DEMOGRAPHY AND POLICY: AN ASIA EXPERIENCE*

Ismail Sirageldin
The Johns Hopkins University

I. INTRODUCTION

The purpose of this paper is to investigate the factors influencing the use of demographic knowledge in the formulation, implementation and evaluation of public policies. The focus of the discussion is to conceptualize the dynamic and interactive nature of the supply and demand for demographic knowledge, or more generally, analyze the structure of the market for such knowledge.

Since the decade of the fifties, there have been significant shifts in both the supply of and the demand for demographic knowledge. Furthermore, the "structure of the market" for the policy utilization of such knowledge in the developing countries seems to have been facing significant changes that may impair the efficiency of its clearance function. This is due to the prevalence of a high degree of socio-political instabilities, the technicalization of demographic knowledge, the introduction of significant technological innovation (e.g., computers) and the presence of national and international institutional uncertainties (e.g., the changing roles and commitments of foreign aid donors). Accordingly, explanation of patterns of demographic knowledge utilization should be viewed in the larger context of social management and needs to probe into the organization and the socio-political structure of society.

a. demographic factors are important components of the structure and dynamics of society;

b. significant social policy problems are an outcome of imbalances between the demographic and non-demographic components of society;

c. such imbalances can be purposefully modified by policy; and

d. it is assumed that policy makers are rational (in the scientific sense) in their decision process, although initial choice of the policy direction may have been based on "faith."

Accordingly, the reason for the inadequate use of knowledge, assuming it to be available and of usable quality, could be the result of either a lack of the assumed agreement on at least one of the first three areas (a-c), or a lack of the assumed rationality in the process of policy formulation and implementation.

Urzua's conceptualization provides a good starting point for the operational classification and specification of the various factors influencing the utilization of demographic knowledge. For example, it is possible to organize the discussion in terms of forces responsible for the production/supply side of demographic knowledge, and those responsible for its demand/utilization. The responsiveness of the supply and demand will depend, among other things, on the "structure" and "efficiency" of the market in which they operate. The type, structure and boundaries of that market may be defined with reference to the socio-political environment and status of society, e.g., the stage of the demographic transition, the level of socio-economic development, the level of administrative/managerial skills, the socio-political milieu, the role of the international system, and the type and cost of the demographic information exchanged. It is evident that some issues or factors may not be easily

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tional migration, an important recent phenomenon (emerging during the decades of the seventies and eighties) for many Asian countries. But the level of coverage, quality, disaggregation, or continuity of this type of descriptive knowledge is sub-optimal in many developing countries' settings, and as discussed below, its predictive power is limited by its interactive nature with the rest of the socio-economic factors--a process that is not firmly established.

Second, demographic changes will have consequences for the socio-economic system. Under non-stationary conditions both the total and sectoral production of output and its utilization will be affected. It is useful, however, to recognize that the behavioral responses of the economic demographic system must make themselves felt through a more general system identity, relating the structure of population change to total and per capita output growth, to illustrate:

$$r_y = [r_Y - r_p] = [\mathcal{J}/\kappa] - [CBR - CDR + NMR] \tag{2}$$

$$r_y = \left[\frac{\mathcal{J}}{\kappa}\right]_t - \left\{\frac{N}{P} \times \Sigma_i \, P_i \times M_i \times F_i - \left[\frac{ID+CD+MD+OD}{P}\right] + NMR\right\}_t \tag{3}$$

where CBR, CDR, NMR = Crude rates of birth, death, and net migration per hundred population

r_y, r_Y = Proportionate rate of growth of production per capita and of total production

$\mathcal{J}, \kappa$ = Aggregate saving/income ratio, and incremental capital/output ratio, respectively.

N = Number of women of child-bearing age in the population

P = Total population

P_i = Among women of child-bearing age, proportion of women in age group i

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knowledge. However, as discussed below, conceptual knowledge on consequences is in the developmental phase.

Third, having identified disequilibria in the socio-economic-demographic system, a development strategy is usually formulated. This is optimally done through the specification of a social welfare criterion $W(P)$, and where social policies, including population policies could optimally be set within this generalized framework of the desired state of social welfare. Here, the full range of demographic knowledge (descriptive, determinants and consequences) is required. It enters in the formulation of specific population and other socio-economic policies and programs.

Fourth, the extent of the instrumental use of demographic knowledge will depend on whether policy makers, given their socio-political milieu, were convinced that demographic forces can be and should be modified by policy and, accordingly, contribute to the reduction of the perceived undesirable imbalances between the demographic and the non-demographic components of society. Clearly, this is partly controlled by the prevailing ideology, but partly facilitated by a minimum knowledge of the determinants of demographic behavior (i.e., fertility, mortality and migration), especially the ability to identify among them those factors that could be manipulated by policy.

Finally, policy interventions and target setting imply the need for evaluating the outcomes of the various socio-economic and population policies. Here also demographic knowledge is essential to measuring the significance of changes in the population and its structure as a denominator in the various indicators and to measuring the fertility, mortality and population distribution impact of these policies. Controlling for the effect of random and exogenous elements, adequately specifying the causal input-output linkages,

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3. *THE THORNY ISSUE OF DEFINING UTILIZATION*

The presence or absence of demographic data or analyses in socio-economic national planning documents may not imply either the use or the non-use of such knowledge. For example, in his extensive review of sixty development plans, Maxwell Stamper (1977, p.9) indicates that a country's omission of one of the demographic parameters may indicate that planners did not have the data; had the data but felt they were not sufficiently important or of the appropriate quality; had the data available but not furnished appropriately on time; or that planners lack demographic skills or are unwilling to make or accept demographic assumptions about the future. Here we are differentiating in the spirit of the new home economics between the purchase of a good and its utilization. Buying meat (a good) provides utility only indirectly as an input into the production of a meal (a basic commodity) that provides direct utility to its consumers. Thus we should not confuse inputs with outputs. But it is possible, as Hofsten (1977, pp.102-104) indicated, that the intention behind the development plan may not be sincere, and, accordingly, the "outputs" are ambiguous.

Plan failure may be due to being over-ambitious relative to available resources, or to the absence of real commitment and effort on the part of the government to its realization. In such a case, there should be no real need or effective demand for the utilization of various types of demographic knowledge. However, the demand for demographic knowledge seems to exist and to have increased during the past two decades under varied settings (Stamper, 1977), including those "where there are only negligible or unrealistic planning activities and where the actual course of development deviated considerably from the original plans" (Hofsten, 1977, p.103). Hofsten (1977)

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population policies was the failure of the population program to reduce poverty! An objective that cannot be achieved through the efforts of the population program independently of the country's total commitment to development. Thus, according to the Commission:

> " . . .after one-and-a-half billion pesos were spent in curbing population. . .(the population program) failed to achieve results. . .All these efforts and all the money spent have gone to waste as the population programs have not in any way yielded positive results in alleviating mass poverty. . . poverty increased from 40% to 80% during the Marcos years. . .(the program) succeeded only in alienating people." (Mita Pardo DeTavero, 1986)

Here, the population program, which is only one of many socio-economic policy "inputs" responsible for the "production" of a desired "social output," i.e., the reduction of poverty, is being blamed for the policy makers' (producers) inability to achieve the target--a failure that may be a result of inadequate specification and implementation of the policy or the lack of political commitment in the first place.

In such circumstances it will be difficult to develop an objective yardstick that measures the extent of demographic knowledge utilization independently of the underlying "objective(s)" of the demand for such knowledge and of the "outcome" of its use. And in many instances, the way socio-economic policy questions are phrased predetermines or limits the scope of their answers (cf. the structure of the nine policy questions in the NAS, 1986 Report, and for a discussion see Demeny, 1986). More specifically, the policy use of demographic knowledge, or for that matter the scope of such knowledge, can be best "assessed" with reference to the specific social criteria underlying such policies. For the previous conceptualization to be operational, active interaction and mutual responsiveness must exist between the suppliers and demanders of demographic knowledge.

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tunity costs, or of the practical feasibility and viability of alternative population policy options, including that of non-intervention.

Demographers seem to move from the "positive" elucidation of "what is," into the "normative" prescription of "what ought to be." This is a healthy sign. It moves demography from its pre-Darwinian stage, in the sense that the latter defined science as nothing more than the collection of facts about nature. A healthy sign as long as the social scientist indicates the value premises underlying the analyses and conclusions.

Integrating technical demography in a social science framework has the benefit of increasing the likelihood that the specification of demographic variables and the development of new methods and concepts become more relevant to the needs of policy analyses. Examples of such fruitful development (see Lee, 1982, and Keyfitz, 1979 and references cited therein for more details) include the decomposition of fertility [due to Henry (1961), Davis and Blake (1956), Freedman (1965) and Bongaarts (1978)], or the development of indirect estimation techniques [due to Brass (1964)]. But the integrity and perceived objectivity of the produced demographic knowledge could be adversely affected if its content or coverage were manipulated to serve the political objectives of some dominant actors in the science-politic relation. Such experience is not uncommon in many countries, including Asian countries. Examples include the selective reporting of demographic knowledge, e.g., the manipulation of census coverage or changing its content for public reporting, or the crediting to the population planning program more than its share in the reported decline in fertility. Such incidents are not uncommon in the policy field, e.g., witness the production of employment statistics to suit political objectives. But in the case of demography, a recent intruder into the science-policy

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demographic knowledge and the extent of its policy use--a commitment that

needs strengthening in most settings in the developing countries. For

example, population projection plays an important role in the preparation of

five year plans. It provides upper and lower boundaries beyond which

demographic trends are unlikely to occur. The implication is that the most

likely event is somewhere in-between--usually a medium projection. But as

Keyfitz (1981, p.590) indicated, policy makers:

> "...cannot derive any help from the notion that each of the projections
> corresponds to a different set of assumptions and that it is up to the
> user to consider the three sets of assumptions, decide which is the most
> realistic, and choose that one. If he actually goes to the trouble and
> has the skill to reflect on the alternative sets of assumptions and
> decide which is most realistic, then he might as well make the
> calculation in addition--that is a relatively easy matter once all the
> assumptions are specified. If on the other hand, as more commonly
> happens, the user looks at the results and takes whichever of the three
> projections seems to him most likely, then the demographer has done
> nothing for him at all--the user who is required to choose on the basis
> of which of the results looks best might as well choose among a set of
> random numbers."

