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RATIONALE FOR AID SUPPORT OF POPULATION PROGRAMS

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Executive Summary and Introduction

Assistance for voluntary population and family planning programs is an essential part of a cost-effective, and traditionally humanitarian program of U.S. development assistance. Continued high rates of population growth significantly increase the cost of achieving basic development objectives because, under these conditions, assistance of all kinds is needed by greater numbers of people over longer periods of time. Population assistance, moreover, materially advances social and economic development and serves the humanitarian purposes of A.I.D. development assistance by enhancing individual freedom to voluntarily choose the number and spacing of childbearing and by providing critically important health benefits for mothers and young children.

Assistance to family planning programs of developing countries represents the single most effective measure for reducing rates of population growth. The U.S. Government is uniquely qualified to provide key forms of population assistance - specifically, through the U.S. capacity for low-cost production of essential family planning program commodities, through U.S. leadership in the development and application of technical methods used in population programs, including the management of service delivery programs, and through U.S. emphasis on an expanded private sector role in meeting family planning needs.

Population growth is only one of many challenges less developed countries (LDC's) face. However, rapid population growth compounds the already serious problems of providing education, health, housing, jobs, and the basic economic and social infrastructure necessary to self-sustaining and prospering economies. Reducing high birth rates can contribute to a prospering economy and improve the quality of individual and family life. But population/family planning policies and programs alone will not achieve economic miracles. Thus they need to be undertaken in the context of other social and economic measures to promote comprehensive development, as A.I.D. programs currently do.

This paper addresses four central questions regarding U.S. population assistance:

1. In what sense is population growth in the developing world a "problem" for the United States and for the less developed countries? How does LDC population growth adversely affect U.S. interests?
2. What is the rationale for providing population assistance in the context of overall development assistance?
3. Under what conditions is substantial support for population programs justified? Minimally, what capacities and commitments do we reasonably require of recipient countries to warrant assistance programs?

4. What role, if any, should the U.S. government play in this area of development assistance, taking into account other sources of population assistance?

Part 1. POPULATION GROWTH IN THE DEVELOPING WORLD: IS IT A PROBLEM FOR LDC'S AND FOR THE U.S.?

At the present time, populations are growing in most developing countries at rates that have no historical precedent. Expert opinion is in agreement on this point.¹ It took millions of years for human populations to reach one billion in the early 1800's; the second billion took about 100 additional years (to 1930); the third billion arrived in another 30 years (1960); and the fourth billion came in the next 15 years (1975). World population may exceed 6 billion by the year 2000, a growth of more than 1.5 billion over the next 19 years. India's population alone is projected to reach almost 1 billion by the year 2000, an increase of over 44 percent from present levels.

The population growth issue suggests two quite different questions about its significance for human well-being. On the one hand, during the past two decades, scholars have directed considerable public attention to the long-term impacts of population growth - i.e. over the next 50-150 years. Their sharply divergent conclusions largely turn on differing underlying assumptions about future resource availabilities and technological change. (for example, Clark, 1957; Demeny, 1981; Ehrlich, 1968; Leontief, 1979; Meadows, 1972; Simon, 1981) These debates provide no consensus on the proper directions of public policy in the near-term.

A more significant question for LDC's and for the U.S. Government is how population growth affects the development process in the shorter-term, that is, within the time-frame of five to twenty years that is appropriate for government decisions regarding assistance. Within this shorter-term perspective, one basic purpose in providing any form of economic development assistance is to initiate and solidly establish policies and practices that produce self-sustained economic growth in developing countries.

1 Numerous projections of future world population are available; for the year 2000, differences are within a range of several hundred million. (Frejka, 1981; United Nations, 1981)

"The term high" (or "rapid") population growth reflects judgements about the likely impediments that population growth may place on the development prospects of particular countries. In general, the same rate of population growth has greater negative impact for poorer countries - e.g. Bangladesh - than for richer countries - e.g. Brazil.

In short, it is in the U.S. national interest to speed the development process as far as possible. When populations are growing rapidly, each year of delay in achieving "graduation" from external assistance means that much larger numbers of people require a share of the resources allocated to development assistance. The longer the development process takes, the greater becomes the cumulative requirement for external assistance. Moreover, governments that are frustrated in their aspirations for development are more likely to suffer from political instability and to be attracted to quick fix schemes - such as a radical restructuring of the world economy - and confrontation politics with the U.S. and other countries of the "North".

Successful growth processes, in part, are measured by (1) the steady growth of real per capita incomes which forms the basis of markets for expanding domestic production and (2) a growing capacity to compete in international trade.² Development assistance succeeds when countries - like Taiwan and South Korea - graduate from concessionary assistance programs and become nations that enjoy self-sustained growth.

A second and broader basic purpose is to provide forms of development assistance that will measurably improve the quality of human life in developing countries within the near-term. High population growth rates today are evidence that the quality of life in many LDC's has improved - in part because of various U.S. assistance programs that have reduced death rates. But at this point, population/family planning assistance is needed to accelerate the improvement by helping to reduce high fertility rates. Within the next two decades, smaller families can mean better health care, better education, better housing, and more job opportunities for present populations, thus helping to meet basic development objectives in many LDC's. From a humanitarian standpoint, the longer it takes to achieve basic development objectives, the greater the number of people who are denied access to the improved quality of life that modern technology makes possible.

Continued rapid population growth in developing countries slows the process of development and damages U.S. national interests in the following ways:

- o High birth rates impede capital formation in developing countries.

2 It is important to note that, in the shorter-term perspective, the purpose of population assistance is to speed the development process. The choice is not generally between no economic growth or some growth, but between more efficient paths to growth. The extreme findings, of a future catastrophe or golden age, sometimes associated with long-term population projections are not pertinent to shorter-term analysis.

High dependency ratios³ and large families limit the expansion of domestic savings; family income is spent mainly on basic consumption needs.⁴ Mueller (1976) has calculated that the average two-child family in the developing countries (for families generally above the poverty level) can save up to 18 percent of earnings over the life of the household. But a more typical six-child family can save less than one percent.

