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THE RATE OF POPULATION CHANGE AS A VARIABLE IN
DEVELOPMENT PLANNING

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The Rate of Population Change as a Variable in Development Planning

Through most of human history, concern for the rate of population change has rested on simple if harsh conditions. Chronic high levels of mortality could suddenly become acute in times of plague, famine, and war. High fertility was essential to the survival of the group. Population increase, then, became a signal of at least a temporary victory over death. High fertility was prescribed; barrenness was a curse. Still, however much prized, increases came very slowly indeed. At the time of Christ, humanity numbered about one-quarter billion. By the mid-Seventeenth century, it had risen to only about half a billion.

Then, sometime around the middle of the next century, these conditions began to fundamentally alter in one corner of the earth. Starting in North-Eastern Europe, mortality began gradually but steadily to decline. For example, in Sweden, crude death rates of about 28 per thousand were typical for the period 1750 to 1800. By 1850 they had fallen to 20 and by 1900 to 16. The Swedish crude death rate declined to below 10 for the first time at the middle of the present century. The slow gains in longevity were closely tied to technological and economic development.

The crude birth rate in Europe remained unchanged in most countries for over a century after mortality began to fall. Typical rates in North-Western Europe were in the vicinity of 35 and were higher in other regions. Early declines were observed in France and the United States. In general, though, a sustained downward movement in fertility did not appear until well into the latter half of the Nineteenth Century, when the processes of urbanization and industrialization were considerably advanced. While urbanization and industrialization were unquestionably the primary determinants of the fall in fertility, the exact causal relationships remain very unclear.

In the course of the century and a half during which mortality declined and fertility remained high, the population of Europeans on the Earth increased by some 600 to 800 per cent. A large part of this growth was absorbed in emigration from Europe. In particular, large numbers moved into

the thinly populated areas of the New World, Oceania, and Russian Asia.

The expansion of European population began to draw to a close in the period between the two World Wars. By 1930, concern about population decline became widespread and many ingenious theories were developed to explain the impending extinction of the Europeans. In the totalitarian nations, active government campaigns were mounted to press for higher fertility.

After World War II, fertility rose for a time, then fell back. Mortality continued very slowly to decline and the population is increasing at less than 1 per cent per year. By this time, Japan has become demographically comparable to Europe with low birth and death rates. (In one group of countries -- the English-speaking countries outside Europe and the USSR -- the postwar rise in fertility was of longer duration. However, it seems quite clear now that the "baby boom" in these countries has also come to an end. In the US, the birth rate has been falling steadily since the late '50's; in Australia there has been a recent sharp drop in fertility.)

This, in brief and rather crude terms, was the "vital revolution" -- the transition from consistently high levels of fertility and mortality to low levels of both. This process of an early starting gradual fall in mortality followed by a later, more rapid decline in fertility was the demographic component of the course of development in the presently industrialized world. It is, finally, the experience which is sometimes thought to provide the model for the demographic transition in the currently developing nations.

It is necessary to consider the relevance of this experience for the nations now planning for development. Clearly, some such transition must eventually take place. High levels of mortality are unnecessary and intolerable in the modern world. But low levels of mortality with high fertility implies a rate of growth which the earth's resources cannot sustain indefinitely. Humanity cannot continue forever to double every thirty-odd years.

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Nor can the developing nations, now growing in population considerably more rapidly than the world average, continue their pace forever. A slowing down of the rate of growth such as occurred in Europe, Japan, and the US must eventually take place.

The developing nations today face conditions quite different from those experienced in Europe. First, international migration has ceased to have anything more than a marginal importance. The filling up of the earth which has taken place during the last century leaves few areas that can absorb any substantial numbers of migrants. There are simply no areas large enough and having adequate resources to make a meaningful contribution to the problem of providing living space for any migrant stream of the size that would make a difference in the modern world. In addition, the development of the nation-state system tends to make boundaries increasingly impervious to population movement. This is increasingly true even in Africa where boundaries have traditionally been unusually open to migrants. Independence has generally meant the accession to power of groups more responsive to domestic demands for the limitation of competition for jobs that might arise if migrants were freely admitted.

