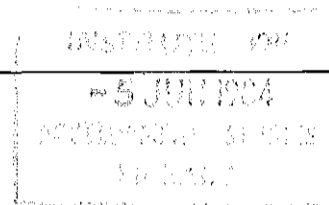


Lectures in Development Economics
No. 3



ISMAIL SIRAGELDIN

Lecture on
Population Policies
AND
Development in the '80s

with comments by
Syed Nawab Haider Naqvi

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INTRODUCTION TO THE SERIES

The purpose of this new Series is to create useful knowledge about development economics and to disseminate it widely. It is not possible to prescribe exactly the topics that will be discussed in this Series. Indeed, it would not even be desirable to do so because this subject is still developing. The mystery of the development process is not yet fully understood. The days of chivalry, when economic development was seen as simply a function of physical capital formation, are gone. The importance of such factors as human capital, education and religion as determinants of both the rate and the composition of economic growth is now gradually recognized. And then there are the efforts to understand more clearly the relationship between economic growth and income distribution. In this connection, the vital role of structural reform is also being realized. The practical (social and political) requirement of alleviating the incidence of absolute poverty has brought to the fore the key role of agricultural development. Furthermore, there is now a greater awareness of the importance of endogenizing the demographic variables in order to understand fully the problem of underdevelopment as well as the many ways of solving it.

In direct proportion to the comprehension of these issues, the intellectual fashions have changed among economists. And there are no signs – a healthy sign, of course – that economists will remain far behind ladies in their love for fashion. As such, we have left it to the contributors to this Series to decide on the topics of their lectures. And, yet, it is to be expected that economists, as if guided by an ‘invisible hand’, will select areas of enquiry that are most relevant not only theoretically but also for practical policy making.

The contributors to this Series are all members of the Advisory Board of the Pakistan Institute of Development Economics (PIDE) and of the Editorial Board of the *Pakistan Development Review*. The visits of these outstanding economists have been made possible by a generous grant by the Ford Foundation, which is administered by the Institute of International Education (IIE), New York. It is to be hoped that the success of this Series, which we can predict with certainty, will lead to greater financial support from the Ford Foundation and other donor agencies. Even more important is the 'fact' that these contributions will serve the cause of knowledge formation in an area where its marginal productivity is most likely to be optimized.

The present lecture by Prof. Ismail Sirageldin is the third in the series, but the first lecture funded by the Ford Foundation. Prof. Sirageldin, a member of the International Editorial Board of the PIDE, is one of the most eminent exponents in the general discipline of Population Dynamics. It is in this area that his intellectual fertility has been at its best. The two lectures reproduced here, along with the lively discussion that followed, should be of great interest to both economists and demographers and also to policy makers. It is hoped that this publication will be read with interest by the concerned social scientists throughout the world.

Editor

INTRODUCTORY REMARKS

by

Professor Syed Nawab Haider Naqvi

Prof. Sirageldin, Ladies and Gentlemen,

It gives me great pleasure to welcome Prof. Sirageldin to Islamabad to deliver the first lecture in the planned Ford Foundation-funded series of Lectures on Development Economics. It is a most happy coincidence that Prof. Sirageldin, who considers Pakistan to be his second home, should inaugurate this series in which about 32 economists and demographers are scheduled to give twice as many lectures during the 1983–1985 period. It is a happy coincidence because Prof. Sirageldin is an old Pakistani hand – even though young in age (born in 1930). He worked as Chief Adviser on a Johns Hopkins University Project with the West Pakistan Research and Evaluation Centre (WPREC) from 1967 to 1970, designing and implementing the National Impact Survey (1967). Then again he came here in 1975 on a UN mission. He is now visiting Pakistan for the third time at the invitation of the PIDE. I wholeheartedly welcome the third coming of Ismail!

Prof. Ismail Sirageldin is a scion of the al-Sirageldin family, which has been one of the most distinguished families in Egypt. Since the days of King Farooq the family has experienced many vicissitudes. It has had its share of the “arrows of outrageous fortune”, mainly owing to the courageous and liberal positions that the family has taken on social and economic issues. Like other

members of his family, Prof. Sirageldin also took his adversities stoically, and turned his sense of outrage into a healthy non-conformist attitude towards life – an attitude that involves viewing things with constructive skepticism. This state of mind has naturally moulded the broad contours of his scientific work, in which he has served as an iconoclast of hypotheses of doubtful validity as well as an architect of useful new knowledge.

Prof. Sirageldin, who is an agricultural engineer and an agricultural economist by training, is at present Professor of Population Dynamics and Political Economy at the Johns Hopkins University, with which he has been associated since 1967. He has served as a member of several national and international committees. He has written extensively. Some of his more important publications include *Non-Market Components of National Income* (1969) and *Productive Americans* (1966); and his highly influential work on *Demographic Transition and Socio-Economic Development* has been published as a UN Report (1979). Of late, he has edited, along with a distinguished Pakistani scholar, Prof. Ali Khan, a series of volumes on *Research in Human Capital and Development*, where highly valuable contributions by different authors have been collected. This series, in which three volumes and a supplement have already been published, is a must reading for any serious, or even a nonserious, student of human capital theory.

In keeping with his position as a Professor of Population Dynamics and Political Economy, his standing in the profession rests on his work in the twilight zone of economics and demography which is now referred to as economic demography. As a social scientist of distinction he has acted both as a *tool maker* and as a *tool user*. His standing as a *tool maker* rests on his seminal contribution to survey methods in demography. He has both played with these methods, so to speak, and written about them. (Refer to his “The Survey Method in Family Planning Research and Evaluation” in J. F. Kantner’s *Population and Development in South Asia*, 1975.) I have already spoken of his influential work on the Pakistan National Impact Survey. This has not only been an essential

reference on most subsequent demographic research in Pakistan, but has led to a chain of imitative reactions of which the *World Fertility Survey* is an outstanding example. (Dr. Iqbal Alam, who for several years has worked on World Fertility Survey and organized one such survey in Syria, assures me that this statement is entirely correct.)

Another such seminal contribution is his study, *Non-Market Components of National Income* (1969), in which he has estimated the value of unpaid work. As you may know, many economists and statisticians, including such luminaries of economic profession as Simon Kuznets and James Tobin, have made forays into this highly complex field of study. Prof. Sirageldin is the first one to work out both the opportunity cost of time and the market-cost-of-functions methods in making his estimates. He came out with the startling conclusion that the *average value of a family's unpaid output in the United States was about 30 percent of the National Income*. He further assured us that people with less income produce more unpaid output. This pioneering study has been very highly rated both for the originality of the estimation method and for its interesting results. (See p. 106 of the *Review of Income and Wealth*, March, 1976, for an evaluation of this work.) Even though I am not aware of all the imitative chain reactions to this work, it can be safely asserted that much work on the Human Capital Theory has directly been influenced by this original contribution. I think that this work should help those who are working on the new intellectual fad in the U.S., viz. "the underground economy". Also, now that we are talking so much about the place of women in society, it is most important for all to know the value of their unpaid output in the form of the many household chores that they have performed so ungrudgingly. If only they knew enough about the importance of his work, Prof. Sirageldin would long have been adopted as an (unpaid) member of the Women's Lib in the United States!