The experience of India during the past three decades or so seems to be

somewhere between these "two Keyfitz extremes." Population estimates prepared

by the census group and presented as the "most likely" forecast of future

trends, turn out to be consistently an underestimate of the actual population

realized by a factor of 6-8 percent. Accordingly, planners, to be on the safe

side, get conditioned to inflate census forecasts by a "safety" factor of

about 30 to 50 million people! (Cassen, 1978).

It is the knowledge about demographic determinants, and the development

and implementation of policy measures based on those determinants to influence

the course of demographic events, that provide the social science content for

demographic analysis. Indeed, there is nothing so practical as good theory,

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and organizational commitment will produce diminishing increments of effective utilization. In the case of formulation or implementation of population policies it is questionable, for example, that additional knowledge derived from more investment in the implementation and analysis of fertility surveys, especially if externally designed and supported, would have a significant effect on its effective utilization if there was no commitment for such policies in the first place. The previous discussion assumes the presence of a "rational" market for demographic knowledge where the value system of those responsible for the production and utilization of such knowledge (including demographers) is independent of its scientific content--an assumption that needs some scrutiny.

4. *THE POPULATION POLICY DEBATE: VALUES IN THEORIES*

The debate about the role of population policies in development planning plays an important part in the production (supply) of demographic knowledge, the demand for its use, and ultimately its actual utilization, especially its policy use. The literature is enormous on the origin and dimensions of that debate. On the eve of the U.N. Bucharest Population Conference, Berelson (1975) in a Plato-type symposium, polarized the debate as a dialogue among three actors: proponents of family planning; advocates of social and development planning; and academics. Berelson's "symposium" succeeded in presenting the main issues of the debate with exceptional clarity, and in illustrating the diversity of views, but lacked the presence of "a Plato," i.e., the role of a moderator or a synthesizer. More than a decade later, and with an increased wealth of publications, including a large number of conferences, the issues are far from being resolved (cf. P. Demeny [1986]; and the Review Symposiums presented in the PDR on The Ultimate Resource [1982], on the World

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[1988] for an attempt to deal with statistical and conceptual estimación
issues).

Accordingly, the current state of demographic knowledge seems to produce
(a) more than one explanation for an observed change in demographic events;
(b) far less consensus in predicting future demographic events; and (c) dis-
agreements regarding the "need" and the "how" for public intervention.
Attention shifted from elucidating the demographic transition as an integrated
system to a more specialized focus, mainly isolated, on selected components.
Accordingly, demography developed its own sub-disciplines, e.g., child sur-
vival, urbanization, reproductive health, international migration, teenage
fertility, with the familiar danger of developing different languages,
defining boundaries, and imperfect communication.

   2. *On mortality:* A large portion of the spectacular mortality decline
in the developing countries that took place during the three decades between
1940 and 1970 seems to have occurred independently of the level of socio-
economic development. The mean life expectancy of the LDCs rose from 38.8
years in 1940 to 59.5 years in 1970, a rate of increase of 1.4 percent per
annum. It is estimated that about one-third of the observed change in life
expectancy during that period can be attributed to the growth of per capita
income, and about two-thirds to a structural change and the importation of
public health measures (Preston, 1980 and Fuchs, 1980). By the mid-1980's,
the pace of the decline in mortality slowed down and significant inter- and
intra-country differentials in the levels of mortality emerged (cf. Gwatkin,
1980; Bulatao and Elwan, 1985). In 1984, the average life expectancy at birth
for the 36 low income countries was 60 years (World Bank, 1986, p.180). China

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exogenous (for a discussion cf. Sirageldin, 1986), created the potential for serious disequilibria between the demographic and the non-demographic elements of the social system. These include, for example, the presence of "demograph-ically-induced" gaps between the supply and demand for labor or for various social services, e.g., education and health. The effect of these disequi-librating forces on the stability of the system, being families, communities or a nation, i.e., its ability to adjust, will vary depending on the level and quality of the society's resource endowment, the flexibility-rigidity of its social and political micro and macro institutions, and its commitment to policies that enhance socio-economic development planning.

As a result, anti-natalist policies emerged as a natural prescription. It became the main focal point of population policies advocated in many of the developing countries, including the two most populous: China and India. In 1983, for example, 88 percent of the 2.3 billion people living in countries of the ESCAP region (South Asia and the Pacific) had government policies aiming to reduce the prevailing rates of population growth (United Nations, 1985, Vol.II, p.162; see also Table A-1). In the decades of the sixties and seventies, demographic research seems to have been closely associated with the diffusion of contraception: from the operational organization of family planning programs to evaluating their fertility impacts. In this process of accelerated social dynamics, new social fertility related issues emerged in the population policy agenda of the developing countries such as teenage pregnancies.

Demography backed with social science research seems to have ignited a practical policy agenda but in the process lost some degree of independence and vitality (cf. Demeny, 1988). Understandable uncertainties regarding, on

Sudan, designed policies that encourage and treat emigration as a supplement to the country's international trade activity (cf. Sirageldin, 1984). More recently, and expectedly, the issue of return migration emerges as a main policy concern (cf. Sirageldin, 1986).

5. *On the experience of the more developed countries:* On the other end of the demographic transition, many industrial countries are increasingly facing serious disequilibrating forces in their socio-demographic structures, albeit in opposite directions. Forces that influence their perceived priorities in the population-development policy domain, and more seriously, effectively influencing the policy agenda of the developing countries in a non-optimal way. The anticipated "golden state," at least in the demographic sphere, where mortality and fertility levels stabilize at lower levels, seems to have a more complex dynamic nature than foreseen, especially in its interaction with the socio-economic system. The "transition" persists! Significant socio-demographic changes, e.g., changes in the role of the family, especially the structure of its intra- and inter-generational social contracts, in the roles and status of women and in the associated increases in the private opportunity cost of childbearing, are asserting themselves as an endogenous self-generating behavior mainly induced by the type of technological change and its rate of acceleration. The road to lower levels of vital rates is neither smooth nor has a clear direction. In the United States, for example, according to Easterlin et al. (1978, pp.18-20), public intervention is called for in the economic-demographic system, since in "...a self-generating mechanism in which, under conditions of high aggregate demand, (where) baby boom leads to baby bust and baby bust to baby boom...the economic fortunes of different generations...are shaped by circumstances beyond their

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seem to emerge. Balancing costs and benefits in reproductive behavior seems to be redistributed on the national and international market place, posing some difficult ethical, distributional and legal questions. Surrogate mothers, mainly low income, emerge as trading the bearing of children for cash paid by prospective "half-foster" parents, mostly from higher income groups (e.g., the Stern-surrogate mother legal case in the USA recently in the courts). The average price (1987) of bearing a "surrogate" child in the USA is $20,000 divided equally between the surrogate mother and a lawyer. The implication of treating children as commodities produced in the market place to parental expected long-term (life) acceptance of and commitment to "the produced child" is yet to be sorted out, socially, ethically and intergenerationally.

On the international level the more traditional pattern of the distribution of reproductive behavior continues. Immigration policies are being considered, with mixed blessings, as a kind of short-term safety net, if not a long-run solution in various industrial countries (cf. Bouvier, 1981, and for the U.S. case, Bouvier and Gardner, 1986).

On the mortality and morbidity side, the transformation of the structure of dependency towards the elderly and the delayed onset of productive and reproductive activities created a complex set of social and health issues, e.g., how to care for the elderly; who bears the increasing cost, intensive in terms of human capital requirement and extensive in terms of dependency duration, of reproducing the new generations; how to cope with the social, economic and health dimensions of teenage pregnancies; or how to deal with sexually transmitted diseases, e.g., AIDS in low fertility situations, where

Fertility and other related socio-demographic and health surveys, they also provide financial and technical assistance for developing population units in Ministries of Planning and provide population training for nationals in and outside their home countries (cf. UNFPA, 1986; Herz, 1984; and the Monitoring Reports of UNFPA, OECD, or World Bank).

Demographic knowledge--its supply structure and demand priorities-- created as a result of such intensified international effort, becomes close to an "international public good"--available universally at no or minimal cost for all individuals (countries) to consume. Its net benefit to policy analyses should be obvious. But in an international system of unequal power of exchange and persuasion, there is no guarantee that such outcome will necessarily be "socially optimal," especially in its structure and distribution. The international system seems to lack the free/equitable voting system necessary to provide the power for its consumer constituency to have a responsible say in the production, distribution or monitoring the "healthy utilization" of such "public" demographic knowledge. However, there are population-related issues that are clearly international in nature. Some may be considered as international public goods. Primary examples include the interrelations between population and the environment; and the consequences of international migration. The role of the international system in bringing these issues to focus and supporting the production and utilization of the necessary demographic knowledge for adequate policy analysis needs strengthening.

The six aspects of recent population trends (past three decades), discussed briefly above, are more or less accepted by policy makers as established "demographic facts." However, it is evident that they do not

process of socio-demographic development: high levels of vital rates are associated with lower levels of modernity, industrialization, or development, and vice versa. Societies have been observed to modernize and simultaneously, as part of the process up the modernity ladder, undergo a transformation of their vital rates.