Secondly, reductions in mortality come ever more quickly, easily, and cheaply. Whereas in the European experience, the death rate fell at a pace closely tied to economic development, in the developing nations very large drops can be obtained almost independently of industrial or urban growth. The classic example of such a fall can be found in the case of Ceylon, where widespread use of DDT led to virtual elimination of malaria as a cause of death in a matter of months. The crude death rate of Ceylon averaged over 20 per thousand through 1946. (In fact, in only one single year, 1942 when it was 18.6, had the death rate ever fallen below 20). In 1947, the rate went to 14.3 and it has subsequently fallen below 10. Similar declines, which clearly cannot be explained simply in terms of economic development, have been observed in many other countries in the post war world.

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A third difference is found in the conditions associated with fertility. It was mentioned earlier that the pre-modern birth rate in North Western Europe tended to be in the mid-30's. However, in general, birth rates in Africa, Asia, and South America currently stand considerably above that figure. It is not at all uncommon to find rates of 45 to 50 and in some instance (for example, in parts of West Africa) above 50. Furthermore, some of the social patterns which determine levels of fertility and which are not easily alterable, are more conducive to sustained high fertility. Specifically, very early ages at marriage and extended family systems are common. These contrast with a distinctively late age at marriage and an emerging nuclear family pattern in Europe. In addition, the state of medical science is much advanced. It is possible to reduce the levels of maternal mortality and conditions leading to sterility far below those obtaining in Europe until relatively recently. On the other hand, contraceptive techniques are also more fully developed and abortions may now be induced with only negligible risk to maternal health when proper medical supervision is available.

Another important difference is that the social and economic implications of population growth dynamics are increasingly better understood. Careful analysis points to the conclusion that sheer numbers are of less significance than the rate of change by which the numbers are reached. (This conclusion has added weight in the face of the potentialities for automation of production -- but it is valid no matter what the state of technology.) In particular, it is the importance of the proportional age distribution and its determinants for economic and social development that has come to the foreground.

The age distribution of a human population is almost entirely determined by the pattern and level of fertility; changes in mortality have a remarkably slight effect on the proportions at different ages. Populations with high levels of fertility such as found in many of the developing (and, of course, the static underdeveloped) societies can expect to have just less than 50 per cent under age 15. And as long as high fertility remains, there is a distinctly unfavorable ratio of persons in the productive working ages to

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dependents. On the other hand, falling fertility is the means by which the worker-dependent ratio can be made more advantageous.

In addition, and quite apart from the effects on the age distribution as such, a high rate of growth has serious implications for development. A given percentage increase in population appears to require some 3 to 4 times that increase in capital investment merely to maintain a given level of equipment per capita. This is no small matter in a capital-poor developing economy. Further, the large proportion of children severely restricts the nature of the capital investment. Finally, high fertility sharply limits female participation in the labor force.

To summarize the discussion thus far, the experience of the vital revolution in the industrialized societies has limited significance for the developing nations. The conditions they face are in very many ways substantially different from those met in the past. There is increasing agreement with the conclusion that demographic factors cannot prudently be left to chance or the future. Reasoned responses to the new demographic conditions are called for. The remainder of this paper is a review of the responses being worked out in the developing nations as part of their planning efforts.

Attempts to reduce mortality are almost universally being pressed, as indeed they must. The clear and unambiguous goal is to bring mortality (and, of course, morbidity) down to the levels that the state of the most advanced medical technology will permit. Widespread falling death rates indicate that the efforts are bearing fruit.

International migration has not generally been an important component of planning. In a few cases, such as Puerto Rico, emigration has been an important factor but the numbers are small and the circumstances quite unique. Internal migration is of greater significance but it is commonly recognized that it is not related to the conditions of population growth as such. In nations with available land,

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resettlement has been used to increase production and relieve local population pressures. However, in many other nations, internal migration policy has consisted of little more than an attempt to limit the flood of rural to urban movers.

Most commonly, where there is any demographic concern at all, attention has been focussed on attempts to bring fertility behavior within the ambit of the planning process.