Although capital expenditures to maintain and increase economic productivity (represented by gross investment rates) are relatively high in some developing countries, these capital expenditures are financed only in part by private domestic savings. The remainder is financed through a combination of heavy borrowing in foreign capital markets, concessionary aid, and sometimes excessive taxation of the domestic productive sector. As LDC's accumulate additional burdens of external debt, debt service becomes a subsequent drain on scarce domestic savings, further impeding the rate of growth in domestically-financed capital formation. Most students of the development process believe, moreover, that inadequate investment rates are an important factor in the low economic growth rates of many LDC's.

The struggle to support large families in nonmonetized subsistence sectors may actually result in a net loss of capital through the exhaustion of the soil in wasteful farming practices, by the consumption of seed grain, or degradation of wood fuel resources. Subsistence status leaves working-age members of families little if any time to learn improved farming techniques or to contribute to the

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- 3 Dependency ratios point up an economically significant aspect of the differences in age-distribution patterns between less developed and more developed countries. Dependency ratios are constructed by dividing the economically-dependent segments of the population (both young and old) by the working-age population. Typically, an LDC will have a dependency ratio of about .7; more developed countries have dependency ratios that are 29 percent lower, in the range of .5. (Population Reference Bureau, 1981)
 - 4 The relationship of population growth to savings has been long debated in the literature. In general, savings and investment are extremely difficult to measure in developing (and partly monetized) economies. As per capita incomes rise, aggregate savings often rise (World Bank, 1981). However, this effect should not be confused with the undisputed burden that high fertility places on societies and families in the first decades of demographic transition (Robinson, 1975); Julian Simon (1981), whose work is often cited to show the positive impact of population growth on economic growth, readily concedes this point.

expansion of rural capital in the form of market roads or irrigation systems.

High birth rates, therefore, slow the process of accumulating the essential capital needed for development, both at the household and aggregate levels, and prolong the period of dependence on external capital resources. This result runs against the best interests of the developing countries and of the United States.

- o High birth rates lead to rapid labor force expansion, impede improvements in labor productivity and thus contribute to future unemployment, underemployment, and disruptive migratory movements.

In the developing world, six hundred million additional jobs are needed by the year 2000 to absorb the additional people entering the labor force. Together with the current shortfall of 400 million jobs, because of serious underemployment and unemployment, a total of one billion new jobs will be needed. Low domestic savings rates, resulting from high dependency ratios, and the consequent shortfall of capital formation will permit only a fraction of these new workers to be equipped adequately (with current know-how and essential physical capital) for productive work in modern industries.⁵ In most developing countries, the marginal productivity of labor is low because labor is already so abundant relative to available capital and, in many cases, relative to the natural resource base. Additional labor inputs will not improve economic potentials in the foreseeable future and may in fact reduce them.

If labor force expansion continues at current rates, the potentially most valuable resource of developing countries, their people of working age, will be only partly utilized to promote the development process. Even now, the migration of surplus labor to find work in other countries tends to drain off the most capable workers, to create significant dependence on workers' remittances for foreign exchange, (World Bank, 1981) and to lead to political strains with receiving countries.

Lower birth rates, of course, do not change the numbers entering the labor market for 15 to 20 years. Nonetheless, lower dependency ratios and greater disposable income for those already employed provides increased savings and capital formation that can contribute to greater worker productivity and to the larger domestic markets needed to encourage job creation in domestic industries and to expand the

5 Note that, while reported unemployment rates in developing countries are comparable to those in more developed economies, the productivity of employment is greatly hampered by a lack of needed human and physical capital.

markets for imported goods. Developing countries benefit from this process by avoiding the domestic instability that derives from an underemployed labor force and by speeding the development of competitive domestic industries. The U.S. interest derives in part from a decreased inflow of illegal immigration. Greater disposable incomes may also benefit U.S. export industries.

o High birth rates slow the development of markets for domestically-produced and imported consumer goods.

High dependency ratios and large families limit the growth of family income available for the purchase of discretionary consumer goods. This delays the development of the large-scale domestic demand that can make domestic or foreign investments in local manufacturing economically viable. Consumer demand grows more slowly both for locally-produced and imported consumer goods. Populations with significant disposable income, not merely large populations, are required to stimulate industries that benefit from economies of scale (Sirageldin, 1975). India's market (with a total population of over 600 million) for automobiles is, for lack of disposable income, no larger than Denmark's (total population: 5 million).⁶ The relationship between rates of growth in per capita income and variable rates of population growth are discussed additionally in Part 2.

This result of high birth rates runs against the interests of developing countries by slowing the development of internationally-competitive local industries. It also slows the growth of markets for many U.S. exports in these countries.

o High birth rates lead to increasingly greater dependence on external food supplies.

Countries with high birth rates have not, overall, increased their domestic food production sufficiently to meet the needs of expanding populations. Over the past twenty years, despite impressive gains in agricultural productivity in some developing countries, there has been a dramatic shift in international trade towards greater dependence of

6 Population density may reduce the per capita cost of some infrastructure development. It should be noted, however, that new technology such as that in communications systems may change these cost factors, and population concentration in LDC's is occurring rapidly. The more important point, of course, is that capital formation in LDC's is inadequate to fund large-scale infrastructure development. Meanwhile, the crises in Mexico City's and Cairo's transportation systems are not helped by their rapid urban population growth rates which, if continued, will result in a doubling of these urban centers in 15.5 and 22.6 years, respectively.

both developed and developing countries on a few major food producing nations. (Brown, 1975; Brown, 1981a). Mexico and Algeria, for instance, are now increasingly net importers of food grains. Moreover, developing countries are becoming increasingly dependent on food aid as a source of food imports (World Bank, 1981). Countries currently receiving PL 480 assistance, for instance, will grow by a quarter billion people by 1985 and by a billion in less than 20 years (A.I.D., 1980; United Nations, 1981). Although substantial potential exists in LDC's for increased food production and although damaged crop and forest land can be restored, both efforts require substantial infusions of capital. Such investments are less likely to occur if arable land is further sub-divided, if domestic private savings fail to increase, and if the number of people struggling on the margin of subsistence continues to grow.

The net result of rapidly increasing demand for food because of population increase is a likely upward pressure on food prices worldwide. Increasing over-exploitation of the prime land for food production in both developed and developing countries leads to overgrazing, soil depletion and erosion which impairs the land's productive capacity (Brown, 1981a; Brown, 1981b). There is also an increasing dependence of rich and poor countries alike on the surplus food production of the few food exporting countries - particularly the United States.