As a *tool user*, Prof. Sirageldin has focussed on translating theoretical hypotheses into empirically testable propositions. If the test of a social scientist is his adeptness at making some such

translations, Prof. Sirageldin has shown himself to be an accomplished 'translator'. His work on unravelling the complexities of fertility behaviour shows Prof. Sirageldin's class as a social scientist. This brings me to yet another aspect of his work. He has looked at fertility behaviour in its multi-dimensional complexity. Education, income, status and opportunities – all impinge on family's fertility decision. Here again he appears in the role of both a high priest and an iconoclast. For instance, in his explorations into the relationship between *Equity, Social Mobility, Opportunity and Fertility* (1975), he debunks the emotive but widely-held view that an equitable distribution of income and other social rewards would *of necessity* tend to lower fertility. On the complex relationship between opportunity, status and fertility he again appears as a skeptic and proffers the hypothesis that the only unambiguous proposition is that if status remains unchanged, an increase in opportunities will tend to increase the demand for children. Also, an increase in social status when opportunities remain unchanged *decreases* the demand for children. The same result holds when opportunities decrease but there is no change in social status. All other propositions, linking fertility decisions with changes in social status and opportunities, lie in the nebulous area of the unknown-but-knowable. In this and various other works he clears the deck of a lot of sentimental and emotive rationalization, but only to do something positive. For instance, in the above-mentioned work, he finds that a valid strategy for achieving fertility reduction is at the *local level*, where it is easier to "internalize" some of the high cost (and benefits) of fertility. This can come about only in a participatory atmosphere. Yet another example of his 'revealed preference' for looking at fertility decision within a socio-economic and institutional matrix is his important work with Prof. Ali Khan: "Education, Income and Fertility in Pakistan" (*Economic Development and Cultural Change*, April 1979). In this study the impact of income and education variables on fertility behaviour has been analysed, using cross-section data. This study shows, among other things, that the impact of the family planning programmes on fertility behaviour has been insignificant. This finding, though unpalatable, should be carefully considered by those who keep on

advocating the need for launching crash family planning programmes, if only for the fun of seeing them crashing to the ground! Some fun, but a costly one at that.

This amphibious analytical inroad into the mystique of fertility behaviour has recently found a highly attractive form in the edited volumes on *Research in Human Capital and Development*. These volumes are a highly fruitful way of looking at the problem of economic demography since an important aspect of human capital is the process of accumulation, which, in turn, is related to the problem associated with child-rearing. Here we find the importance of varying forms of feeding the child, breast-feeding and baby-foods, for human capital accumulation. These forms in turn have implications for fertility since lactation increases pregnancy intervals while artificial methods of child-rearing tend to reduce them. This is only one aspect of the highly complex subject of human capital, the choice of which shows Prof. Sirageldin's ingenuity in conceiving the problem of economic demography. Here Prof. Sirageldin's intellectual 'fertility' is at its best, free from the bouts of 'morbidity', which characterises so much work on demography, at least in Pakistan so far, and which tends to be lifeless in spite of its association with life tables!

In the hands of a highly trained social scientist, like Prof. Sirageldin, demography is no longer what I call mostly a motley of 'ty's – fertility, fecundity, morbidity, mortality and so on – mixed with a somewhat 'obscene' and obsessive reference to a surefire bag of contraceptives and other unspeakables. Prof. Sirageldin is one of those social scientists who have pushed demography onto a highly promising growth path that may win this nascent subject a legitimate place along with the queen of social sciences that economics is.

I now invite Prof. Sirageldin to 'deliver' his lecture.

Lecture 1

POPULATION POLICIES AND DEVELOPMENT IN
THE '80s: ISSUES AND PUZZLES

(Lecture by Ismail Sirageldin)

INTRODUCTION

I thank you very much, Professor Naqvi, for a generous introduction. It is indeed an honour to be here among such a distinguished audience. It is also a pleasure to return to Pakistan, a country that my family and I consider a second home. Professor Naqvi mentioned, among other things, that I am rather skeptical by nature. I am afraid that the present discussion might vindicate his views.

The topic "Population Policies" has no clear disciplinary boundary. It is being widely discussed, debated, defined, and often adopted and defended by each social science group as its own pet-child. And although all seem to agree that the subject is important and timely, there is no consensus on a clear definition, not to mention an acceptable analytic framework. It is hard to perceive a discussion of population policy that proceeded without a heated debate bordering on the emotional side. In this context, it seems useful to be explicit about one's own premises. First, I take the view that a country's population policy could develop into an empty box if not examined within the historical context of that country's socio-economic institutional changes. Secondly, a country's demographic momentum cannot be isolated from inter-country differentials in the socio-economic and demographic

parameters. Migration, like trade, should be related to the relative endowments of the means of production, reproduction and power in the international exchange system. These differentials, although generally viewed, if at all, as exogenous elements when attempting to understand or influence the pattern of a country's population dynamics, are clearly endogenous when viewed in the broader context of the dynamic development of the world's socio-demographic transition.

My plan is to divide the presentation into two parts. The first will deal mainly with conceptual issues. It will attempt to place population policies within the broader historical context of demographic and social transitions. The purpose, given time limitation, will be to indicate the boundary of the subject matter and examine the strength and weaknesses of current socio-economic analytic frameworks, especially when used as guiding paradigms for the development of population policies. I am afraid that the subject matter would be familiar to most of you. I do hope, however, that the discussion may yet provide a different perspective of the "issues". The second part is more specific. It will attempt to examine two concerns or "puzzles" in the current status of population dynamics in the Middle East; namely (a) the interrelation between immigration and fertility, and (b) the consequence of immigration for agricultural development.

POPULATION POLICIES AND DEVELOPMENT: THE ISSUES

On the Dimensions of Population Policies

In general, a national population policy is usually defined as a deliberate attempt to change the rate of growth of population, its spatial distribution or its composition. As the United Nations observed,

"All Governments design policies, adopt administrative programs and enact laws which intentionally or unintentionally directly influence the components of population growth – fertility, mortality and international migration – as well as the internal redistribution of nations'

inhabitants. However, such measures represent national population policy only when implemented for purpose of altering the natural course of population movements”.

This is rather a general definition. On the one hand, it does not place population policy in its proper perspective – the socio-economic context. The definition also side-steps the whole area of conflicting social objectives. For example, according to that definition, the demographic effect of various socio-economic policies may be excluded from the domain of a population policy, although their outcome may contradict the stated objectives of that population policy. Population trends and composition can only be evaluated in the context of their social and economic determinants and consequences. In that respect, Davis’s description of population policy as one that tries to eliminate the demographic causes of the socio-economic problems to be solved seems to provide a more appropriate perspective in the sense that competing social objectives should be dealt with within the context of a social welfare criterion.

Underlying competing or conflicting social and economic objectives is probably the *raison d’être* for introducing population processes as a proper part of public policy. It is precisely when the demographic acts of individuals affect the welfare of others, producing a sizable divergence between private and social well-beings, that the issue becomes one of social and public concern. Indeed, neither the divergence between private and social wants nor the conflicting policy objectives are unique to the case of demographic acts or of population policies. In economic policy, for example, the goal of full employment may conflict with a desired state of price stability, and a target rate of economic growth may create undesirable consequences on income distribution. *The presence of such conflicting objectives calls for difficult decisions, involving critical choices among social alternatives.*

On the Evolution of Population Policies

Changes in stable demographic systems, barring environmental accidents, have occurred when major new production technologies

are widely adopted. Associated with these technologies are new systems of human settlements and social relations. Mortality and reproduction have tended to move towards a new equilibrium value compatible with these new technologies. This movement from one equilibrium level of vital rates to another is called, in the population literature, a "demographic transition". Major historical demographic transitions are illustrated in Figure 1.