It is worth noting, in passing, that these attempts have received support from a rather unexpected source. Attitude surveys in underdeveloped countries have shown that "substantial proportions both of men and women say they want to limit family size, particularly after 3 or 4 children."⁽¹⁾ Further evidence of such a desire is found in indications in a variety of countries (e.g., Chile, Greece, USSR) that the frequency of induced (and illegal) abortion is very much higher than previously suspected. It appears that in the absence of less extreme methods, abortion is being surprisingly widely used in the modern world. In other words, the evidence is that the assumption is quite false that whenever people do not plan their families in the manner of those in the industrialized societies, they therefore want an unlimited number of children.

Turning, then, to a survey of existing attempts to confront the demographic conditions of the developing nations, four topics of relevance to fertility planning will be considered: Policy, medical technology, field programs, and costs. Policy.

Legitimate childbearing takes place in almost all societies only within the family. The family is the social unit primarily charged with making decisions about child-bearing and child-rearing. However, other institutions assert strong influences over the kind of decisions made by families about their fertility behavior. In particular, religious and political organizations most commonly hold clearly defined positions with regard to the appropriateness of fertility planning.

Family planning has been accepted as legitimate by nearly all Protestant Christian groups. Decisions in this area are left to individual conscience. Indeed, for some

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important groups there is virtually an injunction to engage in responsible planning.

The Roman Catholic Church is presently engaged in a widely discussed re-appraisal of its position. There is, of course, no way of knowing what decision will eventually be taken. However, it should be noted that the stand taken by the Roman Catholic Church even before the present re-appraisal did not object to family planning as such. It simply restricted the methods that could be used. (Unfortunately, the acceptable methods are relatively unreliable under the best of circumstances.) It is currently being argued in some important Catholic circles that it is implicit in the Church's recognition of the need for a re-evaluation that the choice of means is now a matter of individual conscience.

The lack of an established hierarchy makes it rather more difficult to easily describe the position of Islam on family planning. In general, though, there appears to be no objection on religious grounds. Further, careful study by Moslem scholars and theologians has led them to the conclusion that the responsible use of family planning is entirely consistent with Islam and quite desirable in many situations. Of course, this does not mean that such a position will be held by every individual mullah everywhere in the Moslem world. However, this is the conclusion reached by the best informed and most thoughtful analysis. It will be shown below that some of the most intensive national family planning programs are to be found among the nations of the Moslem world.

Similarly, there appears to be no objection to family planning in the Hindu and Buddhist worlds. Such negative reactions as are found seem to be more a matter of traditionalism than of theology. In these areas, again, it will be shown that strong national programs of fertility control are under way.

Turning now to evaluations of fertility planning from a political point of view, we may begin with the Socialist nations. Policy on family planning is not uniform throughout the Socialist world and has been changing in recent years.

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However, some definite patterns emerge. In the USSR, the traditional antipathy toward contraception, stemming from the writings of Marx, remains rather more strongly in force.⁽²⁾ Although the argument has frequently been pressed, particularly in medical and public health circles, that the government should encourage wider use of contraceptives, their importation and use appears still to be somewhat limited. On the other hand, legal regulation of abortion has been considerably relaxed and it is estimated that the abortion rate in the USSR may be one of the highest in the world. Evidence suggests that the rate of illegal abortions is quite high.

It appears that there is less aversion to contraception in the Socialist countries of Eastern Europe, despite the fact that they have both a strong Roman Catholic and a Marxist tradition. In these countries, though, abortion is again the primary means of fertility control. Legal barriers to abortion are less stringent here than in any other place in the world. The result is seen in the figures for Hungary, for example, where in recent years there have been more legal abortions registered than live births. Comparable conditions obtain in Poland and Czechoslovakia.