In an early critical re-examination of the concept of the demographic transition, Ansley Coale proposed three broad conditions as necessary for a society to attain a sustained decline in fertility (Coale, 1973, p.69; see also Teitelbaum, 1975, for a lucid evaluation):

> "...the acceptance of calculated choice as a valid element in marital fertility, the perception of advantages from reduced fertility, and knowledge and mastery of effective techniques of control...Apparently modernization ultimately establishes these conditions."

Although modernization generally underlies such a re-evaluation of the situation, Coale was careful to add that his three conditions may occur in communities with "little" modernity:

> "...there is no convincing basis for asserting that a program of indoctrination in the advantage of health and welfare from reduced fertility would inevitably be a failure in a rural poorly educated population. Acceptance of contraception by national and community leaders would help make rational choice in fertility acceptable." (emphasis added)

It follows from Coale's "guarded" conjecture that a society can bridge the demographic transition and enter the era of low mortality and fertility rates, without experiencing significant change in its socio-economic conditions, i.e., maintaining its traditional environment, where

> "...the economic organization...turns almost wholly about the family, and the perpetuation of the family is the main guarantee of support and elemental security," and where life has not as yet "stripped the family of many functions in production, consumption, recreation, and education." (Notestein, 1953, quoted in Coale, 1973)

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human productivity and well-being, and, accordingly, the generation of·a sustained and effective private and public demand for better health.

The recent record, however, seems to portray a more complex and a somewhat pessimistic picture. Indeed, there has been a significant increase in mortality reduction that is paralleled by a sizeable increase in health expenditure on the national and international levels. That increase was partly generated through improved living standards, but mostly through the impetus of the resultant accelerated rates of population growth. This increase in aggregate health expenditure, and not necessarily in per capita expenditure, coincided with the emergence of socially unacceptable intra-country patterns of the distribution of health status and benefits, and an acceleration in the real cost of health delivery in developing countries. A pattern that seriously threatens the initial gains.

International agencies, committed to the supporting and financing of health care systems in developing countries, became increasingly concerned about these issues. However, it seems that the remedial solutions being considered continue to follow the "standstill" scenario. It seems to concentrate on introducing innovations in medical technologies (cf. UNICEF, 1985), or in management techniques and strategies, to improve the efficiency of the health delivery system (cf. World Bank, 1987) and not as much on the micro and macro socio-economic factors whose change is necessary to endogenize the demand and supply for health output. In some instances, issues of equity and the role of the public sector are being set aside. Proposed reforms call for the privatization of the health system, sometimes under the guise of more efficiency, e.g., user charges or cost-recovery in general, but without

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In its present state, demographic knowledge does not provide a critical assessment of the implied inter- and intra-generational socio-economic net benefits to societies travelling the road of the "standstill" scenario. That knowledge, uncertain as it is, is being used by policy makers nevertheless, sometimes for making some political points, but sometimes with serious consequences to the direction and commitment to existing policies. For example, the apparent recent change in the Filipino Government commitment to its "previous" population policy and program, mentioned earlier, was based partly on judging the program on its ability to reduce the level of national poverty--an objective neither included in its mandate nor within the reach of its operational structure; and partly on the questionable proposition (see discussion below) that:

> "The (then existing) policy is based on a disproven and discredited economic theory: that population pressure hinders economic growth. There is a wealth of statistical evidence that proves that population growth has been a major stimulus for economic development and progress in countries that are now industrialized...The new U.S. doctrine on population states that the most effective solution to the population problem is economic development and social justice." (emphasis added, from the Report of the Filipino 1986 Constitutional Committee, quoted in the address by De Tavera (November 1986)

Policies could be inadequately evaluated if their objectives were ambiguously stated or grossly over-estimated and, accordingly, "were not fulfillable in the first place." Our contention is that the Philippine policy change, just described, is a logical outcome of a "standstill scenario." It is not easy to put empirical content to such scenario. However, an examination of the recent historical experience of socio-demographic change provides some indications of the potential consequences experienced by societies travelling that path.

In the stylized framework of the demographic transition, abstracting from the time dimension and assuming no symmetrical reversal, population

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Tomes, 1976); changes in the psycho-social value of children (cf. J. Fawcett, 1970 and 1972); or in changes in the net value of "inter-generational wealth flow" (cf. Caldwell, 1982). These changes are associated with minimum levels of industrialization, of labor-saving technologies, of acceptance of western modes of modern behavior, and of female education and its market opportunities, where the opportunity cost of time in reproductive activities is rising. The absence of such socio-economic "changes" weakens the private and social support to reduce fertility. It is not evident, however, what the conditions are that bring about a sustained state of industrialization, i.e., whether it could be a consequence of a standstill scenario. It is evident, however, that these economic-demographic processes to be operative require the presence of ·significant structural changes in the social system (cf. Jones, 1985; Sirageldin, 1979). Furthermore, higher dependency, especially at the higher end of the age distribution, combined with low levels of per capita income implies a relatively high level of "demographic investment" (cf. United Nations, 1973, for definition), that could translate into a serious degree of socio-demographic pressure.

To illustrate, the dependency burden of the elderly increases as fertility declines while the familial support for such dependency tends to weaken as family size declines, reducing the efficacy of the traditional network for inter-generational transfers. It would be an error to evaluate the change in the family support system only in terms of changes in numbers, e.g., family or kin size. Equally important are changes in actual or perceived commitments, e.g., the earlier erosion of the social contract. In such circumstances, social policies need to supplement private institutions. Such policies are not costless. They imply sizable, and in the presence of limited resource

group and at the same time prepared itself for industrial take-off, e.g., as fertility declined by 43 percent, China's industrial output as a percent of GDP has increased to 44 percent--a level that is equal to that of many NICs (see Tables A-1 and A-2). But the development of such industrial potential may not necessarily materialize in other developing societies. For example, Sri Lanka--a country that experienced a rapid decline in fertility since the early 1950's--continued to be predominantly rural with a stagnant economy.

One may debate whether the large decline in fertility in places such as Sri Lanka or Kerala has been a consequence of some structural changes that influenced the perceived private net benefit of children, including reducing the costs of fertility regulation (cf. Freedman, 1979; Knodel, 1977; Hull, (1978), but we are left with the uncomfortable conclusion that "we are clearly in a position where we have much less difficulty in 'explaining' fertility declines that already occurred than in predicting where and when future declines will occur" (Jones, 1985). Or the more pessimistic one that ". . . this change in reproductive behavior is undoubtedly the most dramatic in human history and merits the designation 'fertility revolution.' Yet its causes remain unknown (Easterlin and Crimmins, 1985).

The question leaves out, however, the equally perplexing policy issue raised in the present discussion of the "standstill" scenario, namely: what are the socio-economic consequences of such decline on "stagnant" rural economies? Could such societies extract enough surplus, (a) to produce a higher level of human capital with higher productivity, i.e., with enough capital goods, to support the changing structure of dependency, and (b) to continue to provide the family support essential for the welfare of the elderly? Or put more generally, as our earlier discussion of the econo-

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do not necessarily indicate causation. This is true. Insufficient knowledge
about the underlying mechanism should not provide a strong case for a causal
interpretation, e.g., define modernity as the presence of a demographic regime
with low levels of vital rates. Clearly a "standstill" scenario could have
significant policy implications! What is required is careful analyses and
continuous evaluation of policy consequences.

   2. *An invisible hand scenario:* A fundamental question underlying the
previous discussion is whether the existing socio-demographic trends and
policies of the low income-high fertility countries (e.g., countries below the
3 percent GNP per capita growth illustrated in Figure 2) "...suffice to put
(them) on a socially optimal demographic path...all the way to replacement
level?" And, if not, is there a role for demographic knowledge to bring about
better public policies to influence population change? (Demeny, 1986, p.486).
A partial answer to the first question posed by Demeny will probably not be in
the affirmative. Countries such as Bangladesh, Burma, Nepal and Pakistan, or
for that matter most of the states of India, have either a weak or nonexistent
population program, and have not had much success in their income growth
either (see Figure 2). But for some students of socio-demographic change,
both questions do not even need to arise. Rapid population growth should not
cause policy concerns. On the one hand, economic-demographic imbalances
coupled with the young-age characteristic of a growing population provide a
driving force for productive and innovative adaptation, and some even argue
that the total sum of human ingenuity, responsible for "relaxing" the physical
and social constraints that hinder human growth and advancement, is a positive
function of population size. Societies seem to have acquired an eternal self-
regulating mechanism that handles minor disturbances as well as major bodily

cost of such induced unemployment could be tolerated in the context of Thatcher's England or Reagan's USA, where most of the workers affected are covered by unemployment insurance, and the potential unrest of the victims of such "voodoo economics" can be suppressed. More importantly, the causes of unemployment in these advanced industrial economies are not necessarily structural in nature, i.e., unemployment insurance acts both as a social security measure and as an automatic stabilizer.

But these causes of unemployment, in advanced industrial economies, cannot be compared or should not be confused with those existing in developing rural economies experiencing fundamental economic-demographic imbalances, and where unemployment insurance neither exists nor could be fiscally supported. Indeed Adam Smith made explicit conditions for the realization of these optimal social and individual benefits in his celebrated invisible-hand scenario. These assumed conditions, as Demeny (1986) adequately demonstrated, do not necessarily prevail (see also A. Sen, 1987), especially in developing societies where socio-demographic imbalances are significantly apparent.