The long-run path of world population growth (an average of about 0.0043 percent per year) must have been very close to the main diagonal of Figure 1, where the rate of natural increase is equal to zero (i.e., birth rates equal death rates regardless of their levels). Change from a hunting/gathering mode of production, illustrated as point *H* in the figure, to that of a traditional settled agricultural system, illustrated as point *A*, took almost 10,000 years. In the process world population increased from an estimated 40 million to about 300 million and moved to a new, less efficient equilibrium level of vital rates (at point *A*), implying an average annual rate of growth of 0.020 percent during that period.

More recently, during the past two centuries the world has experienced dramatic new technological changes that have influenced all the parameters of human life, including the vital rates. A new equilibrium level of births and deaths seems to be in prospect at a much lower level (point *I* in Figure 1) that is compatible with the personal and social requirements of an industrial society. The divergence between fertility and mortality levels during those periods of transitions from agricultural to industrial societies resulted in producing natural rates of population growth that far exceeded the long-run world average. The result has been a dramatic increase in world population from 300 million to over 4,200 million in the short span of less than 300 years, implying an average annual rate of growth of about 0.88 percent, almost 200 times the long-run rate. There are two general experiences, however: that of the now industrialized countries, indicated by the line (MDC), and that of the rest of the world, indicated by the line (LDC). As is evident from Figure 1, most of the now industrialized

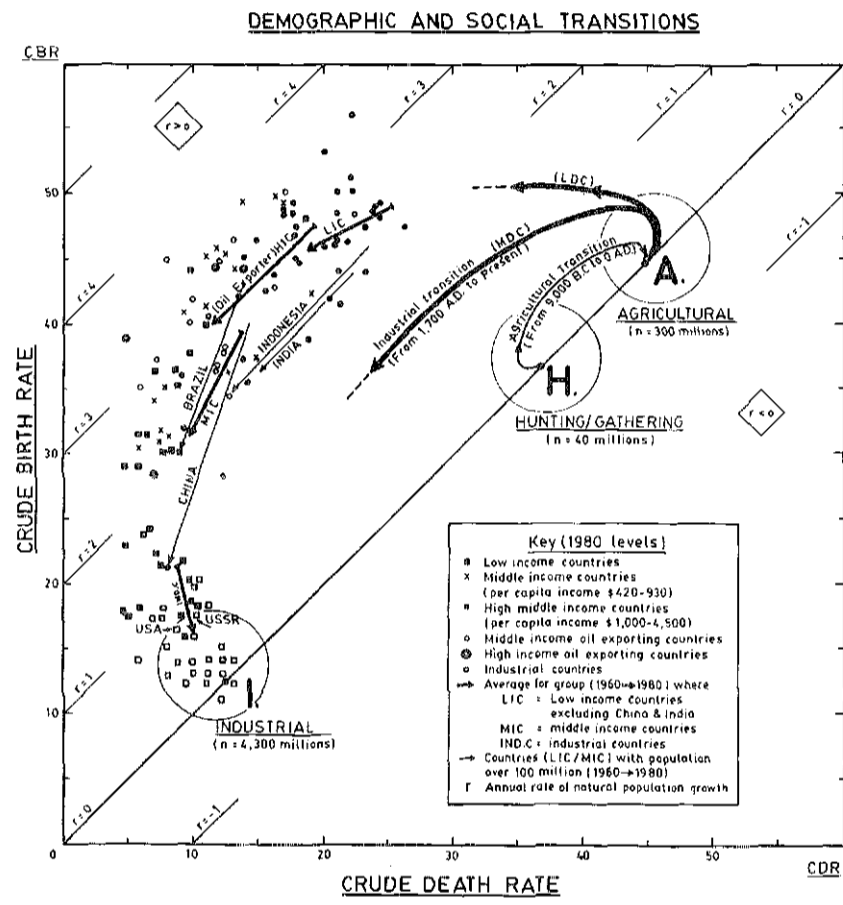


Figure 1.

Source : Based on World Bank, *World Development Report 1982*, (London: Oxford University Press).

countries, regardless of their socio-political system, have reached a new equilibrium level of vital rates characterized by low CBRs (around 10 to 20 per thousand) and low CDRs (around 11–14 per thousand). The issue here is that this movement seems to be independent of the social regime of these countries. Fredrick Engles' prognosis, mentioned as early as 1889, that the socialist countries will experience faster mortality decline and a less costly (to society) fertility decline than the capitalist countries seems only partly true. Countries from both socio-economic systems have been moving towards a new demographic regime. The relative social cost has not been estimated, however.

The experience of the less developed countries (LDCs) has been more recent and more dramatic. The background of a close-to-stationary long-run population growth was similar to the MDCs, i.e. clustered around point A of Figure 1, with birth and death rates fluctuating widely (because of epidemics and disasters), keeping a check on potential growth. During the past four decades, however, most of these countries have experienced a sustained decline in mortality. As illustrated in Figure 1, there has been a shift from the diagonal to the left, and the shift has been parallel to the horizontal axis. More recently, many developing countries (also regardless of their socio-political system) started their expected secular fertility decline. They seem to be moving towards that new low equilibrium level associated with the personal and social requirement of an industrial society (i.e. towards Circle 1).

This pattern of converging vital rates has not been universal, however; some countries seem to have adopted the low mortality level associated with an industrial society while maintaining the high fertility level associated with a traditional agricultural society, resulting in very high rates of population growth. For example, Figure 1 shows several countries of various income groups, with CBRs of over 45 per thousand and CDRs of less than 12 per thousand. Other countries seem to have experienced a dramatic decline in both fertility and mortality levels. This is particularly evident in the case of China illustrated in Figure 1, especially when evaluated relative to the average performance of its income group.

It is evident that these are temporary periods of transitions. During such periods, societies must undergo dramatic social adjustments, either planned or induced. Such adjustments might imply a social concern with the emerging pattern of population dynamics. There are costs to individuals and society if demographic adjustments are not in "harmony" with socio-economic change, e.g. either too slow or too fast. How does a non-industrial society adjust its socio-economic relations to a sustained decline in both mortality and fertility? It is an important question as to how long it could sustain a secular decline in mortality without significant change in fertility. Yet another question is: To what extent has such social concern been translated into clearly stated population policies? First, I give a brief review of the historical experience of the now industrial countries.

**On the Experience with Population Policies:
A Historical Perspective**

Pro-natalist attitudes and regulations have been an integral part of most of the known socio-economic and cultural institutions. Only as recently as the 18th and 19th centuries, when mortality levels in Europe started to decline relative to birth rates, causing rapid increase in population growth, did concern about the consequences of overpopulation and the alarmist writings of Malthus and others emerge. But as fertility started to show a sustained decline (mainly voluntarily by couples) in the late 19th century, fear of population decrease (depopulation) re-emerged. After World War I, several governments, including those of Austria, England, France, Germany, Italy, Luxemburg, Norway, Sweden and the USSR, initiated pro-natalist policies. After World War II, birth rates increased temporarily in the more developed countries (MDC) but had fallen again by the late 1960s and are approaching the level of mortality, implying a replacement level in many instances. European and North American countries that adopted pro-natalist policies (i.e. policies favouring high fertility) prior to World War II maintained or expanded them afterwards.