In China, technologically the least developed of the major Socialist nations, policy on family planning has undergone several reversals in recent years. It seems now to have settled down to a position quite favorable to planning. Delayed marriage is given very strong governmental backing. Sterilization and abortion are available. Contraceptives are imported duty-free and publications advocating birth control are advertised in government newspapers. All methods of contraception are acceptable. Premier Chou En-lai has stated his approval of family planning and the aspirations of his government to lower the rate of growth of the Chinese population. (In fact, he made such a statement during his 1964 visit to Africa. Interestingly enough, he reported his approval of family planning in an interview in Guinea -- a country with one of the highest birth rates in the world.)

In the countries of Chinese culture outside China itself, strong national programs of family are being pressed. The cases of South Korea, Taiwan, Singapore, and Thailand will be discussed below.

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Resistance to family planning seems stronger in Latin America than in areas hitherto discussed. Even here, though, there is evidence of a trend toward greater acceptance. The revelation of extremely high rates of illegal abortions has softened some of the opposition to contraception. It would appear that the latter methods may win acceptance as the lesser evil. In one country, Chile, a family planning program is in operation and in another, Honduras, a national program is to be inaugurated. In some other countries government assistance is given to private clinics.

In Africa, like in Latin America, support for family planning is still generally not very much developed. Again, there are clear indications of change. This is least apparent in the countries associated with French influence. There generally are laws restricting the import, sale, and manufacture of contraceptives. In many of these countries, there is concern for what is perceived to be underpopulation. Extremes of population policy in Africa can be found, on the one hand, in Somalia, where the practice of contraception is not legal and, on the other, in South Africa, where the government appears recently to have embarked on the encouragement of a somewhat ludicrous pro-natalist program for the white minority.

In the areas associated with British influence, no restrictions have ever been imposed of the importation and use of contraceptives. Private family planning clinics are expanding in number and coverage. In some countries (Bechuanaland, Kenya, Nigeria) the centers receive financial support from government. However, there is nowhere in Africa South of the Sahara a government sponsored program of family planning. Indeed, in three countries, Sierra Leone, Tanzania, and Zambia, there is an official desire for a higher level of fertility. This is countered by an officially stated desire for a lower birthrate in Nigeria. There is some indication that Kenya may also be preparing to move in this direction.⁽³⁾

To summarize the discussion of policy, it appears fair to say that recent years have seen a decline in ideological resistance to family planning. In only a few societies or regions is there outright condemnation; more and more populations are accepting the necessity and desirability of planning.

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However, a favorable policy disposition toward family planning does not necessarily imply that such planning will in fact take place. Government or religious policy may not even be a necessary condition; it surely is not a sufficient one for family planning. An essential component to planning is the technical means and to that subject we now turn.

Medical technology.

Attempts at contraception are probably almost as old as prescriptions to bear many children. The Talmud contains information on useful contraceptives. Similar discussions, along with a good deal of superstition and misinformation, are found in medieval treatises from the Oriental, Moslems, and Christian worlds. More or less effective contraceptive methods are known to human groups quite apart from their level of technological development. In East Africa, there are apparently reliable reports of the use of coitus interruptus among the Masai and the Nandi before these tribes had extended contact with Europeans.⁽⁴⁾

Of the methods not employing any appliance, coitus interruptus is of course the oldest. For example, it was known and condemned in Old Testament times in the story of Onan. The method of periodic abstinence has been much more recently worked out. Both methods are of some effectiveness. However, both make heavy demands on a couple and are at best of inferior reliability.

It was with the development of the vulcanizing process for rubber that cheap and effective contraceptives -- the condom and the diaphragm -- become widely available. With the addition of the chemical spermicides, which also work on the principle of interposing a barrier between sperm and ovum, the set of "traditional" contraceptives was complete.

These methods -- both non-appliance and appliance -- provided the basis for the European fall in fertility (with an unknown amount of assistance from induced abortion). However, they have not proven to be equally acceptable and effective in all societies. In many of the underdeveloped and developing societies, unforeseen problems arose in their use. Lack of privacy, lack of adequate sanitation facilities, personal squeamishness and reticence, limited communication

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between spouses, inability to conform to an unfamiliar and demanding regimen -- all these seem to have placed a sharp limit on the effectiveness of these traditional methods. Perhaps the basic point was that the methods were not suited to the nature and degree of motivation for family planning that existed.