The rapid growth of domestic demand for foodstuffs runs against the interests of developing countries by impairing efforts to improve the nutritional status of their populations, by diverting productive land from the production of exportable products, by forcing countries to spend scarce foreign exchange on imported food, and by prolonging and increasing their dependence on food aid agreements. For the U.S., this trend results in growing requests for PL 480 grants (and growing budgetary allocations to support this program) and, during years of short international supply, in undesirable increases in domestic food prices.

o High birth rates slow improvements in literacy and the acquisition of needed technical skills.

High birth rates create a growth in the demand for basic education that strains the budgets for this area of public investment - consuming up to 20 percent of LDC government outlays. In countries with high birth rates, about 40 percent of the population is below the age of 15 and is in need of basic schooling (Population Reference Bureau, 1981). Required educational budgets must grow much more quickly than the population as a whole merely in order to maintain minimum educational standards.

Although the percent illiterate in the world has fallen, the total number of illiterates continues to grow. The result is that countries

are less able to provide improved education for all their children (particularly females) and to upgrade the technical know-how of older members of the labor force who lack the literacy or other skills needed to take new roles in modernized employment.⁷ This shortfall in educational progress delays the improvement of human capital that is critical for the success of development programs.

o High birth rates slow improvements in family health.

High birth rates contribute directly to higher maternal and infant mortality and morbidity through high risk births - i.e. those which are too closely spaced or births to very young and older women (Newland, 1981; Maine, 1981).

Development programs, designed specifically to improve family nutrition and to reduce the incidence of debilitating infant and childhood illnesses, must be allocated larger budgets simply to keep pace with the additional numbers that will participate in these programs. In addition to the humanitarian aspects of health improvement, severe malnutrition and untreated childhood diseases seriously weaken the mental and physical capacity of the victims, as adults, to contribute to the economic development process.

To sum up, under the conditions prevailing today in many LDC's, high birth rates and rapid population growth make it more difficult for governments, families, and individuals to achieve the economic and social gains they seek. Parallels with developed countries a century ago - where population growth did help to fill empty arable land or provide a labor force for industrial development are not applicable to countries where a major need is more and better education, greater incentives for worker productivity, and more savings and capital to modernize agriculture and develop industry.

As long as the size of the present and potential labor force exceeds available productive jobs, both the quality of family and individual life and the progress of LDC economies will suffer. Thus, over the next two decades, a reduction in population growth rates can help speed the achievement of development goals and reduce the cumulative cost of development, both for LDC's and for the United States.

7 In Egypt, there has been a recent trend towards falling enrollment rates for girls.

Part 2. RATIONALE FOR THE U.S. POPULATION ASSISTANCE STRATEGY IN THE CONTEXT OF ECONOMIC DEVELOPMENT

The purpose of this section is to examine the rationale for U.S. support of population/family planning assistance⁸ in the context of development. It will also examine the interrelationships between social and economic development and fertility decline.

It is universally agreed that eventually, as education, urbanization, and industrialization - that is, the whole process of modernization - proceeds, population growth will be reduced as birth and death rates come more closely into balance at relative low levels. Even those who suggest that the dangers of population growth are exaggerated do not expect that birth rates will remain high once individuals are educated and productively employed. Thus the major issue is not whether lower birth rates are compatible with a higher quality of life but rather how the process of decline can be accelerated in order to improve living conditions now and in the foreseeable future.

With economic and social development come greater personal opportunities and changed aspirations, a greater ability to control one's life and life options, as well as greater ability of the public and private sector to deliver basic goods and services needed to improve people's lives. Development tends to alter the conditions under which couples make and carry out decisions about the number and spacing of their children.

Therefore, development both increases motivation to control fertility and is almost invariably accompanied by the development of advanced public and private health care systems which provide effective modern family planning methods. Development makes available the knowledge and means to control fertility, as well as enhancing the motivation for small family norms. Modern family planning services allow couples to substitute safe and effective modern family planning methods for traditional methods which may be less effective, safe, or acceptable. From this perspective, the availability of effective family planning methods is one aspect of modernization and an appropriate part of development policies to speed modernization.

A substantial amount of development research suggest that while many policies and programs can contribute indirectly and directly to lower fertility, a program of family planning education, support, and services, at an appropriate level, can show the greatest results in the short run and in terms of cost-effectiveness. The same is true of programs to lower

8 It should be noted that, currently, only about five percent of international development assistance from all sources goes to support population work.

mortality. Although rising income and education levels are associated with overall improvements in health status, public health programs which make information and basic health services available have dramatically reduced mortality.

The major justification for the view, stated by some participants at the 1974 Bucharest World Population Conference, that "development is the best contraceptive" lies in three facts: (1) birth rates in the now industrialized countries declined as socio-economic conditions improved, and (usually) after declines in mortality; (2) in general, families with higher socio-economic status have fewer children; and (3) in some LDC's birth rates have declined over the same time period or somewhat after improvements in socio-economic conditions. However, none of these three observations is either a necessary prerequisite or a sufficient condition for fertility declines over the short to medium term. This argument mistakes the impact of socioeconomic development on changing attitudes about child-bearing and child-rearing (which impact is considerable) for a direct biological impact on fertility itself. A.I.D.'s present strategy rests on the premise that significant fertility declines will occur most swiftly when improvements in socioeconomic conditions are accompanied by wider availability of family planning information and services.

A. The Impact of Development on Fertility

Theoretical Considerations

Many years of scholarly debates concerning the issue of family planning versus development as a cause of fertility decline now seem largely resolved with the recognition that both make important contributions to fertility decline (Caldwell, 1981; Coale, 1973, 1974; Mauldin and Berelson, 1978; Teitelbaum, 1975). Studies of the historical process of fertility decline (Coale, 1974 and Van de Walle and Knodel, 1967); and of contemporary differentials in fertility have provided a better understanding of how population growth rates declined historically and to what degree these experiences may be applied to the current situation in LDC's. The most widely known of the theoretical models is the theory of the demographic transition (Kirk, 1971) which attempt to explain the movement of populations from high fertility and mortality to low mortality and fertility in Western Europe especially in the 18th and 19th centuries.