In general, the policy response of the now-industrial countries during their demographic transition seems to have not been systematic. Some general observations emerge, however, from reviewing the literature on some Western and Eastern European recent experience with population policies, namely those of France, Great Britain, West Germany, Bulgaria, Hungary and the USSR.

Firstly, almost all population policy measures, with very few temporary exceptions, have been pro-natalist in nature. *Secondly*, regardless of the socio-political system and evidently independent of pro-natalist measures, there is a general tendency in the now more developed countries (MDCs) for both birth and death rates to converge to a lower level between 11 and 15 per 1,000. There have been variations in the tempo of these trends but such variations seem more explainable by differences in the structure of the socio-economic system, by differences in emigration opportunities (e.g. following the flag in the British case), or by differences in the initial structural demographic characteristics of these societies (e.g. age structures) rather than by differences in specific measures of these countries' respective population policies.

Thirdly, the system of population dynamics is complex and deeply rooted in the socio-economic relations of society. There are direct and indirect measures influencing the population parameters but in reviewing the experience of these countries, almost no single population policy was specified in terms of the total social system: only vague assertions were sometimes made. Population policies evidently have not developed as a coherent system in the now developed world.

Fourthly, in general, international migration has not been taken as an integral part of population policies. An exception is the case of France where legislation on immigration was adopted essentially for economic reasons rather than for demographic considerations. Demographic reasons were considered only for a short time just after World War II. But the hope of achieving a demographic goal through immigration failed, and the government

rapidly returned to the economic rationale of allowing immigration. Canada, too, has sought to regulate annual immigration in the light of national economic and demographic trends.

Finally, most pro-natalist policies reviewed above were attempted at relatively low levels of fertility (e.g. at least one-half of the current fertility levels of many African, Asian and Middle Eastern countries). To understand the range of population policy options open to a given society, it is important to establish the social and biological limits within which the reproductive system could be manipulated and the laws that govern internal and international population movements.

How could Policies Influence Population Change?

Two reasons (not necessarily mutually exclusive) may explain why population policies have not emerged as a positive force influencing the pattern of population dynamics during periods of industrial-demographic transitions: (a) lack of interest, on the public policy level, in incorporating population in their deliberations because of political or ideological factors; and (b) lack of conceptual and empirical knowledge about the dynamic nature of the socio-economic-demographic system. These two factors seem to continue to be major constraints up to the present time. Indeed, population dynamics constitute complex processes that include interrelated dimensions of behaviour operating on various levels of decision units from the family to the state. A complete modelling of such a system is difficult, if not impossible, to accomplish. Various efforts to model the economic-demographic component of the system have been attempted but none is satisfactory as a reliable planning tool. It seems instructive to start with an "accounting" frame. A schematic presentation of the basic elements of the socio-economic-demographic system is illustrated in Figure 2.

There are six interrelated components of the system. Starting with Part I and following a clockwise path, we have the familiar demographic identity defining population change ($\Delta P = B - D + NM$). It simply states that in any given period, population change (ΔP) is

equal to additions through births (B), minus losses through deaths (D), and to changes through net migration (NM). Population size and structure will change according to these flows, implied in ΔP .

These demographic changes (ΔP) will have consequences for the socio-economic system illustrated in Part II of Figure 2. Under non-stationary conditions both the production and utilization of output will be affected. Some simplified identities relating population growth to per capita output, saving, investment, consumption, government expenditures, labour force and workers' productivity are given in the figure for illustrative purposes. The process of formulating an economic development strategy is presented in Part III. Having specified a social welfare criterion $W(\)$, population policy should optimally be set within this generalized framework of the desired state of social welfare. The result of policy implementation is various changes in the economic and social system, as illustrated in Part IV of Figure 2. Some key elements of the social system will change during the plan period, either induced by plan effort or through exogenous influences. In essence, these changes are both a consequence and a determining factor of demographic changes. Education, for example, is generally considered an important determinant of fertility behaviour. Yet the level of the quantity and quality of education is partly a consequence of demographic trends. Maintaining educational standards is becoming a major concern in many developing countries, e.g. the recent experience in Egypt. On the other hand, when assessing the effect of education on fertility, an important question, although often discarded, is whether the expected negative effect of education on fertility is independent of its quality. Another example is the expected consequences of changes in the age at marriage. Historically, an increase in the age at marriage has been associated with increases in female education and in female labour force participation. It has also been associated, at least in the Western experience, with changes in family life style and more recently with increased pre-marital sexual activities. Attempts to change or impose social rules without understanding the minimum prerequisites to accommodate such changes might create undesirable social tensions.