A major innovation in contraception occurred with the development of ovulation-inhibiting chemicals that could be used by humans. "The pill" was field-tested on humans in the mid-1950's and soon after was accepted in most countries as a method that could be generally used with adequate medical supervision. This method seems to have had a sharp impact on contraceptive practice in some of the urban-industrial societies where it replaced traditional methods for a substantial number of contraceptors. However, it has not had nearly so great an importance in developing countries. A very important liability of the pill is its relatively higher costs. An equally important deterrant is that its successful use demands a rather special sort of discipline -- one pill each day for 20 days. Finally, and more seriously, there are medical and physiological problems. For some women, the pill has unpleasant side effects which lead to discontinuance. Moreover, the pill functions by means of introducing endocrine changes that are relatively far-reaching. There is unresolved uneasiness about possible associations with pathologic conditions.

Far more important for the developing countries has been the more recent introduction and widespread use of the intra-uterine contraceptive devices. Knowledge of the possibility of contraception by means of an intra-uterine device has a very long history. It has been reported that for centuries, Arab and Turkish camel herders have prevented pregnancy in their animals by means of a small stone inserted into the uterus. The use of uterine pessaries by humans seems to have been known and used (although not always for contraceptive purposes) since classical times. However, it was never widely used. Modern application began with the introduction of the Grafenberg ring and the Pust intra-uterine ring with a cervical extension in the 1920's. These devices were not commonly accepted at the outset, perhaps because they bore a superficial resemblance to intra-cervical

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devices which are considered to be dangerous. About 1959, interest was rekindled by reports of safe and effective use of the Grafenberg ring and a very similar device, the Ota ring, by large numbers of women over long periods of time.

Since 1959, improved models, generally of an inert polyethylene, have been introduced and widely tested and used. They have proven to be remarkably easy to use, safe, and effective. Insertion is very simple and almost painless; dilation of the cervix is not required. Once in place, they can safely remain for a matter of a year or more. Removal for examination or to permit a desired pregnancy is equally simple. Their failure rate is below that of comparable traditional methods. While some women experience undesirable side-effects -- inter-menstrual bleeding is common during the first month or two -- the necessity for removal of the device occurs only for some 10% to 20% of women. Spontaneous expulsion of the device, especially during the first few months, has been a problem. However, between some 60% and 85% of all women, depending on the model of device used, experience neither the need for removal nor an expulsion and continue to wear the device with complete satisfaction. There is no evidence that these devices are carcinogenic or otherwise pathogenic. The discussion below of field programs will show that use of IUCD's has been extensive and very successful.

Two other methods of limiting fertility, sterilization and induced abortion, remain to be noted. Both have played an important role in some countries.

Sterilization specifically for contraceptive purposes is relatively common in many of the more advanced societies. However, it is in India that the method has been most widely used. In recent years, over 100,000 contraceptive sterilizations have been performed annually. The total number performed is now reaching one million.

Sterilizations can now be performed very safely and with complete effectiveness. Vasectomy is a very minor operation and is sometimes reversible. Salpinxectomy is more difficult and is irreversible. In neither operation is subsequent sexual activity affected.

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Knowledge of how to induce an abortion is very old. In the past, it has been a somewhat dangerous operation. This was particularly the case since it has been condemned in most societies and hence carried out in less than optimum surroundings. Recently, and especially in Japan and the Socialist world, as a result of its much wider acceptance and use, the medical technology of abortion has been much improved. If carried out early in the pregnancy, risk to maternal health is negligible. It can be done very cheaply, easily, and quickly. There are reports that the techniques of inducing abortions are continuing to be substantially improved, particularly through research in the USSR and Eastern Europe.

Field Programs:

We will now examine the programs in developing areas designed to bring the possibilities for family planning to the attention of the population. It is worth noting at the outset that all of the programs are voluntary. The only element of compulsion can be found in the very mild matter of raising the legal age of marriage in countries such as India and China. The larger goal is uniformly limited to making the existing technology of family planning available to everyone.⁽⁵⁾

Two of the largest programs, which have been operating for some 15 years, are found in India and Pakistan. Until quite recently they have experienced very limited success indeed. In fact, it seems to be a reasonable supposition that a good deal of the pessimism generally associated with family planning in the developing countries during recent years arises from awareness of the rather poor showing in India and Pakistan. Therefore, it is appropriate to begin by reviewing their experience.