In general, "pre-transition" areas were characterized by high birth rates balanced largely by high death rates - especially high infant and child mortality. High fertility was presumably supported by social norms and economic patterns which attached high value to children because of their economic contributions, and the provision of security in old age. Recent studies in such areas as the Philippines (Bulatao, 1975), Bangladesh (Cain, 1977), Thailand (Buripakdi, 1977), Indonesia (White, 1975; Darroch *et al.*, 1981), Turkey (Kagitcibus: 1980) and Africa (Caldwell 1975) suggest that high fertility was in many places and in some places still is, a rational situational response, especially where infant and child mortality are high.

Countries of the industrialized world which have now moved through the transition first experienced a period of gradual decline in death rates, (attributed to general improvement both in social and economic conditions and to some improvements in health technology and availability of health services) and gradual fertility declines which lagged slightly behind the declines in mortality.

The fertility declines were brought about by delays in age at marriage, and the practice of traditional methods of fertility control, including abortion, infanticide, and abstinence. They were supported by a changing social system which encouraged later marriage, longer dependency (i.e., more years in school, less child labor) and smaller families. Gradually fertility and mortality came roughly into balance and a new, post-transition equilibrium was established. The process is thought to have taken up to 200 years.

Much of the debate over fertility decline in presently developing countries has to do with the appropriateness of this historical model to LDC conditions.⁹ Many LDC's have already experienced rapid declines in mortality. Death rates are thought to have decreased much more rapidly than occurred in the West (Arriaga and Davis, 1969; Stolnitz, 1959) due to factors such as improved ability to respond to famines, substantial progress in the control of epidemic diseases, and other improvements in nutrition and health, made possible in part by imported modern Western technology. Because there was no corresponding application of modern technology to fertility in most LDC's until the late 1960's or early 1970's, the gap between births and deaths became unusually large, leading to what some observers have termed the "population crisis" or the "population explosion".

Despite substantial differences in the speed and magnitude of demographic changes in LDC's, compared with historical changes in Europe, some observers still argue that because fertility declined in the West concurrently with the processes of industrialization and modernization, the developing countries and those who assist them should also concentrate on development efforts and that reduced fertility will be one of the by-products of development.

Leaving aside for the moment the questions of time- and cost-effectiveness, it should be noted that recent evidence suggests that the demographic transition model was an over-simplification and probably described the European setting only partially. This evidence indicates that initial fertility declines in developed countries were more

9 There are many measurement problems inherent in this historical comparison due to lack of historically comparable data, as well as the particular index of mortality chosen---life expectancy, crude or age specific death rate .

precipitous than once assumed, and that they were more closely associated with changes in cultural attitudes towards contraception than with socioeconomic improvements (van de Walle and Knodel, 1980). More serious however are questions about the applicability of European experience to countries currently in the process of development. Developing countries today generally can be characterized by higher fertility than that in pre-transition Europe; a precipitate decline in mortality, and growth rates which are correspondingly higher than those earlier in Europe. Thus the decline to western norms of small family size must involve either a steeper drop in fertility or a much longer period of time.

The strategy of relying on general development to lower fertility is attractive because it stresses the expansion of productive capacity as the key to economic progress and social well being. The rationale that underlies this strategy - i.e. that the economic growth process will effect appropriate reductions in fertility - is a feature of A.I.D.'s present development strategy. A.I.D. assumes that many of its other development activities designed to increase the productivity of human and natural resources in LDC's will contribute indirectly to declines in fertility. The study and application of these relationships is the principal focus of Section 104(d) of the Foreign Assistance Act. However, because A.I.D. feels that fertility reductions and economic growth have a synergistic effect - that moderation in fertility rates contributes to economic growth as well as vice versa. A.I.D.'s present strategy emphasizes both direct measures to increase the use of family planning as well as indirect measures to improve social and economic well being.

Efficacy of Development Variables Affecting Fertility

How much of a contribution can be expected from development in facilitating fertility declines? Macro-level studies on population growth and fertility in developing countries have attempted to test the aggregate effects of a variety of specific aspects of development upon fertility. Several different socio-economic variables affected by the development process were found to be related to fertility decline. For example, Casey (1973: 24), Cassen (1974: 238) and Repetto (1979) present strong cases that income distribution influences fertility reduction. Gregory et al. (1972: 233-241) demonstrate that reductions in the rates of illiteracy in developing countries are associated with reduced birth rates.

Similarly, increasing urbanization and declines in the crude death rate were shown by Beaver (1975) to be related to declines in the crude birth rate. Kupinsky (1977) and Piotrow (1980: 55-56) also credit changes in the status of women with a strong influence on fertility declines. In this macro-level tradition, some have sought to determine the values of sets of socio-economic variables which would predict the onset of a fertility decline (United Nations, 1965 and Kirk, 1971).

These and many other similar studies contributed to a growing set of evidence which demonstrated that socio-economic factors associated with

modernization can contribute to fertility reduction. This evidence led some to conclude that modernization, or the development process alone, could reduce population growth (see, for example, Tabbarah 1974). Some (such as Ridker, 1976) even argued that development assistance efforts in general should be restructured, as a policy decision, to try to affect those socio-economic variables which were shown to influence fertility.

Additional analyses of socio-economic factors and fertility reduction have demonstrated that the links between these variables are far more complex than the simple relationships described above. Even among some of the most important socio-economic factors believed to be associated with fertility decline, the evidence often fails to determine a unidirectional linear relationship. For example, Cochrane's (1979) study concluded that the relationship between education and fertility is not universally linear; in some instances, increases in education levels were associated with higher levels of fertility, at least initially. Reviewing historic demographic data for Europe at the subnational level, van de Walle and Knodel (1967) found no firm relationship between the onset of a sustained fertility decline and any specific level socio-economic development. This suggests that changes in socio-economic variables may not always be associated with reductions in population growth. King (1974) claimed that patterns of fertility decline are so diverse that being able to reliably predict fertility declines on the basis of socio-economic indicators may be impossible.

To add to the complexity of the associations between modernization and fertility, researchers have found other instances in which increases in the indices of development have actually resulted in an increase in fertility. Nag (1980) noted that improved health standards result in more individuals reaching reproductive age which contributes to more rapid population growth. Nag (1980) and Bongaarts (1978) also found that modernization often reduces the amount and duration of breastfeeding practiced, which is associated with increased fertility as breastfeeding often delays a nursing mother's return to fecundability. Similarly, higher income was related by Hull and Hull (1977: 50-54) to a higher total fertility among a population in one developing country (Indonesia).