THE DYNAMICS OF POPULATION & SOCIETY
AN ACCOUNTING FRAME

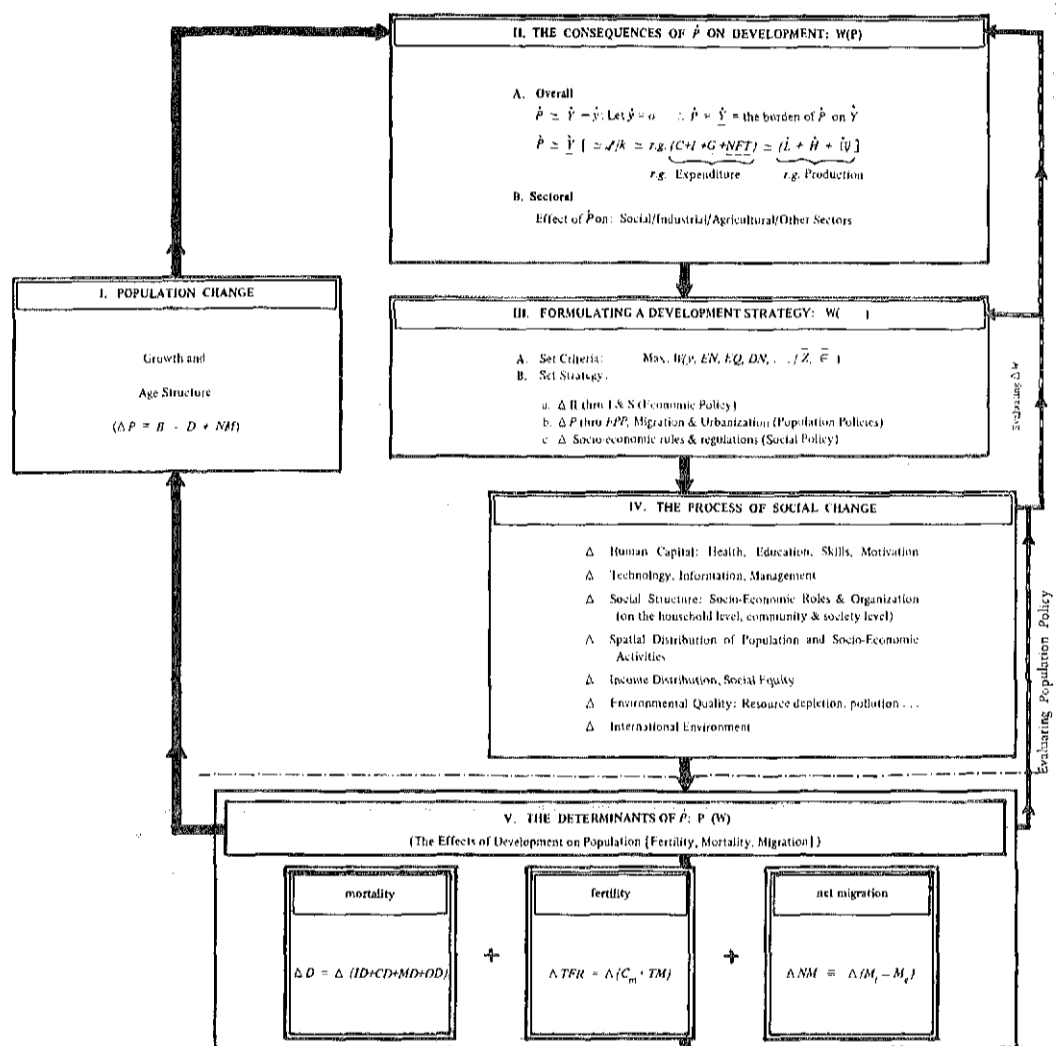


Figure 2

Key: See Appendix 1

Appendix 1

Key to Variables in Figure 2

I	P	=	Population size
	ΔP	=	Change in population size during a plan period
	B	=	Number of births
	D	=	Number of deaths
	NM	=	Net Migration = number of immigrants minus emigrants
<hr/>			
II	\dot{P}	=	Annual rate of growth of population
	Y	=	Gross National Product (GNP)
	\dot{Y}	=	Annual rate of growth of GNP
	y	=	Per capita GNP
	\dot{y}	=	Annual rate of growth of per capita GNP
	$\dot{\bar{Y}}$	=	Annual required rate of growth of GNP when $\dot{y} = 0$ for a given \dot{P}
	\underline{s}	=	The saving ratio to GNP, required when $\dot{y} = 0$ for a given \dot{P}
	k	=	incremental capital-output ratio
	r.g.	=	Annual rate of growth
	\underline{LG}	=	Investment, Government expenditure when $\dot{y} = 0$ for a given \dot{P}
	C, NFT	=	Consumption, Net Foreign Trade expenditure when $\dot{y} = 0$ for a given \dot{P}
	L	=	Labour force
	\dot{L}	=	Annual rate of growth of labour force when $\dot{y} = 0$ for a given \dot{P}
	\bar{H}	=	Hours worked per worker per year
	\dot{H}	=	Annual rate of growth of H when $\dot{y} = 0$ for a given \dot{P}
	$\bar{\pi}$	=	Labour productivity = value of output per worker per hour
<hr/>			
III	W	=	Social welfare function
	$W(P)$	=	Social welfare as a function of population
	EN	=	Environmental quality index
	EQ	=	Equality index
	DN	=	Population density urbanization index
	\bar{Z}	=	A vector of policy instruments
	\in	=	A vector of random elements
	S	=	Saving
	FPP	=	Family Planning Programme
<hr/>			
IV	$P(W)$	=	Population as a function of welfare
<hr/>			
V	TFR_t	=	Total Fertility Rate (see text for details)
	C_m	=	Index of proportion in marital unions (weighted)
	TM	=	Total marital fertility rate = $C_c \cdot C_a \cdot C_i \cdot TF$
	C_c	=	Index of non-contraception
	C_a	=	Reduction in fertility as a result of abortion
	C_i	=	Index of lactational infecundability
	TF	=	Total fecundity rate
	TNM	=	Total natural fertility rate = $C_i \cdot TF$
	AC	=	Average completed fertility
	T_t	=	Timing index equals the sum of normalized fertility rates = $\sum_{a=14}^{45} N_{a,t}$
	$N_{a,t}$	=	Normalized fertility rates
<hr/>			
	ID	=	Infant Mortality
	CD	=	Child Mortality
	MD	=	Maternal Mortality
	OD	=	Other Mortality
	M_i	=	Immigration
	M_e	=	Emigration

Changes due to exogenous elements could have significant effects on the economic-demographic system. For example, the exogenous demand created in the oil-exporting countries for expatriate labour has resulted in significant repercussions in the local economies of many neighbouring countries. In Egypt, for example, the recent exodus of Egyptian agricultural workers, the large size of their remittances relative to their net income from farming, and the presence of unfavourable agricultural pricing and institutional system seem to have had the combined effect of distorting the relative profitability of farming. As will be discussed later, not only productivity in agriculture seems to have stagnated but also non-agricultural use of land is becoming relatively more profitable to land owners, e.g. using top soil for making bricks for the construction industry – a practice that could destroy soil fertility almost for good. These changes in rural life and economy partly determined by the recent phenomenon of emigration and reproductive behaviour could have significant demographic consequences as well. An understanding of these consequences will depend on current theoretical developments and the relevance of their application to actual specific situations.

In general, however, no systematic treatment of the role of migration, and particularly that of international migration, is given in population policy formulation. Migration is an event deriving from social, economic and political structures and processes. Compared to the other two components of population change, viz. mortality and fertility, migration is the least responsive to proximate technological change. National policies concerning international migration, if they exist explicitly, more often focus on immigration than on emigration. The regulation of immigration usually derives from the national concept of citizenship and nativity and concerns about economic impact and cultural mixing; stated emigration policies, more rare, represent purer economic and, in the case of refugees, political concerns. Accordingly, as Willekens and Rogers have suggested in *Normative Modelling in Demo-Economics*, “it is impossible to determine the goals and means of population distribution policies without considering general and

economic policies". In particular, it is difficult to specify a population policy criterion for international migration. On the other hand, international migration is having an increasing impact on the process of socio-economic change in many parts of the world, especially the Middle East and South-East Asia. This apparent puzzle will be examined more closely in the second part of my presentation. The rest of the discussion in this part will concentrate on issues related to fertility. The focus on fertility and international migration should not imply that there are no critical issues and unresolved puzzles in the area of urbanization or in the current experience with trends and differentials in mortality.

The case of mortality, although not the focus of the discussion, needs a brief pause, since it could serve as a logical introduction to the fertility experience. It is evident that the recent dramatic decline in mortality has been the main cause of the unprecedented high rates of population growth in the developing countries. Large differentials exist and seem to persist, however. Recently, the general trend of declining mortality seems to have tapered off. For example, further reductions in infant mortality (especially pre-natal death), a significant component of total mortality in the less developed countries, seem difficult to come by. This seems to be the current experience, even in countries that have virtually no financial constraints, e.g. the oil-exporting Arab countries in the Gulf. It may be concluded that mortality change, like other components of demographic change, may be induced by public policies up to a point, beyond which some specific changes in the social setting seem to be a prerequisite. What changes, to what extent, or at what time are questions that may not be answered *a priori*. Here, the combined guidance of theory and empirical experience seems essential.

Trends and Fluctuations in Fertility: A Note on Theory

Recently, there has been no lack among social scientists, especially economists, in theorizing about the determinants of fertility behaviour. There is no doubt that our knowledge has increased

as a result. There is a live debate, however, as to whether some of the current theories have outlived their empirical validity. We will give a brief summary of the main issues in that debate later on. But first we need to define the dimensions of the subject matter. Following Bongaart we will focus on the definitional accounting of the total fertility rate (*TFR*).