In India, family planning has been a component of the national policy for development since the inception of the first five-year plan in 1951. Despite the early start, though, accomplishment has been very slight. Fertility levels continue high and substantially unchanged. A large number of factors is involved in this lack of success. However, an especially large responsibility must be given to the very limited budgets available for family planning

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activities. During the first five-year plan, expenditures for family planning came to shs. .0014 per capita per year. (All amounts in this report will be given in East African shillings.) For the second five-year plan, 1956-1960, the amount rose to just less than shs. .02 per capita annually. In the quinquennium just completed, preliminary figures indicate that expenditures will have risen to almost ten times the preceding amount.

These very small amounts were insufficient to produce any measurable impact on India's fertility. The success of the sterilization program is, of course, impressive -- but so is the 20-odd million births now occurring annually in the country. In general, the expenditures were useful in permitting the development of a national network of family planning clinics and providing valuable information that is being used in current efforts. The most important lesson that has been learned is that in a country like India, with immense problems of education, staffing, and simple logistics, an effective family planning program cannot be had for little or no investment. The current amount budgeted for the fourth five-year plan (1966-1970) comes to shs. .58 per capita annually.

Emphasis has now been given to the IUCD. Nearly a third of a million devices had been inserted by the end of 1965, the first year of their use. 100,000 of these were in the one state of Bengal. Acceptability by the public is clearly very high. The target for 1966 is one million IUCD's inserted. Sterilization and traditional contraceptives will also be continued in India's current serious efforts to control her rate of population growth.

The history of Pakistan's efforts to bring family planning to her people closely parallels that of India. Efforts have continued over a fifteen-year period and again there have been no visible success in reducing fertility. Expenditures averaged about shs. .07 per capita per year.

A new, much more intensive, approach was begun in mid-1965. Expenditures are now budgeted to run to some shs. .84 per capita annually over a five year period -- one of the highest allotments for family planning in the world.

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(It is worth noting that even during the recent conflict with India, when most government budgets were sharply altered, there was no cut in the family planning allocation.) As in India, emphasis is now being given to use of the IUCD.

Impressive accomplishments in family planning programs have already been made in the Far East, especially in areas associated with Chinese culture. The goals of the government of China itself of lowering fertility have already been noted. Unfortunately, there is little detailed information concerning the procedures by which the goals are to be implemented. Rather more information is available about programs in surrounding countries.

The Republic of Korea, faced with a growth rate of about 3 per cent per year, began an extensive national family planning program in 1964. After some difficulties of finance and logistics during the first months, the program began to function and was in full operation by the end of 1964. Accomplishments of the first year included 30,000 vasectomies, 250,000 regular users of traditional contraceptives (condom, diaphragm, chemical spermicides), and 90,000 IUCD's inserted. In 1965 there was a sharp and rapid switch in favor of IUCD's by the clients of the program. By the end of the year, over 200,000 had been inserted.

The program in Korea has active government support. It is adequately financed with a budget running currently at about shs. .48 per capita. Although Korea's vital statistics are insufficiently precise to measure the impact of the family planning program, such an effect undoubtedly exists.

Another successful operation is found in Taiwan. Impetus was developed in part from a pilot project in the city of Taichung, where an experimental program showed a 17 per cent decline in the birth rate in one year. A national effort was mounted in 1964, although with limited official support. (For example, the national mass media did not become available to the family planning program until recent months.) In any event, the program moved ahead. In the first year, 1964, 46,000 IUCD's were inserted. The number rose to about 100,000 in 1965. There was supporting use of traditional contraceptives, as well. It is still too early

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to evaluate the impact of the program in detail. However, the birthrate of Taiwan is noticeably declining.