Unfortunately, the means to encourage reductions in population growth through socio-economic changes are not well understood due to the complexities of the socio-economic variables and may represent, in some people's minds, undue interference in the economic process for the sake of demographic goals. Jaffe (1974: 5) has categorized most policy options to influence fertility through socio-economic variables as being: vague, politically unacceptable or infeasible. Berelson (1978: 38) and Berelson, Mauldin and Segal (1980: 88) contend that there is too little experience in structuring developmental assistance to achieve fertility declines which would justify adoption of this strategy as a reasonable policy option. Kirk (1978) argues that the evidence suggests such structuring is just not feasible. Those working in the development field are all too aware that bringing about socio-economic improvement is usually a

difficult and long-term proposition. An additional complication of focussing solely on development is the fact noted above that development brings about greater availability of family planning in a variable and uneven fashion. It is thus not a substitute for contraceptive information and services but rather a substitute for organized, government-subsidized services which make availability more equitable and more widespread at an earlier point in time.

In short, the evidence concerning interrelationships between fertility and development is contradictory. Knowledge currently available is not sufficient to ensure that investments in development programs will have significant fertility impact at a reasonable cost, even though associations between fertility declines and many aspects of development are observed. These associations generally show that greater social and economic development is correlated with greater demand for and utilization of family planning and with lower fertility. Furthermore, since development inevitably brings about access to means of fertility control, the explicit provision of family planning services, as an integral part of support for economic development programs, may be the most efficient strategy for both LDC's and development assistance donors. Additional evidence concerning this point will be presented in subsequent sections of this paper.

B. The Family Planning Approach and Fertility Reduction

Theoretical Considerations

The theoretical basis for the direct provision of family planning information and services is analagous to the rationale for the technological health interventions which have contributed to mortality declines in LDC's. To help narrow the gap between fertility and mortality, equal and parallel measures should be applied to bring about declines in fertility.

Five specific factors have been identified by Bongaarts (1978) as having the most immediate and direct impact on fertility. Social, cultural and other institutional values which are also related to fertility are considered more distant determinants of fertility and operate through the proximate determinants. These proximate factors are:

- age at marriage or entry to sexual union
- practice of contraception
- practice of induced abortion
- duration of breast feeding
- abstinence from intercourse

Policies and programs with a direct impact on fertility are therefore mediated by these five factors. Because of practicality and cultural acceptability, the option emphasized most often is active provision of voluntary contraceptive services. Promotion of breastfeeding through primary health care programs is a further, yet less powerful, option in part because the prevalence of very long lactations is declining worldwide and the practice is being modified in ways which reduce its contraceptive efficacy. Two of the other options - increasing abortion or influencing abstinence - are not acceptable as policy options for the U.S. government to support. Raising the age of marriage is a viable option, but requires substantial and long-term investments in female education and employment opportunities best accomplished indirectly through A.I.D.'s other development assistance programs.

Given limited options, one must then ask if investments in voluntary family planning programs are themselves helpful in bringing about declines in fertility? Most indications are that family planning investments are efficacious not only in reducing fertility rates, but in advancing toward other social and economic goals.

The Efficacy of Family Planning Programs : Effecting Fertility Declines

It is difficult to disentangle the effects of one factor, family planning, from the whole set of changes associated with the development process. But there is reasonable evidence that family planning programs had an important and independent impact on fertility decline .

Comparative Studies Two significant studies carried out in the 1970s, used complex statistical methodologies to identify the specific affects of family planning programs. Each of them finds that family planning programs significantly increase the rate of fertility decline.

Freedman and Berelson (1976) reviewed the experience of family planning programs (FP) in 32 developing countries during the period, 1950-1973. They were concerned with the following two questions: Does family planning have an effect on fertility independent of development-related factors (ie., income per capita, education, mortality) and to what extent are these effects related to the level of effort in family planning? The authors utilized international cross sectional data on family planning acceptor rates and levels of effort, fertility, GDP per capita, school enrollment, and infant mortality, as well as country and pilot project case studies, to address these issues. Their multiple regression analysis based on these data revealed that a FP program effort has a significant effect on both FP acceptor and contraceptive prevalence rates and changes in fertility even after controlling for development-related factors. Their review of country case studies and FP pilot projects indicates that a strong family planning program can accelerate the rate of fertility decline. However, they recognized that the available evidence does not document the ability of family planning programs to initiate a decline in fertility.

A study of 94 developing countries by Mauldin and Berelson (1978) found that countries with improving socio-economic conditions indeed experienced greater fertility declines, but that countries with improving socio-economic conditions combined with strong family planning programs experienced, by far, the greatest decreases in population growth. Other reports (see World Bank 1974: 137; Piotrow 1980: 46-47) found similar results when family planning variables were compared to socio-economic variables in relation to fertility decline.

Some authors (Tsui and Bogue, 1978) find those studies too conservative in their estimates of the positive effects of family planning versus development efforts. Others (Hernandez, 1981) argue that these studies over-estimate the effects of family planning programs, yet acknowledge that family planning programs do effect some change .

Another aspect of efficacy is the cost-effectiveness of family planning programs in reducing fertility. The evidence on this point is just emerging and is a topic of much on-going research. A study by Berelson and Haveman (1979) presents the results of an evaluation of the most effective allocation of resources to achieve the greatest reduction in fertility.¹⁰ They found that that the bulk of allocations would optimally be made to supply strategies as represented by family planning programs, especially in areas judged to have conducive social settings and strong commitment to program implementation. Of the small amount of investment which would be made on the demand side, none should go to general development activities which affect the socio-economic determinants of fertility.

Case Studies. There is also much to be learned from an analysis of case study materials of the experiences in countries which have good data and experience in family planning.