It is instructive to note that that self-propelling signalling mechanism may also fail in the context of the more developed countries. For example, where the individualistic household neo-classical model of fertility is applied to the present experience of the developed countries, it provides no guarantee for a self-regulating econo-demographic mechanism, i.e., in the absence of public policy intervention. As P. Schultz (1981, p.234) concludes in his analysis based on the neoclassical demand theory of fertility:

> "If technical change and the accumulation of physical capital
> continue to increase labor productivity and wages, and encourage
> further per capita investments in human capital, the price of time
> should continue to increase in the future and contribute further to
> the reduction in fertility. Consequently, the price-of-time
> hypothesis that drives the (neo-classical) demand theory of fer-

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result in negative rates of population growth (a decline in absolute size), but with higher content of human capital--the celebrated substitution of quality for quantity, e.g., one hundred people with a high content of human capital are equal to two hundred with half that endowment. However, demographic accounting tells us that a significant decline in absolute numbers is not likely. For example, it is doubtful that the present European population size will return to its 1940 lower level even if the below-replacement fertility level of the 1985 base persisted (with the exception of East Germany it might take several decades to return to that earlier lower level, e.g., as long as 45 years for Austria and 134 years for France [cf. Day, 1988]). But in the context of an invisible hand scenario with a world of rational expectations, a new socio-demographic solution (regardless of its outcome!) should be viewed as the "normal" outcome of "market behavior" and, as a matter of conceptual consistency, should not cause any reason for alarm or policy concern.

But this is clearly not the case. There are inter- and intra-generational losers and gainers in this socio-demographic dynamics. The optimality of demographic behavior on both ends of the demographic transition is not guaranteed and calls for policy concerns and interventions. But in doing so, the rationale for interfering with the "clearing function" of an alleged "perfect" socio-demographic market with "rational" expectations must be stated explicitly, objectively and consistently according to the rules of the invisible hand policy game! It is evident that self-regulation in the socio-economic-demographic system is neither automatic nor costless. The system, whether industrial or traditional, must be continuously monitored, evaluated, and adjusted. Demography serves both as an input (tool) and as an objective (target) in such policy analysis.

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between individual countries and the collective universal welfare becomes more difficult to sort out and resolve. Furthermore, whether that game has a positive-sum solution when played on a worldwide scale is yet to be proven and its socio-political consequences analyzed.

On balance, the on-going process of integrating technical demography in a social science framework has been a healthy process. It also implies that additional investment in the hard core of demographic knowledge, especially in making it more accessible to the needs of policy analysis, will continue to yield positive returns. For example, demographic analyses provide boundaries for potential changes in the age structure, in the structure of fertility, and in other demographic conditions, thus reducing the unnecessary heat of "alarm-ists" type policy discussions.

Table 1. Bangladesh: Basic Data

	1973	1983
Population (in millions)	74	96
Area in sq km	141,131	144,000
Density in sq km	500	666
Density per sq km of arable land	840	1,117
Birth rate per 1,000	47	42
Death rate per 1,000	17	16
Natural rate of growth of population per 1,000	30	26
Rate of growth of population per 1,000	29	25
Total fertility rate per woman	6.0	6.0
Life expectation at birth - years	48	50
Infant mortality rate per 1,000	140	132
Maternal mortality rate per 1,000	30	
Percentage of population rural	94	83
Percentage of population below 15 years	45	45
GNP per capita US$ at 1970 market prices	72	140 (current)
Unemployed (% of labor force)	30	32
Labor force engaged in agriculture (%)	78	74 (1980)
Primary school enrollment (% of that school age group)	56	62
Percent of population with adequate calorie intake (1962-64)	54	84 (1981)
Percent of population with adequate per capita protein intake (1962-64)	40	
Population per physician .	10,000	7,810 (1980)
Population per staff nurse	80,000	22,570 (1980)
Doctor:nurse ratio	8:1	3:1

Administrative Units	Number	Average Population in each (in millions)
Division (Region)	4	18.50
Districts	19	3.08
Sub-divisions	62	1.20
Thanas	413	0.18
Unions	4,300	0.018
Villages	65,000	0.0011

Source: World Bank 1976, 1985

little influence and percolate only slowly; it is hard for all to see how life can be improved.

"In the World Bank Atlas[1] only Rwanda (only Ethiopia in 1985) was tentatively estimated to have a smaller _per capita_ income than Bangladesh; another two countries were bracketed with it, but none of these has anything like the population of Bangladesh. Only Indonesia has a population larger than that of Bangladesh and a _per capita_ income not much greater; but Indonesia increased her _per capita_ income by over 4 percent per annum in the period 1965 to 1972 while _per capita_ income in Bangladesh declined. Since then Indonesia has gained significantly from its new oil wealth and from improved terms of trade while Bangladesh's relative position deteriorated markedly; war and its aftermath held back any increase in real income; population has continued to increase and real income to fall.

"All this would not matter if Bangladesh were rich in natural resources and under-populated, if it were effectively governed and if its social order and economic system were geared to growth, but none of these things obtain. The terrain, in relation to the number of people that inhabit it, is inhospitable and often hostile. It is dominated by mighty rivers which in depositing silt both form and flood the territory over which they flow; in the monsoon the rainfall is intense and unpredictable; the one certainty is that much of the land will be covered with water and loss of life and interruption to production from flooding may be considerable. Even more dangerous are the cyclones which unpredictably can inundate vast areas of land and cause great damage and loss of life. The cyclone of 1970 killed 200,000 people and their animals and devastated much agricultural land.

"Nothing short of a continuing massive injection of aid is likely in present circumstances to get the economy off the ground sufficiently quickly to give real impetus to the development effort. It is not easy to see how donor countries can be persuaded to maintain an effort on the scale needed. Bangladesh is not a country of strategic importance to any but her immediate neighbours. Politically, perhaps its only importance lies in its availability as a possible test bench of two opposing systems of development, collective and compulsive methods on the one hand, and a less fettered working of the private enterprise system on the other. It might be considered worthwhile by some countries to give aid to demonstrate the power of one or the other system, but it can scarcely be felt that large gains are likely to result from such an exercise, to Bangladesh or to potential contestants."

(Numbers in parentheses refer to data for 1983-84, World [1985]).

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[1] Published in 1974

distinction coincided with religious differentiation and jointly influenced

Bengali society. A Bengali ethnic unit emerged irrespective of the regional

and religious distinction approaching a nationalistic status as early as the

sixteen to eighteenth century (Mukherjee, 1973, p.401). The view about the

supremacy of Bengali nationhood even above religious affiliation is clearly

stated by Abdul Majeed Khan (1960):

> The whole thesis about the Bengali Muslims centered round two alterna-
> tives: either they were low caste Hindus converted to Islam, or they
> were immigrants, Mughal, Syeds, Pathans or at least Shaikhs. The third
> and possibly the more correct assessment, namely that they were essen-
> tially neither but a distinct cultural entity could never occur to any
> one. Bengali soil and Bengali blood are admittedly of innumerable
> origins but they are distinct identities in themselves. History of the
> growth and development also made the Bengali culture a distinct culture
> and the people a distinct people...So long as the traces of peculiar
> origin are preserved the immigrants will remain alien residents in
> Bengal rather than become people of Bengal.

However, during the nineteenth century, socio-economic differentiation

took roots in religious growth. Thus, according to the 1871 census, quoted in

Majeed Khan (1960):

> Hindus, with exceptions of course, are the principal zamindars, lukdars,
> [owners of large subinfeudatory estates], public officers, men of
> learning, moneylenders, traders, shopkeepers and [are] engaging in most
> active pursuits of life and coming directly and frequently under the
> notice of the rulers of the country; while the Musalmans, with excep-
> tions also, form a very large majority of the cultivators of the ground
> and of the day labourers, and others engaged in the very humblest forms
> of mechanical skill and of buying and selling.

The "middle class" that developed in Bengal by the end of the nineteenth

century was composed predominantly of Hindus. Yet the "Bengali" identity

remained. According to Mukherjee (1973, p.404):

> In 1905, there was such a powerful movement against the British proposal
> to divide Bengal administratively into East and West that the proposal
> had to be hastily withdrawn. It may be that the intercommunity con-
> flict, now in the open, failed to lead to a decisive rupture of Hindu-
> Muslim relations because anti-British stances (displayed mostly by
> Hindus) during the Sepoy Rebellion of 1857, as well as the growing
> national movement from the 1890s on, had led the rulers to shift their

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needs, e.g., food, clothes, shelter, education and health); guaranteeing employment; and checking the population explosion, among others. These issues reflect the main concerns of planners since the 1970s and will be examined briefly from the perspective of the implied demand for demographic knowledge. *Population Concerns and Policies:* The official document spelling out the First Five-Year Plan affirms population control as one of its priority concerns. It declared that "no civilized measure would be too drastic to keep the population of Bangladesh on the smaller side of 150 million for the sheer ecological viability of the nation (cf. Demeny, 1975; and UNFPA, 1978 for a discussion of the FFYP and the SFYP). Efforts have not been a success story, however. The population problem of Bangladesh is nowhere near solution. During the circumstances of the seventies the most likely check to population growth was perceived as "...famine possibly followed by some reaction along the lines of the irish Model." There is little reason to think that a steady and sustained increase in incomes will act fast enough to stem the continued increase in people. This has not materialized during the past two decades. Nor is there any reason to suppose that current trends will change direction in the near future. It is doubtful that the approaches so far attempted in Bangladesh, or for that matter in the Indian sub-Continent, to provide a balance between population trends and resource development, are likely to succeed in their present form.

There is no shortage of ideas in the parts of the successive Five-Year Plans devoted to family planning but little that gives confidence that such ideas can be put into effect. It is hard to judge whether the measures delineated on paper are really capable of being translated into action, especially in the remote (in the sense of difficult accessibility), albeit

urban areas, the rural to urban migration cannot act as a safety valve. For example, in spite of rapid urbanization, the availability of arable land per rural family would decline from 2.1 acres at present to 1.8 acres in 1993, even with the optimistic fertility scenario. The clear implication is that the increases in agricultural production which were achieved in the seventies and early eighties will only buy Bangladesh a little more time to bring its rate of population growth under control. The "population-technology-push" scenarios of Boserup or J. Simon mentioned earlier are clearly beyond the objective reality of Bangladesh.