It must be emphasized that the division of any concept into components, although tautological, should provide a useful accounting frame to the extent that the components are part of an analytic frame. Just as the division of national income into definitional components, e.g. in terms of income or expenditure components, is basically for the purpose of economic analysis and not merely for the accountant's convenience, the accounting division of the total fertility rate (*TFR*) into five basic components, viz. $TFR = C_m \cdot C_c \cdot C_a \cdot C_i \cdot TF$, where the C_m, C_c, C_a, C_i and TF refer to indices of marriage, non-contraception, lack of abortion, lack of lactation, and the level of fecundity respectively, has a useful analytic and policy purpose. For example, if we accept the *TFR* as a measure of fertility, then it follows that although its level may not change, its individual components may experience significant changes in different directions. For example, Prof. Naqvi in his introductory remarks referred to an empirical study by Ali Khan and myself indicating that the effect of the family planning programme on fertility was negligible in Pakistan. In that study, we accounted for some but not all of the components of the *TFR*. It is possible, but seems unlikely, that some of the other components, e.g. C_i, C_a and TF , might have moved in the opposite direction during the programme period. What is needed is a deeper understanding of the determinants of these individual components.

The case of Jordan provides a recent example. In Jordan, although contraceptive use is relatively high (about 3 times as high as that in Pakistan) the level of total fertility rate, *TFR*, is higher in Jordan (about 7.0) than in Pakistan. What does that mean? It could simply imply that the other components of total fertility might have been moving in opposite directions. For example,

recent studies indicate that lactation has been declining, i.e. C_i had increased. It could also mean that the efficiency of contraceptive use is relatively low in Jordan, i.e. the C_c index is below its true level. Thus, although population policies may be directed towards specific components of the fertility structure, other components may behave differently. This apparent analytical complexity is further compounded by the fact that fertility is a time-dependent variable with an involved lag structure. The "period" or cross-sectional estimate of TFR is not necessarily equal to its cohort estimate. However, in periods of transitions, the value of TFR may not change while its components may experience neutralizing effects. The time path of these components is evidently a function of the pattern of development and its institutional framework.

As the previous discussion indicated, fertility has been experiencing two distinct types of change: secular and short-term. Secular movements imply a *unidirectional* long-run movement away from one "equilibrium" range of vital rates to another. Such secular movements cannot be random. Otherwise the stability of the whole human environment is brought into question. On the other hand, short-term movements are continuous fluctuations, partly random, partly induced by fluctuations in the socio-economic system, around that equilibrium range of vital rates, as well as around the long-run secular path during periods of transitions.

It should be evident that the factors that generate the eventual long-run fertility decline and define its path and tempo are not necessarily responsible for the more frequent short-run changes or fluctuations, although the two types of events may be a part of a general system. Mixing between both was, I think, one of the major problems in the analysis of fertility. Secular demographic change, especially in closed populations, could not be accommodated within the existing social structure as opposed to the short-run or "marginal" fluctuations that could be tolerated within limits. Moving from "A" to "I" (Figure 1), if to be sustained, was

based at least historically on major technological and socio-economic transformations of societies. Thus, even when the level of fertility appears unchanged in the face of a dramatic and sustained decline in mortality (i.e. a horizontal movement to the left of "A" in Figure 1), the structure of fertility must be facing various pressures to initiate a downward trend, although short-term changes might move it upward temporarily, e.g. as a result of a change in factors that enhance natural fertility. To understand what kind of adjustments are operating in response to what kind of pressures and at what cost needs more than scratching the surface of the socio-economic system or examining it at the margin.

As mentioned earlier, there are various perspectives of the analysis of fertility. The most celebrated, and possibly the most debated, is what may be labelled as the new home economics. It seems that after almost a decade of continuous debate, we are still being haunted by Leibenstein query: whether the economic theory of fertility is a promising path or a blind alley? In general, the framework is simple. It is based on the assumption that the family allocates its scarce resources so as to maximize its happiness or utility. This is a fundamental premise that is at the heart of consumer economics. The premise is based on two basic propositions set forth almost a century ago by Marshall and Jevons, and more recently by Hicks and others, namely, under conditions of scarcity, needs exceed availabilities; and free choice is based on consistent preferences.

The direct application of the consumer theory to fertility decisions was not possible, however, without introducing some necessary alterations. Thus, in order to anchor the analysis to a viable base, the family is viewed both as a consumption and as a production unit producing basic commodities or services that provide utilities. In the case of child services, utilities are derived from both their quantity and quality. Stated more formally but very briefly, the theory assumes that a couple chooses to produce a desired number of surviving children of a given quality, whose services (derived from both quality and quantity) maximize a family utility function (where family members are assumed to have

no intra-family allocative conflicts), and where the services of other goods (produced or purchased by the household) are given as arguments in the utility function. Decisions are subject to a full wealth constraint that includes both the value of all the household's time input flows spent on market and non-market production activities and the net flows of non-earned wealth. On face value, this is a powerful and appealing framework. We do not need to go into the underlying mathematics to deduce several hypotheses regarding fertility decisions.

A main insight is that the cost of time should play a central role since child services are time-intensive, especially for mothers' time. Accordingly, if female wage rates or employment opportunities increase, the demand for child service is expected to decrease, while an increase in family income with a compensating effect on the relative price of the production of child service is expected to increase the demand for child service. But the final effect on fertility cannot be deduced unequivocally from the theory. In fact, almost anything could be demonstrated. Within a total committed expenditure on child service, parents may decide to have more or less quantity or quality depending on parameters outside the model specifications. The framework, however, seems to be mainly demand-oriented. Some critiques argue that it is only relevant when desired fertility is below natural fertility adjusted for infant and child mortality experience. But if desired fertility could not be achieved because of biological, cultural or mortality constraints that are beyond the choice-theoretic framework, the analysis seems inapplicable. There are other reservations, however.

There is nothing in this emerging socio-economic theory of fertility that indicates why parents should have children in the first place. The physiological urge, or the desire to maintain one's line or the species, in the final analysis is beyond the formal specifications of that framework. Our knowledge about the upper limit or the biological maximum of reproductive performance is fairly established. This upper limit is constrained by the length and natural fertility of that part of reproductive life at risk. There

is no established knowledge about the determinants of a lower limit, except for the tautological statement that in the long run, fertility must be at least equal to the level of mortality; otherwise societies will disappear. It seems that there must be a serious problem with a model that cannot explain why a developing society like Bangladesh, Egypt, India, Indonesia, or Pakistan, should achieve the same level of vital rates as that of Sweden or Switzerland without achieving and in some instances not even aspiring to the type and level of their socio-economic development.

Social scientists seem to agree that for a country to move from the bottom to the top of the list of countries as provided, for example, in the World Bank Development Report is indeed an inconceivable giant leap. For many social scientists, on the other hand, a dramatic induced change in the vital rates is not only probable, but could even proceed as a smooth transition. This latter argument is presented without sufficient specifications of the prerequisites of such transitions, and more importantly of the consequences if such movements proceeded too hastily or prematurely. Some economists, on the other hand, attempted to bridge this apparent contradiction by building economic-demographic models that include both determinants and consequences of demographic change. Some of these structures are elaborate indeed. A critical and excellent review of the current state of the art is provided by Sanderson. These efforts have undoubtedly increased our perception and depth of knowledge about the econo-demographic system. They have their limitations, however. Some of them are rather serious. Firstly, the validity of their conclusions depends on our understanding of the basic determinants. Such knowledge is still soft at best. Secondly, even if we establish, at least for some of us, what appears to be a firm relationship, e.g. the relationship between fertility and education, the empirically estimated coefficients, a basic input in the model, may have more than a single value depending on data and specification. Simulation results may be sensitive to such variations. Thirdly, models have a structure. The structure defines a stable set of institutional and social relations. But these are precisely the factors that must change to enable the society to undergo its demographic transition.