In a paper by Schultz, (1973) the determinants of regional fertility in Taiwan were rigorously examined by a time series of cross-sectional data

10 Lacking a good cross-national data base, the authors did not attempt to determine the marginal contribution to fertility reduction from an additional dollar spent on different types of reduction-aimed strategies. Instead, they compared implementation strategies (supply side) with social setting strategies (demand side). They then obtained effectiveness of various combinations from a panel of sixteen multinational, multi-disciplinary experts in the field. Using the average responses of the panel to set the level and composition of total effectiveness curves, the authors derived policy recommendations for optimal allocations of fixed investments, based on certain assumptions of diminishing returns, and assuming the goal is maximum fertility reduction.

of six years (1964 to 1969) and 361 small administrative regions. Explanatory variables include a child-death adjustment factor, agricultural composition, male education, female education, and family planning program effort as measured by both the amount of labor by village health education nurses and the amount of labor by prepregnancy health workers employed by the family planning program per thousand women aged 15-49.¹¹ The result indicated that the family planning program in Taiwan did have its own effect in addition to the effect of concurrent general socio-economic development in reducing the total fertility rate.

A more recent study of Thailand (Abel et al, 1981) attempted to estimate the net effect of the National Family Planning Program of Thailand compared to the effect of general socioeconomic development, in reducing its fertility rate.

The results indicated that sixty-two percent of the decline of total fertility in Thailand between 1970 and 1980 can be attributed to the effort of the Thailand National Family Planning Program (NFPP). They conclude that:

"the effect of the fertility reduction, brought about by the NFPP effort, to future government savings in terms of expenditures averted is impressive. Even with a high discount rate, the calculated monetary return to a baht invested in the NFPP is 12.13 baht . . . on purely economic grounds, the Royal Thai Government has every reason to step up its support of the program. Since the magnitude of the return is so large, even if there is some degree of overestimation involved in the calculation procedure, the basic conclusion reached here would probably not be substantially altered. Overall, our findings, unequivocally suggest that the National Family Planning Program in Thailand is a very effective tool for reducing the fertility rate and an extremely attractive investment opportunity for reducing future government spending on social services."

Studies of Cost effectiveness . In another empirical study, Simmons (1979) using empirical data examined whether the introduction of a family planning program is more cost effective than other socio-economic interventions in reducing the fertility rate using empirical data. That is, given a fixed amount of funding for the purpose of reducing aggregate fertility, should it be spent on a family planning program or spent on other socioeconomic programs that are believed to have an indirect effect on fertility? In order to answer this question, Simmons assembled from various surveys and studies the marginal impacts and marginal costs of four types of direct and indirect fertility interventions: a rural

11 Two econometric models, one static and one dynamic, were tested. The statistical regression results showed that the coefficients relating to family planning variables are positive and are statistically significant.

education program for women; an infant mortality reduction program; an income redistribution project; and a family planning program.

The result showed that the family planning program is by far the most effective way to reduce the fertility rate. The relative effectiveness of the education program, infant mortality program, and income redistribution program compared to the family planning program are: .139, .028, and .073, respectively.

These realizations lead many, who accept the relationship of socio-economic variables and development to fertility, to conclude that family planning is the most feasible and effective, but not the only actual policy option in addressing the problem of population growth. Mauldin and Berelson's 1978 study of 94 developing countries demonstrated that to reduce fertility in the short term, altering the family-planning variable is easier to accomplish than manipulating the social setting. The Simmons study mentioned above also found that when compared with development assistance efforts to affect fertility-related, socio-economic variables, family planning interventions are more cost-effective in influencing fertility. Even Tabbarah (1974: 34), who credits development variables with great strength in influencing fertility change, admits that development is not a substitute for population activities.

Thus, based on the current knowledge of the factors which affect fertility change, family planning programs represent the single, most feasible, most cost-effective and time-effective means to reduce population growth rates.

The Efficacy of Family Planning Programs: Affecting Overall Development

Can one go beyond this conclusion, and argue further that family planning, beyond even its impact on fertility and the social and health benefits accruing, also be justified as an effective development option? The debate on this point goes back many years to the seminal study of Coale and Hoover (1958) and continues today among proponents and critics such as Julian Simon (1981).

Econometric Models. Coale and Hoover prepared the first simulation model for the purpose of illustrating quantitatively the economic consequences of a slower population growth in a developing country. Within the framework of a classical growth model, it was assumed that the age structure changes associated with rapid rates of natural population increase exercises a negative effect on aggregate savings, while rapid population growth, in general, takes away funds from physical capital investment and puts them into welfare expenditure for social services. Projections of total and per capita income were made under three different fertility assumptions. The results show that over a thirty-year period, per capita income could be as much as 40 percent lower under the high as compared to the low fertility assumption. Under the low fertility assumption, more income would be saved and invested in capital goods thus

raising the productivity of the labor force.

Coale and Hoover demonstrated that per capita income is higher under a low fertility pattern than under a high fertility pattern in a developing country. However, a program that would reduce the fertility from high to low does have costs. Therefore, it is relevant to ask whether a society is better off paying the costs of a family planning program or investing that sum directly in production activity. To answer this question, another economist (Demeny, 1965) employed a variant of the basic Coale-Hoover model with a distinction between two types of investment: demographic investment which has the effect of reducing fertility, and ordinary investment which has the effect of raising the level of the economy. Results from his simulation show that, for a given amount of financial resources, demographic investment could generate higher income per capita than other types of investment under conditions of rapid population growth..

Country Applications. Data from India analyzed by Cassen (1978) also indicate that investment in the family planning program is more effective than alternative investments when the aim is to increase income per capita. For the years 1967-68 to 1972-73, family planning expenditures in India averaged about Rs. 435 million annually. With a conservative estimation of one million fewer births annually, the total population was 6 million, or about one percent, smaller than it would otherwise have been and income per capita was Rs. 7 higher than otherwise. If the Rs. 435 million had been invested every year in economic ventures instead of the family planning program, the capital stock would be about Rs. 3,000 million larger after six years, which on very generous assumptions would yield only an extra Rs. 1,500 million of income in 1972-73 or about Rs. 2.5 per person. Thus, per capita income was higher as a result of investment in family planning than would have occurred following a similar investment in other development programs.

A very detailed economic/demographic analysis for Kenya (Anker and Knowles, 1980) compared the impact of a variety of policy options (a moderately successful family planning policy, universal primary schooling, more rapid agricultural growth, agrarian reform, rural development and migration controls) on per capita income.