Urbanization and Circulation: Assuming an increase in the percentage of urban population from 6 percent in 1965 to 22 percent in 1993 (17 percent in 1983), the urban population would increase 15 times at a minimum from over 4 million in 1965 to about 25 million by 1993, an increase of 20 million population or a minimum of over 3 million families. This has been the pattern in the recent past. For example, the rural-urban transfer accounted for 11.1 percent of the rural natural increase and for 55.4 percent of urban growth during the period 1961-74 (Kosinski and Elahi, 1985, p.10). With the present situation of overcrowding in the poor dwellings in urban areas, absorption of numbers of this magnitude by cities in the future (particularly Dhaka where 40 percent of the urban population resides) is unthinkable (UNFPA, 1978). It is estimated that the capital cost for housing and public services of minimal urban accommodation for 3 million additional families would be about $430 million assuming $1,300 to be the urbanization cost per family. This would amount to over 3.5 percent of the 1984 GDP.

Unemployment: The First Five-Year Plan assumed a decline in unemployment from 30 percent at present to 25 percent in 1978 with a labor force of 29.4

would recede further. However, actual performance was far below the expected, and it seems that, even with an optimistic performance, the situation would not improve much. For example, if Bangladesh succeeded in improving significantly on the past and achieved a growth rate of GDP per capita of 4 percent per annum over the next 30 years, it would mean only a per capita income of about $600 at the end of the period, i.e., by the year 2015, assuming more than a moderate decline in the rate of population growth--an optimistic scenario since the realized average annual growth rate of GNP per capita was about 0.6 percent during the recent past, 1965-84 (see Table A-1 and World Bank [1986]).

For the vast majority of the rural population, living standards declined in absolute terms during the decades of the sixties and seventies. It is not true, however, that the income of all groups fell. It is the combination of a very unfavorable average resource endowment and a high degree of inequality that is mostly responsible for the concentration of extreme poverty in Bangladesh. The rise and persistence of poverty cannot be explained by demographic factors alone. The process of increasing impoverishment has been examined extensively (cf. A. R. Khan, 1977). Policy concerns are with both levels and differentials in life quality and chances.

Population and Development Planning: Although the Government of Bangladesh perceives the population problem within the broader context of socio-economic change, little is done to analyze and consider in depth the sectoral conse- quences of demographic trends, e.g., on consumption and investment; employ- ment, education, health, housing, social welfare, the increased participation of women in the development process, urban growth, agricultural productivity or government services. Also, it seems that not enough attention was given to

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birth and death rates is a basic handicap and makes the difficult task
of the national population programme even more difficult."

One may hardly disagree with the conclusion that the system of demo-
graphic data needs strengthening, but may question that present knowledge
about the dynamics of the demographic and socio-economic system in Bangladesh
is not adequate for providing direction for policy formulation and implementa-
tion.

The statistical data system of Bangladesh was reorganized according to a
Government order in August 1974 to allow for greater centralization and
quality control as well as raising its status to a division within the Central
Government hierarchy.

Specifically, the order provided for the amalgamation of the Bureau of
Statistics, the Bureau of Agricultural Statistics, the Population Census
Commission and the Agricultural Census Commission into one organization, the
Bangladesh Bureau of Statistics (BBS). Statistical cells, 14 in number, in
various ministries and departments would continue to function in order to meet
the internal data requirements of their respective agencies. This reorgan-
ization was followed up three years later, in August 1977, by the establish-
ment of the National Statistical Council for the purpose of developing a data
base for development planning. The Council, which has 18 members from
government agencies and non-governmental institutions, is chaired by the
Member of the President's Council of Advisors in Charge of the Ministry of
Planning. The Secretary, Statistical Division of the Planning Commission and
Director-General, Bangladesh Bureau of Statistics, is Vice-Chairman of the
Council. The Council's functions include acting as the high-powered policy-
making body in the field of statistics at the national level; coordinating the
statistical programs of all the ministries, departments and agencies under the

sufficient for policy implementation. However, in the late 1970's no compre-
hensive program existed in Bangladesh for preparing the system of population
projections needed for development planning. Various agencies and institu-
tions (including the Bangladesh Bureau of Statistics and the research,
evaluation, statistics and planning (RESP) unit of the PCFP Directorate)
prepared or proposed to undertake projections of total population by sex and
age. However, according to a Need Assessment Mission (UNFPA, 1978) more
population projections were needed to meet the demands of socio-economic
planning on the sectoral and regional levels. It seems that according to that
UN Mission: "...despite the emphasis on the progressive integration of
population policies in development planning manifest in the national popu-
lation policy outline, no institutional arrangements exist at this time in
Bangladesh for promoting a fuller consideration of population factors in
development planning along the lines indicated above and for the coordination
and undertaking of action-oriented research in this area."

International agencies play a key role in almost all facets of socio-
economic activities in Bangladesh, including the supply and utilization of
demographic knowledge. For example, in the First Five-Year Plan, real GDP was
expected to grow by 4.0 percent per year based on an investment plan (public
and private of 10.5 percent of GDP) of which 8.4 percent is based on foreign
aid inflow. In the following Two-Year Plan there were 14.8 percent for
investment and 10.9 percent for foreign aid inflow. Domestic saving was not
expected to exceed 4 percent (World Bank, 1979, p.27). It is not evident
whether current efforts, deficient as they are, could be maintained in the
absence of such external support. (For an inventory of recent international
support for population activities in Bangladesh [1984/85] see UNFPA, 1986.)

The Hindu religious community is characterized by the existence of the caste system. In the past each of these caste groups had a well-defined social status and economic function in the society. The castes were closed social groups with a predominance of intra-caste marriage and social contacts. The so-called scheduled castes and tribes, constituting at present together 22 percent of the total population, used to suffer severe social discrimination. After the independence, the Indian government made great efforts to reduce the social disparities and to make the economic opportunities more equal for members of all castes. Nevertheless the caste differentiation remains a living and influential fact of the social life of many parts of India.

In consequence of this cultural and social differentiation, it is difficult not only to implement policies that might be efficient versus all the different cultural and social groups, among others simply in consequence of the difficulties of communication, but also it is difficult to formulate general statements about the demographic, economic and social conditions and their tendencies of development of India, as these conditions and tendencies are very varied by region, denomination, cultural background and social groups.

The level of per capita national income is higher in India than in Bangladesh and increased at a moderate, but considerate rate of 1.7 percent per year since 1955. The green revolution resulted in an important increase of yields at least in parts of India, so that the earlier recurrent famine crises could be avoided in recent years. Therefore the economic situation is less desperate than in Bangladesh.

Nevertheless two grave concerns may be mentioned. First, the growth of per capita income was not evenly distributed in all social strata; it seems

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that income inequalities increased, so that the more well-to-do parts of the society profited more from the economic development than the poorest strata. Second, it seems doubtful whether a similar rate of growth of the national income could be maintained in future decades, while it might be hypothesized that the rate of growth of the population will decline only very slowly.

DEMAND FOR DEMOGRAPHIC KNOWLEDGE: MAIN ISSUES

The total population of India has virtually doubled since independence. The growth rate of the population did not decline in spite of the important efforts of population policies to reduce the growth rate.

In terms of the population growth rate the regions and states of India are strongly differentiated. In the states of Kerala, Orissa and Tamil Nadu the growth rate declined to a significant degree; the states of Gujarat, Haryana, Madhya Pradesh and West Bengal experienced slight declines, while the growth rate increased in the states of Andhra Pradesh, Bihar, Karnataka, Punjab, Rajasthan and Uttar Pradesh. On the whole the growth rate of population declined in 8 of the 14 major states of India, accounting for 46 percent of the total population of India in 1981.

The apparent failure of India's rate of population growth to decline was caused essentially by the fact that the death rate declined parallel with the birth rate. The regional differences of the growth rate were caused by differences in the rates of decline of the death and birth rate.

The most striking demographic change since the 1920's has been the dramatic fall of the death rate from about 45 per thousand in the 1920's to about 15 in the mid-1970's. Since the mid-1970's the decline of mortality has slowed down. The decline was caused most of all to the public health programs, among others those reducing the incidence of malaria.

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THE SUPPLY AND UTILIZATION OF DEMOGRAPHIC KNOWLEDGE

In spite of the difficulties caused by the size of the population, the cultural diversity and the low level of economic development, India has a relatively very well developed system of demographic statistics.

The censuses, conducted since 1881 in 10-year intervals, provide the basic information, not only on the number of population but also on fertility levels, that can be estimated from age distribution data. The 1981 census contained data on current and retrospective fertility.

The registration of vital events was introduced in the last decades of the 19th century. It did not cover, however, the total population and placed more emphasis on obtaining information on deaths and causes of death rather than on other vital events.

After 1951, with the realization that population growth was very rapid, a need was felt to have complete and correct information on births and deaths. At present the compulsory registration of births, deaths and still-births extends to the whole of India. The coverage, however, is still considered to be incomplete, especially in poor rural areas of some states.

In order to have more exact information a sample registration system was initiated, first on a pilot basis in some states, and was expanded in 1971 to almost the entire country. It combines a continuous observation of vital events with a series of retrospective surveys. The continuous registration is done by an enumerator, preferably the local school teacher, and the six-monthly surveys are done by a full-time supervisor. This sample registration system has become the most important source of demographic knowledge. In some states, nevertheless, it is considered that sampling and non-sampling errors impair the quality of the data.

approach. Motivation by the mass media and by the health staff was incor-

porated.

A Department of Family Planning was created in the Ministry of Health

and Family Planning in 1966, and the IUD was introduced into the program.