These are not meant to be desperate notes. On the contrary, the current accumulated knowledge seems to provide a general frame of thought. It could even provide hypotheses and a basis for policy analysis. We should be aware, however, of its limitation. Indeed, such general frame could be helpful in examining issues relevant to countries at both ends of the demographic transitions.

Issues at Both Ends of the Transition

There are those who think that population policy issues are mainly relevant to developing countries that are in the early stages of their demographic transitions. This certainly is not the case. Let us examine two cases at different stages of the transition. The first relates to a comparison of some aspects of Japanese and USA population post-war policies. The second relates to the recent experience of China.

As the vital rates in Japan and the USA started to stabilize at lower levels, their age structure tended to get older during the past two decades. The proportion of the old increased in both the labour force and the population at large. In the meanwhile, the same period was witnessing one of the most revolutionary advances in science and communication technology. Here we are faced with a society whose annual increment to its labour force is relatively declining, i.e. labour replacement is slow, and which in the meanwhile feels the need to develop new technical skills in its human resource endowment. Taking the introduction and growth in the use of robots in industry as an index of the adoption of this new technological revolution, we find that the rate of growth in Japan is about 5 times that of the USA during the 1970s. Indeed, a prerequisite for the diffusion of such high-power technology is the presence of an adequate supply of a highly skilled labour. A comparison of the growth in the proportion of the annual additions to the labour force with high degrees in science and technology indicates the same pattern, i.e. much higher for Japan than for the USA (*Scientific American*, June 1981). The idea of such intensive development of manpower resources needs both time and public commitment. Interestingly, Japan opted for a population policy

that does not allow labour immigration. The USA, on the other hand, had a more flexible policy (legal or illegal), especially with respect to unskilled labour.

Here are two demographic strategies with apparently different social costs and benefits, related to the socio-economic consequences of emigration, the dealing with the burden of an aging population, the re-training of a slowly growing labour force, and the acceptance of a fast or a slow tempo of introducing new technologies. There is another interesting lesson, however. What we are witnessing, at least in the case of Japan, is an intriguing case of economic-demographic development. As investment in human resources intensifies for both sexes, the opportunity cost of time increases. If we take the household production model as a general framework, parents will opt for quality rather than quantity of children. This in itself will enhance productivity and increase the price of time even more. The equilibrium between reproductive behaviour and the rate of investment will depend on the model parameters. But, again, conditions for the existence of such equilibrium seem to be outside the model specification. Would children eventually become a public good in order to save society from severe swings or even from disappearance? There is no difference, in essence, between such statement and one that indicates that child-bearing has an intrinsic value!

The recent experience of China with population policies provides another clear example of economic-demographic interrelations, but with reference to a developing economy. After a long debate, China opted for a very strong anti-natalist policy – probably one of the most ambitious in the history of mankind. One-child families are being encouraged. More than two are being penalized. More recently, China's economic policy moved towards enhancing productivity, especially in agriculture, even at the cost of altering socialist institutions. The development of the agricultural communes, with its sharing of mechanized production techniques, and marketing cooperative schemes, did not seem to conflict with the objectives of China's population policy, since the value of children

as a source of labour and old age security to their parents seems to be minimized. But agricultural productivity seems to have been deteriorating. The government decided to give farmers the freedom to cultivate small private plots and retain part of the net revenue. The idea was to enhance productivity through individual-family market incentives. A debate started, however. There is a growing concern that this new system might conflict with a population policy of low fertility. Could the new system of farmers' private ownership be introduced without increasing the perceived economic value of children? A careful analysis is clearly needed. Restricting private ownership of land to people based on some life-cycle criteria is being considered. Restricting sales of surplus output or the hiring of outside labour is another alternative. But restrictions imply administrative and social cost. Policy makers seem to be weighing the relative social costs of these alternative strategies. At this point, I should stop. I was told to end as soon as I notice signs of drowsiness in the audience.

DISCUSSION

Professor Naqvi: I think we all agree that it has been a very informative and exciting discussion and everybody was wide awake and the two or three who looked dozing off were actually doing some deep thinking, particularly because the opportunity cost of dozing during Professor Sirageldin's lecture was too high! I would now request the participants to ask questions.

Mrs. Khalida Parveen Zaki: I think, Prof. Sirageldin, your lecture has been very thought-provoking. We keep hearing this debate about socio-economic development and family planning programmes having their effect on fertility. At the same time, in Pakistan, fertility and various aspects of the family planning programme are widely criticised. We also lag behind in the field of socio-economic development. You have also referred in your study to the family planning programme not having any effect on fertility. So under this critical situation in Pakistan, what would you recommend as the future course of action to curb down the fertility? Should we follow a comprehensive socio-economic development programme or should we emphasize stronger family planning programmes?

Prof. Sirageldin: The fact that the study revealed no relationship does not imply that the programme had zero effect. First, the studies are based on cross sectional data. Secondly, there is what is called substitution effect. Furthermore, there are lags and changes in natural fertility that may have not been captured in the analysis. However, the debate is not between family planning and socio-economic development. That is not what I meant. In my view, a family planning programme is essential, even in the case of Pakistan, where current use of contraceptives is low and did not change much between 1968 and 1976 according to the IMPACT and the PF Surveys. However, contraceptive prevalence varied positively with the average number of children. For example, in 1968 it varied from a level of 5 or 6 percent all the way to about 30 percent for women in the reproductive age with higher parity. It seems there is a need for such a programme, even though the fertility impact may not be very significant. It could have appreciable social and equitable effects. What I am really saying is that economic and social development, especially in specific sectors, has to examine a little bit more explicitly the inter-relationship between that sector's performance and demographic behaviour for possible contradictions. This, in my view, is the basic building block for developing a population policy that is an integral part of socio-economic policy.

S. M. M. H. Hamdani: I shall like to make a point about Pakistan's population policy. During your talk you rightly said that children are just like any other good. At macro level I would say that it is labour force that is like any other good. Now for Pakistan, all of us know and we agree that Pakistan is rich neither in physical capital nor in any of the natural resources like oil in these days. So what Pakistan is primarily left with is population and population labour force. Thank God that in the last decade and also in the Eighties, a lot of labour has migrated to our friendly capital-surplus Muslim OPEC States and they have been earning a lot of foreign exchange for us. I will say that migrated labour force has been doing, if not badly, at least as well as any other exportable cash crop like cotton or rice and the migration has gone up to such a high level that some recent studies at the Institute have noted that we are running labour

shortages in our manufacturing sector – in a labour-surplus economy. So take an analogy of exportable cash crops: if we should not raise our population unnecessarily, why not keep it at least at the natural level. Given all these facts, Professor, finally might you or might you not agree to a general policy recommendation for Pakistan or any or all the developing economies like Pakistan that we should not try to make huge efforts or extensive plans and programmes to cut down our population and the labour force which stands as the prime factor of production as well as domestic and foreign exchange earnings.