The result of these six policy simulations indicate that reduced fertility would result in a 14.0 percent higher GDP per capital by 1999. Only more rapid agricultural growth, requiring a much higher rate of expenditure, would produce a larger increase--29.9 percent--in an equivalent time period. Two of the simulated policies - universal primary education and rural development - actually cause GDP per capita to grow more slowly. Of the six policies, only three (fertility decline, more rapid agricultural growth, migration controls) produce lower levels of urban unemployment. However, in the case of migration controls, this favorable result is offset by a worsened overall income distribution. The other five policies (including fertility decline), produce some improvement in the overall

income distribution. One may conclude that family planning compares favorably to the other five policies studied in terms of its development impact and is probably less costly in terms of the resources required.

Similar economic cost benefits resulting from lowering fertility have been found for other regions of the world. One such analysis was prepared by the World Bank which examined the costs and benefits of family planning programs in Egypt (Zaiden, 1971).

In this study,¹² returns from investment in family planning are estimated by taking the present value of the discounted consumption stream necessary to support a person through life as a measure of the benefits of averting an unwanted birth. The technique is extended by attempting to measure the following benefits: the consumption expenditures that would have been required if a birth had occurred; the increase in total public savings from funds not needed in education; the wage productivity effect (an increase in output resulting from better nutrition of smaller sized families); and the potential increase in private savings resulting from reduced fertility. These are contrasted with the costs of averting an unwanted birth: the loss of output due to a smaller labor force; and the costs of providing family planning services. The results show that the benefits of averting unwanted births are 2.5 to 8.7 times as large as the costs and that the difference between benefits and costs ranges from 1.6 to 6 times the per capita income. Most of the benefits (80 to 85 percent) derive from the discounted consumption stream, while 88 percent of the costs, in the case of Egypt, are those of smaller output.

While calculation of total benefits and costs are probably less useful to policy makers than a comparison of marginal benefits and costs would have been, so long as the limitations and assumptions of the technique are understood, it is a valuable way of measuring the economic effects of changes in levels of population growth and of comparing the returns of investment in family planning with those of other sectors. In the case of Egypt, Zaidan's careful calculations, which were conservative on the benefit side, showed benefits markedly exceeding costs, significantly exceeding usual returns to economic development investments.

12 The author noted several methodological limitations: he was unable to measure potential increases in private savings, and many potential qualitative benefits were also necessarily excluded from the study. Other important variables such as the utility of children, total output, income distribution, etc., are not included. Other measurement problems include the problem of substitution--that is, separating the effect of the family planning program from the effect of changing socio-economic conditions. Zaidan's own criticism of the technique is that the methodology leads to the same results (benefits exceeding costs) under almost all conceivable circumstances.

Political Utility of Population Assistance within
the Context of Comprehensive Development Assistance

In addition to the theoretical underpinnings of this approach, the political utility of this strategy derives from the following considerations:

- The great majority of developing countries now want population program assistance. They consider population programs to be an integral part of development efforts. Family planning programs, like other areas of development, disseminate a new technology that is part of their overall drive for modernization.
- This strategy is a key element of humanitarian assistance in A.I.D.'s economic development program. Voluntary family planning programs provide women in developing countries with increased options and freedom of choice concerning the number and spacing of their children; and it benefits families through significantly improved health, particularly for women and children. At the heart of this program is our belief that individuals and couples should be able to decide freely the size of their families.
- This strategy reflects a long history of bi-partisan commitments of the U.S. to support population assistance spanning six administrations, including the current Administration. Most recently, these include the June, 1981, speech of Administrator McPherson to the UNDP Governing Council, and President Reagan's participation in the Declaration of Ottawa (para 20).
- This strategy enables the United States to expand the availability of voluntary family planning services within the context of each country's overall development needs.
- This strategy maximizes scarce resources for U.S. development assistance and facilitates more rapid economic growth.

Part 3. CONDITIONS FOR SUBSTANTIAL ASSISTANCE TO LDC POPULATION PROGRAMS

Six conditions, similar to those applied to other sectors of development, are required to justify the provision of substantial amounts of assistance to population programs. These are:

- the recipient country's desire for assistance;
- voluntarism of the family planning program;
- demographic need;
- sociocultural acceptability of the program to the population;
- requisite infrastructure for service delivery; and
- commitment on the part of the country's government to provide sufficient financial and administrative support.

Desire for Assistance: LDC individuals and governments must indicate a desire for population program assistance. Presently, the desire for assistance among developing world governments is the rule rather than the exception. This was not always the case. For example, the first country to adopt a policy to reduce its population growth was India in 1952. By 1975, 81 countries containing 94 percent of the developing world's population had such policies (Watson, 1977).

Voluntarism: The U.S. Government will not support any population program that does not adhere to the concept of voluntarism in all aspects of its program. This position has been a hallmark of the U.S. Government's population assistance program from its inception. Regular audits of programs are conducted to ensure compliance with A.I.D. policy.

Demographic Need: In considering the provision of assistance, A.I.D. assesses the particular countries demographic status. Substantial assistance is provided only to countries with rapid and high rates of population growth. Additionally, countries with large populations are given a relatively higher priority than smaller countries.

Sociocultural Acceptability: A.I.D. does not provide assistance to programs that are insensitive to the sociocultural preferences of a country's population. This concern pertains not only to the types of fertility regulation technologies to be provided, but also to the manner in which they are provided. A.I.D. does not support abortion services, training, or research on methods of abortion.

Requisite Infrastructure: In order for A.I.D. to make a major commitment to a country's population program, the country must already have, or be committed to developing, an appropriate health/family planning infrastructure. In the latter case, assistance would include resources for the improvement of the country's capacity to delivery services.

Commitment: The host country government must exhibit a commitment to its population program. Over time, it should be willing to shoulder an increasing share of responsibility for the program. This implies a gradual decline in A.I.D.'s share of program support. Also, the assistance provided by the U.S. Government may shift from a grant to a loan basis.

The above criteria are not applied in a mechanistic way. Each assistance program is considered individually. In some instances, one consideration may be of more importance than another. However, there are several criteria that are inviolable, specifically: the host country's desire for assistance, voluntarism, and sociocultural acceptability.

Part 4. U.S. ROLE IN POPULATION ASSISTANCE

As the largest national contributor to development assistance, the U.S. has a deep interest in an assistance program that is (1) effective, (2) balanced, (3) humanitarian, (4) a catalyst to host-country and private development efforts, and (5) a source of inspiration and leadership to other countries.

