this time. First, it is an established institution whose activities are supported by the GRZ. It has a network of provincial offices and staff, whose role in commodity provision and collection of statistics is understood and accepted. Second, AID has a record of success in working with similar family planning associations in other countries. In addition, PPAZ can, through its model family planning clinics, work in focussed areas of high demand and at the same time provide much-needed family planning training. Implicit in this recommendation would be that PPAZ resolve some of its current management problems and hire Qualified personnel knowledgeable and experienced in FP.

## 2. Private Sector Family Planning Assessment

An assessment, with the involvement of Zambian officials and experts, is recommended of the potential and advantages of stepped up support for family planning service delivery through private organizations involved in health service provision, including missions, mines and other industries. It will serve as a feasibility study for possible AID support for private sector family planning in Zambia.

Although the team focussed least on these institutions in its assessment of performance and capabilities, they are of the highest priority for further study, because of the magnitude of services they provide (CMAZ, alone, provides up to 30 percent of health services nationwide); indirect evidence that they provide better services more efficiently; their known interest in expanding family planning and indications that MOH supports such a role for them. At the same time, the budgetary and organizational deficiencies within the MOH, discussed at length in this pre-assessment, preclude the promise of rapid expansion of public sector family planning services.

A two-phase assessment is recommended, with the first phase to last approximately 3 weeks. A 1 or 2-person team should be fielded in the very near future to gather information on the scope of health activities undertaken, or supported by, private and parastatal organizations, and to review their interest in expanding family planning services. In addition, the team should discuss with the MOH the extent to which MOH might play a supportive role. REDSO/ESA should define the scope of work and work closely with the individuals contracted to conduct this preliminary study. Team members should possess experience in family planning program development with non-governmental organizations. Individuals familiar with the AID-funded Private Sector Family Planning Project in Kenya might be most appropriate.

Depending on the results of the preliminary visit, including the responses of Zambian officials, a full-scale assessment of several months duration, with Zambian participation, should be undertaken to review institutional strengths and weaknesses and to define specific areas for assistance. Also to be addressed at this time would be institutional mechanisms to coordinate the different, private channels and any potential role of the CMAZ secretariat in doing so. This collaborative effort should involve Zambian officials in the examination of questions of efficiency, cost effectiveness of alternate channels for service delivery, and the potential for fee-for-service and increased cost recovery.

Ideally, not only might service delivery be expanded through private organizations, but planning and management of public sector programs can benefit from careful examination of private sector programs. We see a collaborative examination of alternative channels for service delivery as one way for Zambians to themselves address questions of planning and management for public sector programs and for the population and maternal/child health sector as a whole.

### 3. Dialogue with GRZ and Donors and Participation in Donor Plans

It is recommended that AID initiate a dialogue with the GRZ and donors, especially the World Bank, regarding a sectoral approach to population, maternal child health and family planning. The dialogue should emphasize the steps which are needed to initiate and maintain a problem-solving approach to the sector within the MOH. The dialogue would also lay a foundation for any discussions regarding if, when and how AID might participate in a multidonor population sector effort. In any case, AID should participate in major decisions affecting sectoral development, and in particular participate in development of plans by the World Bank.

Large Bilateral Direct AID support to the MOH is not recommended at this time, due to the lack of emphasis on and unclear commitment to MCH/FP by the MOH, its severe budgetary problems, and its very weak planning and management capability. In addition, since family planning services are part of the maternal/child health program, and maternal/child health is only one component of the Primary Health Care program, a prior step to significant improvement in family planning services must be improvement in the overall planning and management of the PHC program. It is worth reiterating here that, at this time, MCH/FP is by far the weakest component of PHC program, and within the MOH as a whole, the PHC program is beset by particular managerial and funding problems. Thus, in order to expand service delivery through the MOH, all of these problems must be tackled. This is something which cannot be done quickly or simply and which should, perhaps, be left to a collaborative GRZ-multidonor effort.

Another consideration in our decision not to recommend AID support to the MOH at this time is the fact of other donors' current commitments. Limited AID assistance might conflict with or duplicate these activities. In particular, SIDA assistance to the MOH Planning Department will continue for several years, and UNFPA assistance for training and services through its Family Health Project is likely to continue, perhaps with even more emphasis on service provision, following a February 1984 evaluation by UNFPA.

The most important fact, however, affecting the likelihood of an expanded, improved national MCH/FP program in Zambia -- and any potential role for AID in supporting it -- is, however, an expression of interest on the part of the World Bank in supporting a major sectoral initiative, perhaps with the involvement of other donors. In the long run, an improved public sector program will be a necessity: the MOH plays a coordinating role for all health activities and controls the largest percentage of health facilities in the country. If institutional capability and policy commitment were in place, this could have a major national impact on service provision -- and on the solution of Zambia's population-related problems.

Given the potential, very important role of the World Bank in the population sector, we recommend that USAID begin a dialogue with the GRZ and the World Bank concerning sectoral priorities. Using this preassessment as a starting point, and perhaps with the involvement of REDSO/ESA population and sector analysis experts, the dialogue should lead to examination by donors, along with GRZ officials, of the institutional weaknesses and information gaps to be overcome in order to lead to effective program implementation, and of ways that donor assistance can bring about a strengthened GRZ analytical and planning capability. Collaboration with the GRZ and the World Bank at this time should include examination of such key issues as the appropriate phasing and timing of assistance; the proper mix of technical and capital assistance; MOH staffing needs and suggested changes; and, recommended policy, budgetary and institutional reforms in the sector.

## LIST OF ACRONYMS

CHW	Community Health Worker
CMAZ	Christian Medical Association of Zambia
CSO	Central Statistical Office
ECA	Economic Commission for Africa
FP	Family Planning
FPIA	Family Planning International Assistance
GRZ	Government of the Republic of Zambia
IPPF	International Planned Parenthood Federation
IUD	Intrauterine Device
MAWD	Ministry of Agriculture and Water Development
MCH	Maternal Child Health
MOF	Ministry of Finance
MOH	Ministry of Health
MOHA	Ministry of Home Affairs
NCDP	National Commission for Development Planning
PHC	Primary Health Care
PPAZ	Planned Parenthood Association of Zambia
RDSB	Rural Development Studies Bureau
SIDA	Swedish International Development Authority
TBA	Traditional Birth Attendant
UNFPA	United Nations Fund for Population Activities
UNZA	University of Zambia

UTH University Teaching Hospital  
WHO World Health Organization  
ZEM Zambia Enrolled Midwife  
ZEN Zambia Enrolled Nurse  
UNFPA United Nations Fund for Population  
Activities  
UNZA University of Zambia  
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