However, this new approach again did not bring the expected results. After an

initial period of encouraging response, the IUD became less acceptable because

of its perceived side-effects. In the following period sterilization was

emphasized as one of the main proposed methods of family planning and cash

incentives were given to acceptors. In spite of all these efforts the

population growth rate between 1961 and 1971 failed to decline, nay it was

estimated to be somewhat higher than in the previous decade.

This again led to a reassessment of the program. A new National

Population Policy was announced in 1976, aiming at a "direct assault on the

problem of population." The measures envisaged included: raising the minimum

age of marriage to 18 for brides and 21 for grooms; increasing the levels of

education of women; spreading small family size values; encouraging voluntary

organizations to participate in family planning activities; and providing

incentives for individuals, groups and communities to adopt family planning.

During the period of national emergency, sterilization was given

priority. 8.3 million sterilizations were performed in 1976-1977, allegedly

in some or many cases also without the full consent of the acceptors. The

sterilization program was considered outrageous by important parts of the

population and was most probably one of the factors of the election victory of

the opposition parties in 1977. The new Janata Government reversed the policy

of sterilizations and formulated a new Population Policy in 1977, based on a

couples. The possibility of upward mobility and the prospect of pauperization, e.g., might be important factors motivating families to have fewer children. In the poorest strata, in the scheduled castes and tribes, however, these prospects are realistically evaluated as almost nil and a higher number of children might even contribute to defend parents from pauperization.

It was noted also that demography is at present unable to provide a reliable explanation of the factors of fertility; explanations emphasizing the knowledge and availability of birth control methods, explanations based on economic factors and explanations emphasizing cultural factors, among others religion, are competing with each other and lead obviously to rather different recommendations for policy. Therefore, as Desai (1985) stated, "there is no evidence that our insights have acquired depth in an explanatory sense which may help the policy maker to improve his policy design." He concluded that "it is population studies that matter and not technical demography, however sophisticated it may be. Demography is in essence a kitty of tools, techniques, methods, paradigms, models and constructs." You can draw scenarios and stimulate structures and compositions with the whole gamut of sophisticated rates, ratios, matrices, gradients and what have you. They may help us to gain insight, to understand a situation, but the more sophisticated we become in the use of tools, the less knowledgeable about substantive issues we are likely to become. Therefore, one of the important conditions for successful use of demographic insights in policy making is to maintain the simplicity of expression of these insights."

Desai added that "demographic knowledge must have wider connotation than mere quantitative analysis of population, population change and its components. What lies behind the changes in the components in the fields, say

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Indonesia and from the Philippines, than in Sarawak (2.4 percent) and in Peninsular Malaysia (2.2 percent). The data and most of the statements in the following refer to Peninsular Malaysia.

The specificity of Malaysia consists in its population's very clear division into three ethnic groups. Peninsular Malaysia's population was 55 percent Malays, 34 percent Chinese, 10 percent Indians and 1 percent of other ethnic origin. The ethnic distinction is strengthened by religious differences: 99 percent of the Malays belong to Islam, 56 percent of the Chinese belong to Buddhism and 39 percent of them to Confucianism, and 84 percent of the Indians belong to Hinduism (Saw, 1988).

The ethnic groups are also socio-economically differentiated: the Malay population is predominantly rural and agrarian; the chinese are engaged mainly in commerce, industries and services, and live mostly in urban areas; a large part of the Indians are employed as wage laborers on agricultural plantations.

The ethnically mixed population developed mostly during the British colonial rule. The immigration of Chinese and of Indians was stimulated and organized by the British in order to have sufficient manpower in tin mining and on the plantations. Since 1956, the international migration balance of the Chinese and Indian populations is negative, i.e., they experience a loss in consequence of emigration, while the balance of the Malaysian population is slightly positive.

While Bangladesh and India belong to the low income economic group, Malaysia belongs to the upper middle income group according to the World Bank classification. The growth rate of per capita national income since 1960 was considerable. Consequently the level of per capita income was estimated to be 7 times higher than in India and more than 13 times higher than in Bangladesh.

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DEMAND FOR DEMOGRAPHIC KNOWLEDGE: MAIN ISSUE

In the decade 1947-1957 the yearly growth rate of the population of Peninsular Malaysia was 2.5 percent and only in the 1970's did it decline to 2.2 percent. In consequence, with the usual patterns of demographic transition the decline of the death rate preceded the decline of the birth rate. Already in the mid-1930's the death rate was as low as around 20 per thousand and with the exception of a high mortality in the war years of 1943-1945 it declined continuously, reaching very low levels in the 1970's partly in consequence of the young age structure. Fertility began to decline slowly in the late 1950's and then more rapidly in the 1960's until the first half of the 1970's. By 1975 the decline of fertility seems to have been stalled among the Malays and slowed down also among the Chinese and the Indians.

The ethnical fertility differences have been reversed since the 1950's:

	Total Fertility Rate	
	1957	1982
Malays	6.0	4.6
Chinese	7.1	2.9
Indians	7.9	3.2

It could be argued that these ethnical fertility differences are obviously caused by the different socio-economic composition of the ethnical groups, but the influence of other factors, like religion, cannot be excluded.

An important factor in the decline of the total fertility rate was the important increase of the age at marriage (Saw, 1988):

	Singulate mean age at marriage of women	
	1947	1980
Malays	17.2	23.2
Chinese	20.4	24.9
Indians	17.4	24.1

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conducted on population matters. The National Population and Family Development Board has been actively engaged in conducting, promoting and coordinating population research. A Population Studies Unit has been established at the University of Malaysia. By 1980 more than 800 research papers and reports on population issues were published.

In view of the changes of the governmental population policies, an intriguing question is how much of this demographic knowledge was used in policy making.

Before 1960, in spite of the availability of a wealth of reasonably accurate population data, the government did not use demographic knowledge as its attitude toward population growth was essentially indifferent. Family planning activities were going on in some parts of the country since 1953 on a voluntary basis without the financial support of the government. The government was silent on population policy and family planning because of the allegedly controversial nature of these questions in a plural, i.e., multi-ethnic, society.

Economic problems around 1960 contributed to the change of official attitudes. Natural rubber production experienced a crisis in consequence of the growth of synthetic rubber industry. The per capita income actually declined in Malaysia between 1960 and 1962. The high fertility among the disadvantaged social groups contributed to growing income differences. Unemployment increased.

These economic difficulties spurred the government to adopt a policy aiming at the decline of fertility. The Economic Planning Unit in the Prime Minister's Department expressed grave concerns over the adverse effects of rapid population growth in the economic development plan in 1963. It was

Malay political power. Several leaders had therefore urged the Government to review its family planning policy. Nevertheless, with the open support for the family planning programme by non-Malay political parties, and the assurance that the Malays would remain a majority, even with family planning, the ethnic-political issue was soon relegated."

The Fourth Malaysia Plan (1980-1985), however, showed a shift in emphasis. Statements on the adverse economic effects of a rapid rate of population growth were absent from the plan. Instead the emphasis was on manpower planning and the need to upgrade the quality and productivity of the labor force. On the basis of the optimistic economic outlook for the future and the expected deceleration of population growth, a reduction of the unemployment rate, nay the possibility of the emergence of labor shortages, was envisaged.

Prime Minister Mahathir Mohamad completely reversed the goals of population policy in an address to the United Malays National Organization general assembly: "...Malaysia's population is relatively small and the nation has the capacity to generate wealth that will support a much larger population. The domestic market is relatively small and this has also put constraints on the development of industries. Recognizing that a large population constitutes an important human resource to create a larger consumer base with increasing purchasing power to generate and support industrial growth through productive exploitation of national resources, Malaysia could, therefore, plan for a larger population which could ultimately reach 70 million."

really big country among the "tigers" of Asia having achieved a very rapid

economic development from an underdeveloped to a developed economy. It

achieved this in spite of some very disadvantageous conditions. It is not

only very densely populated and rather poor in natural resources, but in

addition, apart from Germany, which was defeated in the Second World War,

Korea is the only country of the world which remained as a victim of the war

divided into two parts between which there is indeed very little contact. It

suffered also a devastating war in 1950-1951.

DEMAND FOR DEMOGRAPHIC KNOWLEDGE: MAIN ISSUES

　　After the Korean war, the government implicitly followed a pro-natalist

policy to preserve national power and military strength. During the 1950's

family planning activities were undertaken by voluntary agencies.

　　An explicit population policy was initiated by the government in 1962.

In the beginning family planning programs were emphasized in order to prevent

the anticipated explosion of population that might have been eventually caused

by the baby boom of the postwar years, parallel the period of rapid economic

growth began. The total fertility rate declined in the following two decades

from 6.0 in 1960 to 2.6 in 1983. Mortality declined similarly but at a less

rapid rate. In consequence the rate of population growth declined from 3.0

percent in 1960 to 1.6 percent in 1983. It would be difficult to ascertain

exactly how much of the decline of fertility was due to the rapid economic and

social development and how much was due to the family planning program.

　　It is projected that the population of the Republic of Korea will

stabilize around 60 million by 2050. Although there are still several adverse

factors related to population growth, like non-preference, no further increase

in the age at marriage (23.7 years for women in 1980), entry of the baby boom

cohorts to the prime childbearing ages, slowing down of the decline of fertility, mortality and population growth rates, the main problem in the field of population is no longer the rate of growth but rather the very high rate of urban growth, first of all in the Seoul Metropolitan area.

The total population of Seoul was 2.45 million in 1960 and 8.92 million in 1983. The second major urban concentration is Pusan. The total urban population increased 3.1 times in the period from 1960 to 1980, while the total population of the country increased 1.5 times. The urban areas absorbed about 15 million people, while the total population increase during that period was only 13 million, i.e., 2 million less. In 1980 the population of Seoul amounted to 23.3 and that of Pusan to 8.4 percent of the total population of the Republic of Korea.