- o Effectiveness. A development assistance program that failed to stress population concerns during the period when LDC populations are likely to increase from about 2 billion (1960) to 5 billion (2000) would be short-sighted and less than fully cost-effective.

Over the past decade, about half of all donor assistance for population activities has come from the U.S. Government. Family planning program assistance has been both cost-effective and highly successful in terms of family planning goals. Over this same decade, 30 developing countries have achieved birth rate reductions of between 15 and 47 percent, and fertility declines have been most dramatic in countries with strong family planning programs.

- o Balance. The U.S. has recognized that population/family planning and other development programs are synergistic - each enhancing the impact of the other. Population assistance, in recent years, has accounted for about 10 percent of U.S. economic development assistance. A.I.D. has sought to meet a broad range of population assistance needs and has therefore developed a balanced program - both in terms of the functional areas supported (demography, research, family planning services, family planning supplies, training, etc.) and in terms of the executing agencies employed (governments, private institutions of all kinds, and international agencies). In addition, A.I.D. has actively coordinated its programs with those of other donors.
- o Humanitarian. Family planning has been incorporated into programs of health and of employment for women. It seeks to extend the right to allow individuals to extend voluntary choice of family size to the poorer segments of LDC populations and to meet the unmet demand for family planning services which exists even in the poorest and most traditional societies. World Fertility Survey data from countries of Asia and Latin America indicate that about half of the respondents do not want any more children. Family planning also contributes to the improvement of maternal and child health by improving the conditions of child bearing.
- o Self-reliance. Population/family planning programs permit individuals and families to freely help themselves, to plan and control their own lives, to do what is best in their judgement, to make decisions instead of leaving their lives to fate - all crucial steps in the process of enhancing individual freedom, development and

modernization. A.I.D.'s programs have also emphasized the establishment of indigenous institutional capability to manage and run family planning programs, and a steady transition over time from donor support to local self-sufficiency.

- o Leadership. The U.S. has been a leader in the area of population assistance. This leadership is political, fiscal and technical in nature.
- The international community has, for many years, regarded the U.S. as the most committed proponent of family planning programs within the context of development. Over the last 15 years, A.I.D. has helped persuade many developing countries that generous support for national population programs is in their interest. A.I.D. has encouraged other developed countries to increase their support for these LDC programs substantially, both in the form of bilateral programs and through support for multilateral activities. The views of the U.S. are taken seriously by other countries; our precipitous abandonment of population assistance would lead to serious foreign policy and international political problems.
 - Although the U.S. no longer provides the bulk of the funding (as it did in the late 1960's) for international population activities and although the relative importance of donor assistance as a whole has declined substantially, LDC population programs are still highly reliant on outside help. About 40% of the \$1 billion spent annually on population in LDCs comes from outside sources. The U.S., through A.I.D., still provides about half of these donor funds. Therefore, the fiscal resources provided by the U.S. are highly significant to the success of LDC family planning programs. There is now a backlog of about \$200 million worth of A.I.D. projects which cannot be funded with available resources. The current large funding shortfalls in population assistance programs relate to increased willingness of host country governments to support population projects, increased requests from these countries, an increase in the number of couples of childbearing ages (The number of couples of childbearing ages in LDCs is expected to double between 1975 and 2000), and a decline in buying power of donor support.
 - A.I.D. has a unique capacity among other donor agencies to engage the participation of private sector institutions in the provision of family planning services. U.S. assistance stands out for its mobilization of non-profit agencies and for its innovative actions to increase the commercial availability of family planning services through retail sales programs.
 - A.I.D. has led in the development and dissemination of the most widely used contraceptive methods in the world today. A.I.D. is the primary source of contraceptive commodities for LDCs. The U.S.

has an established manufacturing capacity for basic contraceptive products. A.I.D. can provide high quality products at the lowest unit price.

- The U.S. is a leader in population research. The development and rapid dissemination of safer, cheaper, and more effective contraceptive methods requires the continued involvement of the U.S. Through research it has been possible to develop innovative, less expensive and more culturally compatible outreach systems for delivering family planning services that mobilize indigenous private sector institutions and are appropriately integrated with health and other activities. The U.S. has pioneered innovative methods of survey research and analysis of demographic data. U.S.-supported research to identify the socioeconomic determinants of fertility decline has allowed the application of development assistance funds to more effectively impact on both development and fertility.
- The U.S. is a leader in family planning training and the dissemination of scientific population information. U.S. expertise in training programs and in the design of delivery systems is essential for the support of effective population programs in LDCs.

Conclusions

An increasing population base in LDC countries means that the net annual increment to world population size is still increasing. Although the annual population growth rate for LDC's as a whole has declined by more than 12 percent since 1970 - from 2.35 to 2.06 -, the annual increase in LDC populations over the same period has grown by nearly 6 million - from an annual increase of 62.2 million in 1970 to 68.0 million in 1980. (United Nations, 1981)

U.S. and LDC interests are at stake. Without continuing and increased population assistance, improvements in economic and social well-being leading to an expansion in world markets and to conditions more likely to promote political stability will be more difficult, more costly, and more time-consuming.

Population assistance and family planning programs have proven effective in contributing to decreased fertility and increasingly are acceptable to and requested by LDCs.

To provide effective family planning programs in LDCs annually costs about \$2 per capita annually. However, less than 50 cents per capita is now available and being spent. A four-fold increase in use by couples of reproductive age is needed to bring birth rates more nearly into balance with death rates and more than a four-times increase in the current annual expenditures of \$1 billion is needed to reach this level of family planning service availability and use.

A substantial share of the funds, commodities and technical assistance must come from developed countries for at least the coming decade, and the U.S. is the best situated to provide needed leadership, research and technical assistance. No other country or consortium of countries has similar expertise in place.

Rapid population growth is not just detrimental to the LDC's, it will impact on the quality of life in all nations for generations to come. Failure to act now to slow population growth will make the task in the future more difficult. Considering the magnitude of the problem, the proven effectiveness of population assistance and the severe shortfalls in funds, the U.S. program of family planning services is cost-effective, efficient, and a sound and productive investment of our foreign economic assistance.

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