Acceptance of family planning is evident in other areas of predominantly Chinese culture, as well. In Hong Kong, with an active privately operated family planning association, birth rates are falling. Some 40,000 IUCD's have already been inserted through the auspices of the association. Comparable conditions obtain in Singapore, Malaysia, and Thailand.

In Ceylon, a pilot family planning project in one village showed a decline in the birth rate of some 30 per cent over a 4 year experiment. (However, another pilot project on a tea estate showed virtually no change in fertility whatever over the same period.) At this point, there is no indication of a national program in Ceylon.

Turning now to the Arab world, somewhat less progress toward family planning is found. However, a few important programs are beginning to come into operation. The first national project in the field is in Tunisia. Starting near the end of 1964, this effort is now well underway. Some 12,000 IUCD's have been inserted and expectations are that the program will gain momentum with time. Activities in this Tunisian case are being shared between government and the nation's political part, the Destourian Socialists. The latter handles public information and education.

In the United Arab Republic, it is expected that a major field operation will soon be developed. President Nasser has reiterated the need for such a program and the government is preparing for action. A supreme council of family planning has been established with President Nasser as its head and with a budget of about shs.20,000,000. There are firm plans to begin the manufacture of IUCD's in the United Arab Republic.

Morocco and Algeria have also shown interest in developing family planning programs. A high level mission from the former country has recently investigated the Tunisian operation with a view to its adaptation in Morocco.

Apart from the Arab world in the Middle East, Turkey has also recently developed a major program. Although until a very short time ago there were laws restricting the

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importation and distribution of contraceptives, the nation is now moving quickly and effectively to facilitate family planning. Since the new legislation has been in effect for less than a year, field operations have not had time to mature. However, the intensity of activity by all agencies of the government -- even the army is to be involved -- suggests that one may well expect a high level of effectiveness.

In Africa south of the Sahara, there are as yet no national family planning programs. In several countries, private clinics are beginning to develop on a fairly extensive scale, however. For example, there are now more than twenty such clinics in Kenya. In addition to providing information and supplies for use of traditional contraceptives, it is estimated that several thousand IUCD's have already been inserted in this one country. Moreover, there are indications that several countries are approaching the point of direct national involvement in family planning programs. Indications from Nigeria are that the new regime is even more concerned than the previous government.

In general, then, a world survey indicates that national programs of family planning are becoming more and more widespread. More money is being invested in this area. Most importantly, the programs are beginning to meet their goals.

Cost.

The preceding descriptions of national programs have contained some brief comments on costs. Needless to say, these figures are very rough and must be used with caution except when pointing to gross differences. In specific field situations, for example, there will be varying amounts of cost absorbed by existing facilities which can be adapted or used. It would be a surprising situation if a nation had to mount a program covering all costs from anew. Generally, existing health facilities can be drawn upon. However, it appears to be a useful rule of thumb to expect a viable family planning program to run in the vicinity of shs. .35 to shs. .50 per capita annually. An encouraging marginal note is that the costs do not necessarily go on forever. Japan has recently decided to terminate all remaining government assistance to family planning her birthrate having been brought well into reasonable levels by means of a national program of contraception and abortion. (6)

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Costs per capita are a most useful method of evaluating amounts of money spent in family planning. However, it is also illuminating to see these expenditures measured in another way. Based largely on the experience of Taiwan, it is estimated that it costs between shs. 35/00 and shs.85/00 to help a woman avoid an unwanted pregnancy. The significance of these figures become clear when they are compared with the costs of taking a child -- even at the barest minimum levels of health, nutrition, clothing, and education -- to his entry into the productive labor force.

To conclude, there is evidence of a major shift in perspective on population matters underway around the world. First, numbers of people as such have lost much of their importance. Second, high fertility is no longer seen as a guarantee of future social well-being. Third, attention is being focussed more and more on the rate of population growth and on the underlying age structure. Finally, population dynamics are coming more and more to be seen as variables amenable to intelligent planning. Indeed, from a growing number of policy perspectives, there is virtually an obligation to engage in population planning. Family planning programs are increasing in coverage and in intensity. And they are beginning to show success.

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