Thus it might be stated that while the policy of controlling the growth of the population might be considered successful, the population distribution policy has not been successful. It might be conjectured that in at least some countries having attained an advanced phase of the demographic transition, the problem of population distribution, the very rapid rate of urbanization, the growth of one or of several megapolises replaces population growth as the main demographic problems.

THE SUPPLY AND UTILIZATION OF DEMOGRAPHIC KNOWLEDGE

The Republic of Korea has well developed demographic statistics and several research institutions and university departments providing information of demographic issues. This demographic knowledge seems to have been well utilized in the policies aiming at a decline of fertility and of the growth rate of population. The utilization was less successful in the formulation and implementation of the population redistribution policy.

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These conclusions by Kim (1985) point to the fact that the utilization of scientific knowledge in planning and policy implementation depend to a great extent on the general characteristics of the political system, i.e., on the authoritarian versus democratic features of the political decision mechanisms.

Boserup, Ester (1965). _The Conditions of Agricultural Growth: The economics of agrarian change under population pressure_. London: Allen and Unwin.

Bouvier, Leon (1981). _The Impact of Immigration on U.S. Population Size_. Population Trends and Public Policy 1. Washington, D. C.: Population Reference Bureau.

Bouvier, Leon and Robert Gardner (1986). Immigration to the U.S.: The unfinished story. _Population Bulletin_ 41(4).

Brass, William (1964). The Construction of Life Tables from Child Survivorship Ratios. _IUSSP Conference Proceedings_, v.1:294-301. Liege: IUSSP.

Buiter, W. H. (1980). The Macroeconomics of Dr. Pangloss: A critical survey of the new classical macroeconomics. _Economic Journal_ 90(357):34-50.

Bulatao, R. and Ann Elwan (1985). Fertility and Mortality Transition: Patterns, projections and interdependence. _World Bank Staff Working Paper 681_. Washington, D. C.: World Bank.

Burnell, P. (1986). _Economic Nationalism in the Third World_. Boulder, Colorado: Westview Press.

Caldwell, John (1982). _Theory of Fertility Decline_. London: Academic Press.

Cassen, Robert (1978). _India: Population, economy and society_. New York: Holmes and Meier.

Chanda, Ramaprasad (1916). _The Indo-Aryan Races_. Bengal: Varendra Research Society.

Chandrasekhariah, K. (1986). Urban Sociology of India: Perspective and research needs. In: P.K.B. Nayar (ed.), _Sociology in India_. Delhi: B. R. Publishing Company, pp.186-198.

Coale, Ansley (1973). The Demographic Transition. _IUSSP Conference Proceedings_, v.1:53-72. Liege: IUSSP.

Coale, Ansley and Edgar M. Hoover (1958). _Population Growth and Economic Development in Low-Income Countries: A case study of India's prospects_. New Jersey: Princeton University Press.

Coale, Ansley and Susan Watkins (1986). _The Decline of Fertility in Europe_. New Jersey: Princeton University Press.

Cuca, Roberto (1979). Family Planning Programs: An evaluation of experience. _World Bank Staff Working Paper 345_. Washington, D. C.: World Bank.

Davis, Kingsley and Judith Blake (1956). Social Structure and Fertility: An analytic framework. _Economic Development and Cultural Change_ 4:211-235.

Fuchs, Victor (1978). Comment on article by Samuel Preston. In: Richárd Easterlin (ed.), Population and Economic Change in Developing Countries. Chicago: University of Chicago Press, pp.348-351.

Gelbard, Aileen, et al. (1986). Westinghouse Population Policy Update: Burma. Maryland: Westinghouse.

Gwatkin, Davidson (1980). Indications of Change in Developing Country Mortality Trends: The end of an era? Population and Development Review 6(4):615-644.

Henry, Louis (1961). Some Data on Natural Fertility. Eugenics Quarterly 8(2):81-91.

Herz, Barbara (1984). Official Development Assistance for Population Activities: A review. World Bank Staff Working Paper 688. Washington, D. C.: World Bank.

Hofsten, Erland (1977). Demography and Development. Stockholm: Almqvist and Wiksell International.

Hull, Terrence (1978). Where Credit is Due: Policy implications of the recent rapid fertility decline in Bali. Paper presented at the Annual Meetings of the Population Association of America, Atlanta.

Jones, Gavin (1985). Review of the Integration of Population and Development Policies and Programmes in Asia. In: ESCAP Asian Population Studies Series 58. Third Asian and Pacific Population Conference. Colombo: ESCAP.

Kamaluddin, Rustian (1984). The Population of West Sumatra: A profile, trends and projections. Indonesian Journal of Demography 11(21):49-71.

Keyfitz, Nathan (1979). The Limits of Population Forecasting. Population and Development Review 7(4):579-593.

_____ (1982). Population Change and Social Policy. Cambridge, Mass: Abt Books.

Khan, Abdul M. (1960). Research about Muslim Aristocracy in East Pakistan. In: Pierre Bessaignet (ed.), Social Research in East Pakistan. Dhaka: Asiatic Society of Pakistan, pp.21-22.

Kim, K. W. (1985). Population Policy Formulation and Evaluation: The case of Korea. Paper presented at the IUSSP Seminar, Bombay.

Knodel, John (1977). Age Patterns of Fertility and the Fertility Transition: Evidence from Europe and Asia. Population Studies 31(2):219-249.

Kosinsky, Leszek and K. Maudood Elahi (eds.), Population Redistribution and Development in South Asia. Boston: D. Reidel.

Phillips, J. F., R. Simmons and M. A. Koblinsky (1985). Bureaucratic Transition: A paradigm for policy development in Bangladesh. Paper prepared for the Seminar on Societal Influences on Family Planning Program Performance of the IUSSP, Jamaica, April 10-13, 1985.

Popper, K. (1959). The Logic of Scientific Discovery. London: Hutchinson.

Population and Development Review (1982). Review Symposium on The Ultimate Resource, by Julian Simon (1981). PDR 8(1): 163-177.

_____ (1985). Review Symposium on The World Development Report (1984). PDR 11(1):113-138.

_____ (1986). Review Symposium on The Decline of Fertility in Europe. PDR 12(2):323-340.

_____ (1986). Review Symposium on The National Academy of Science Report on Population and Development. PDR 12(3):563-586.

Preston, Samuel (1978). Causes and Consequences of Mortality Declines in Less Developed Countries during the Twentieth Century. In: Richard Easterlin (ed.), Population and Economic Change in Developing Countries. Chicago: University of Chicago Press, pp.289-341.

Robinson, Warren and David Horlacher (1971). Population Growth and Economic Welfare. New York: The Population Council.

Sagnier, G. (1969). Une Hypothese de Decalage en Demographie Economique. Population 3:718-723.

Sanderson, W. C. (1980). Economic-Demographic Simulation Models: A review of their usefulness for policy analysis. Laxenburg, Austria: International Institute for Applied Systems Analysis.

Sauvy, A. (1972). Les Charges et les Avantages de la Croissance de la Population. Population 1:9-26.

Saw, S. H. (1988). The Population of Peninsular Malaysia. Singapore: Singapore University Press, p.342.

Schultz, Paul (1981). Economics of Population. Mass: Addison-Wesley.

Schultz, T. W. (1974). Economics of the Family: Marriage, children and human capital. Chicago: University of Chicago Press.

Sen, K. (1978). On Ethnics and Economics. New York: Blackwell.

Simon, Julian L. (1981). The Ultimate Resource. New Jersey: Princeton University Press.

_____ (1986). <u>Population Programmes and Projects: Guide to Sources of International Population Assistance</u>. New York: United Nations.

Urzua, Rudolf (1986). The Uses of Demographic Knowledge for Policies and Planning in Developing Countries: Problems and Issues. Paper presented to the Seminar on the Use of Demographic Knowledge for Policy Formulation, Implementation and Evaluation: The case of Latin America. IUSSP.

Warwick, Donald (1982). <u>Bitter Pills: Population policies and their implementation in eight developing countries</u>. New York: Cambridge University Press.

Wolfson, Margaret (1983). <u>Profiles in Population Assistance</u>. Paris: OECD Development Centre Studies.

World Bank (1976). Unpublished material.

_____ (1984). <u>World Development Report</u>. London: Oxford University Press.

_____ (1986a). <u>World Development Report</u>. London: Oxford University Press.

_____ (1986b). <u>World Population Projections, 1986</u>. Washington, D. C.: The World Bank.

_____ (1987). <u>World Development Report</u>. London: Oxford University Press.

Zelinsky, Wilbur (1979). The Demographic Transition: Changing patterns of migration. <u>IUSSP Conference Proceedings</u> v.1:165-189. Liege: IUSSP.

Table A-1.　SOCIO-DEMOGRAPHIC INDICATORS - ASIA:　Selected Countries

			GENERAL ECONOMIC INDICATORS			
	WB Rank	MB Rank	GNP per Capita		Gross Domestic Saving % of GNP	
			1984$	% Growth (64-84)	1965	1985
	1	2	3	4	5	6
East Asia						
China	20	UM/S	310	4.5	25	30
Hong Kong	92	Hi/S	6,330	6.2	29	29
Korea, R.	84	Hi/S	2,110	6.6	8	30
Southeast Asia						
Burma	7	LM/N	180	2.3	13	17
Indonesia	42	LM/M	540	4.9	6	20
Malaysia	80	UM/M	1,980	4.5	23	32
Philippines	46	UM/M	660	2.6	21	18
Singapore	94	Hi/S	7,260	7.8	10	43
Thailand	56	UM/M	860	4.2	19	21
South Asia						
Bangladesh	2	L/W	130	0.6	8	4
India	15	LM/M	260	1.6	16	22
Nepal	6	L/W	160	0.2	(··)	10
Pakistan	28	LM/W	380	2.5	13	6
Sri Lanka	26	UM/M	360	2.9	13	20
West Asia						
Iraq	96	UM/W	7,300*	··	31	··
Jordan	70	Hi/N	1,570	4.8	··	-16
Kuwait	100	Hi/N	16,720	-0.1	60	30
Saudi Arabia	99	LM/N	10,530	5.9	48	32
Syria	71	UM/N	1,620	4.5	10	12
Yemen Arab R.	43	L/N	550	5.9	··	-22

Sources:　World Bank: <u>World Development Reports</u> 1984, 1986; <u>World Population Projections</u> 1985.

　　　　　United Nations:　<u>World Population Trends, Population and Development Interrelations and Population Policies: 1983 Monitoring Report</u>, Vol. I and II.

Table A-1 (cont.)

	DEMOGRAPHIC INDICATORS								
	URBANIZATION				POPULATION MOMENTUM			DEPENDENCY	
	% Urban		Urban Growth		Population Momentum	Year Reach NRR=1	Size Stationary	Ratio 1980	0-14 in 2000 ('80=100)
	1965	1984	65-73	73-84					
	21	22	23	24	25	26	27	28	29
East Asia									
China	18	22	3.0	2.9	1.6	2000	1600	68	75
Hong Kong	89	93	2.1	2.6	1.4	2010	7	46	120
Korea, R.	32	64	6.5	4.6	1.6	2000	66	60	103
Southeast Asia									
Burma	21	29	4.0	4.0	1.8	2020	87	82	137
Indonesia	16	25	4.1	4.5	1.8	2010	361	82	124
Malaysia	26	31	3.3	3.6	1.8	2005	33	74	105
Philippines	32	39	4.0	3.7	1.8	2015	137	82	117
Singapore	100	100	1.8	1.3	1.4	2010	3	45	102
Thailand	13	18	4.8	3.1	1.8	2005	101	77	107
South Asia									
Bangladesh	6	18	6.6	7.7	1.9	2030	310	83	159
India	19	25	4.0	4.2	1.7	2010	1700	78	116
Nepal	4	7	4.3	8.4	1.8	2040	74	85	147
Pakistan	24	29	4.3	4.4	1.8	2035	353	89	146
Sri Lanka	20	21	3.4	3.5	1.7	2005	32	70	117
West Asia									
Iraq	51	70	5.7	5.5	1.9	2025	71	97	160
Jordan	47	72	4.7	4.7	1.9	2020	17	111	172
Kuwait	75	93	9.3	7.7	1.8	2010	5	79	168
Saudi Arabia	39	72	8.4	7.3	1.8	2030	61	86	180
Syria	40	49	4.8	4.3	1.9	2020	39	102	162
Yemen Arab R.	5	19	4.1	4.5	1.9	2040	39	96	147

Table A-1 (cont.)

	POLICY INDICATORS									
	FAMILY PLANNING			POPULATION DISTRIBUTION			SPECIAL ISSUES			
	Government Support	Year Official FPP Started	FP Index 72/82	Strategies	Instrument	Government Perception	International Migration	2000 Aging 80-100	Ethnic Composition	% CDR
	36	37	38	39	40	41	42	43	44	
East Asia										
China	Dem	1962	A/A	C1-3 P4-5	E(5) I(5)	PA REV		203		-51:3
Hong Kong	Dem	1973	B/B	..	..	A NI		206		-49.1
Korea, R.	Dem	1961	A/A	C1-3 P2,3,5	E(7) I(4)	PA DEC		206		-43.8
Southeast Asia										
Burma	No	n.a.	E/E	C1-3 P4	E(1) I(4)	PA RED		188		-24.1
Indonesia	Dem	1968	C/B	C1-3 P4,7	E(2) I(5)	INA RED		199	/	-23.7
Malaysia	Dem	1966	C/B	C1-3 P3,4,6,7	E(5) I(5)	PA NI		205	/	-26.1
Philippines	Dem	1970	C/C	C1-3 P4,6	E(6) I(6)	NI REV	/	180	/	-21.0
Singapore	Dem	1965	A/A	C1	E(3) I(2)	YES NI		191		-43.6
Thailand	Dem	1970	D/C	C1,3 P4,6	E(6) E(4)	NI RED		207		-39.8
South Asia										
Bangladesh	Dem	1971	E/C	C2,3	E(2) I(3)	PA REV	/	184		-14.0
India	Dem	1966	D/D	C1-3 P2-4	E(6) I(3)	NI RED	/	204	/	-27.1
Nepal	Dem	1952	B/B	C2,3 P4	E(2) I(3)	NI RED	-	205		- 5.6
Pakistan	Dem	1960	D/C	C2-3 P1-4	E(5) I(3)	NI RED	/	178		-12.5
Sri Lanka	Dem	1965	C/B	C1-3 P4,6	E(2) I(4)	NI RED	-	200	/	-21.1
West Asia										
Iraq	Health	1972	E/E	C1-3 P3-6	E(4) I(4)	PA RED	/	256		- 8.7
Jordan	Health	1976	E/E	C1-3 P4,6	E(3) I(4)	PA REV	/	260		- 4.8
Kuwait	No	n.a.	E/E	C2 P3	E(4) I(2)	YES NI	/	506		-25.9
Saudi Arabia	No	n.a.	n.a.	C2,3 P3,4,6	E(5) I(4)	PA INC	/	239		-12.4
Syria	Health	1974	E/E	C1-3 P4	E(3) I(3)	PA RED	/	180		- 5.9
Yemen Arab R.	No	n.a.	E/E	C2,3 P	E(1) I(3)	PA NI	/	212		- 3.0

Abbreviations:
A Appropriate ACC Accelerate
PA Partially appropriate DEC Decelerate
INA Inappropriate REV Reverse
NI No intervention
RED Reduce

FIGURE 1: POLICY SCENARIOS IN SOCIO-DEMOGRAPHIC TRANSITIONS

STATE OF TECHNOLOGICAL DEVELOPMENT
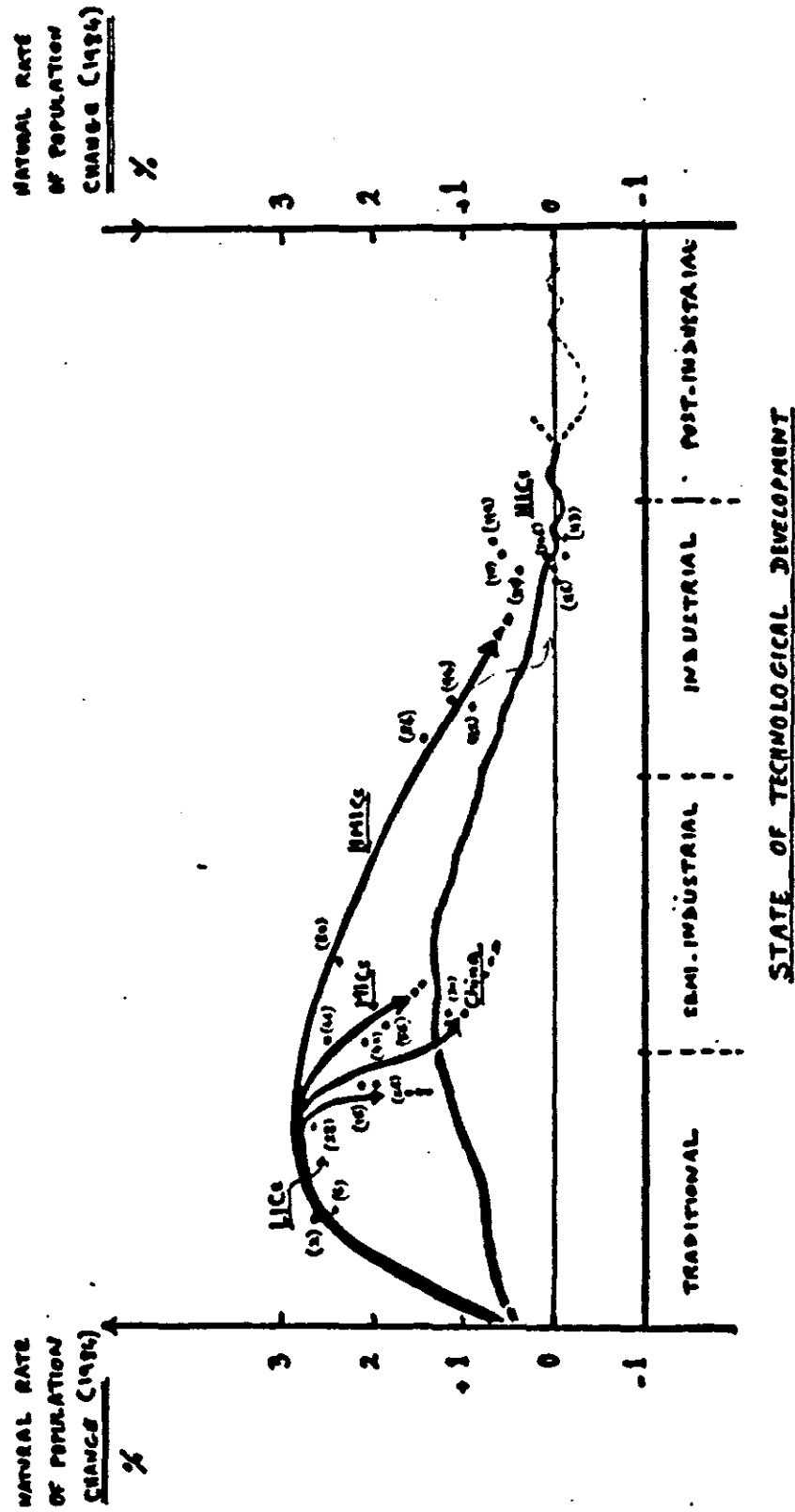
SOURCE: Based on Data in Tables 1 & 2 - Numbers refer to country GNP per capita ranking.