Prof. Sirageldin: You have raised, I think, an important point which will also be a part of my discussion tomorrow, but, since part of what you mentioned is highly debatable and I tend to disagree with part of it, let me try to make my points clear. First, my discussion of children as goods produced was in the context of reviewing the new theories of home economics. My personal views are that such statements should be qualified. Children are partly social goods. The social demand will depend on the ability of the system to provide substitutes for child services. Your second point is equally serious. I join you in thanking God for providing a place for Pakistani surplus labour to go to. I am not sure, however, whether this has been designed as a blessing or as a test for our ability to understand its true meaning. As you said, immigration has become like an exportable good. There is no question that Pakistan, like many other labour-exporting countries, seems to have a comparative advantage in that respect. It is tempting to say that the current migration experience is not unique, either to this time or to this area. The experiences of Europe and America are handy examples. But there are some basic differences. One main difference is that the current experience is not a permanent move. It is a temporary labour migration that involves a very large flow that in some sectors had created shortages. And because of large wage differential it creates an economic dependency – dependency in terms of the proportion of total foreign exchange earnings that are coming from remittances. But this is not a stable or a sure flow. Now if the rate of net emigration is changed and if also migrants started to be more sophisticated in comparing alternative ways of their investment

plans, the current high level of remittances may slow down or even decline in absolute terms. This tendency seems to have started. It seems to have happened already in Yemen. Remittances in Yemen were more than a hundred times the export proceeds. It declined dramatically for at least two reasons. The emigrants are becoming more sophisticated. They seem to have alternative plans for investments. They do not like the uncertainty of their home financial system; so they invest more outside. More seriously, workers who migrated created gaps in some sectors of the labour market. The gaps have to be filled up. Yemen, strangely enough, is now an importer of foreign labour, even for some basic sectors such as agriculture and services. Such development simply implies that Yemen is now an exporter of remittances. Gross remittance is not a good index any more. We should think in terms of net that should also exclude associated foreign exchanges lost on imports or increased consumption. There are other effects. The effect of emigration on income distribution is debatable. I have not seen a study that can give a conclusive evidence. I am however skeptical. More importantly, emigration seems to create distortions in sectoral planning. It may create for some sectors relative short-run profitability at the much greater long-run cost. The agricultural sector performance is a case in mind.

The relative profitability of agriculture and what you call the classical farmer's ethic of hard work and commitment to his land seem to have deteriorated in many places. The Egyptian agricultural sector, for example, has suffered a lot. An Egyptian agricultural worker compares his net income from farming, after deducting the various hidden costs of negative subsidies and disincentives, with what he can earn abroad. The gap seems to be too large. Surplus generated in the agricultural sector is dwindling fast. Before 1975, a typical village was generating less than 35 percent of its income from outside the village. In 1978 it is estimated to exceed 55 percent. I am saying that the real social cost and benefit of current emigration must be examined carefully before making policy conclusions. Unfortunately, our conclusions could be misleading in the absence of adequate empirical foundation.

Dr. Javed Azfar: I just wanted to refer to your last remark on China where you said that the decline in the family size started with the Cultural Revolution. I thought the Cultural Revolution had come very late, around 1967. If there is a change that takes place, it takes some time. The dominant things of the Chinese experience were very late marriages and the Cultural Revolution many times had brought down the age at marriage. But that is not the main point. I am wondering about the things that with the socio-economic development, particularly in agriculture in China, are leading to the demand for more children. I am not quite sure what these changes are that would lead to demand for a higher number of children because they may be moving back to the kind of economies that are present in South-East Asia and other countries and in those countries also the family size is going down. So what is the structure of the Chinese and what is that that is leading to this higher demand? And even if there is a demand, we produce a child now and even if we want child labour at ten years before you get child labour, do they think that the present system, the present trend has this kind of permanence that they will go in for more children with the fear that ten years from now the system that they are basing it on may have changed again?

Prof. Sirageldin: There are two points. First I mentioned that there was a real debate that ended in a dramatic change in philosophy in the population policy of China that took place between the early 1950s and the late 1960s when they moved to a very strong anti-natalist population policy. It seems to me that the Cultural Revolution was setting the stage for the Chinese strategy of agricultural development and the acceptance of a strong population policy that can only succeed under a tight socially controlled regime. Indeed, the successful health programme that reduced infant mortality significantly must have been an important factor. The success of the system seems to depend on a strong community pressure that includes a defined set of social rewards and disincentives. This is a little different from a market-oriented system where choices may include different reproductive strategies and possibly greater geographic and occupational mobilities. Now, when Chinese

policy makers attempted to change the agricultural system in order to improve productivity, they seemed to be concerned with the effect of such change on the efficacy of their population policy. This is clearly a valid concern. Whether the change in land tenurial system will have a positive effect on fertility will depend, as I mentioned earlier and as you rightly pointed out, on the structure of the policy. Whether the change is perceived as permanent is indeed an important factor – since child-bearing is a long-term commitment to parents, even in socialist China. What I argued is precisely that this type of discussion, of analyses and of soul-searching is a necessary condition for a serious and successful population development policy.

Dr. Munawar Iqbal: My question again relates to your finding that the population planning policies have not been very effective in bringing down the fertility rate. Well, if we have to find out an appropriate policy which would serve the objective, then we have to look at the reasons – what are the causes for these policies not being effective – and, I think, there could be two possible reasons, leaving aside the efficiency of contraceptives which you said you have not considered. Aside from that, there are two possible reasons that could explain the failure of population policies. The first one relates to your comment that we have to look deeper at the components of fertility and not just at the crude fertility rates. It is possible that a particular policy may have contradictory effects on those components, i.e. it has a positive effect on one of the components and a negative effect on the other component in such a way that the effects are cancelled out and if that is the reason, then the question would be of devising an appropriate policy for those components. The other reason could be that we have to look at the issue in a broader perspective of overall public policy. It is possible that one policy tool is having a positive effect, i.e. population planning does have a positive effect on fertility, but there are other policy tools which are frustrating the objective, and if that is the cause, then it is the problem of devising a policy package which is synchronized and leads to the overall objectives in a broader framework. Could you enlighten us on this point: whether you think it is the first reason or the

second or a mixture of the two and what is the appropriate policy which we should pursue in future?

Prof. Sirageldin: I say that there are eminent students of population dynamics in Pakistan. I cannot put myself in their company because to a large extent Pakistan has one of the most extensive experiences with various strategies of population policies and the strengths and deficiencies are well known. Coming back to your question in a more direct way, it is easy and probably more appealing to argue that the population programme efforts to influence fertility have not been successful because of inadequate planning and organization, the well-known critique of an inadequate supply. There is no blaming an inadequate demand. And when demand deficiency is approached, the strategy is mainly an extension type. On the other hand, existing demand may not be sufficient to achieve desired goals. It may not be possible to generate additional demand through extension efforts without the introduction of some basic structural changes. There is no reason to assume, when developing a population policy, that all the fertility components should move in the same direction. This may not be feasible or desirable. We at least should anticipate that some elements might be moving, at least initially, in opposite directions. Otherwise the social system might be severely strained. Such time lags should be incorporated. We might remember that the Holy Prophet did not prohibit drinking in one step. The attempt to promote lactation behaviour in urban areas might be frustrated, given urban life in general and increased female labour force participation. Fertility in the short run may resist a downward trend. Or take the attempt to increase the age at marriage. This may not change significantly in the short run even when female education increases. Change in some social practices may be necessary. An upsurge in emigration might generate a sudden marriage market. The factors, although varied, could be related to the specific societal conditions, analyzed and interpreted in the context of the existing facts. Another element is related to the extension approach. There is no question that providing information and education is an important ingredient of any social programme. It is necessary but

not a sufficient element, especially when dealing with human behaviour. As we know, the extension approach has been used in agriculture long before family planning. It was not all a success story. A recent example may illustrate the limitations. During the past few years, rural Egypt has experienced a dramatic increase in the rat population that has been traced to many factors including the emigration of farmers, some of the consequences of the Aswan Dam and the use of chemicals that killed some of the natural rat predators. The situation reached epidemic proportions. The President gave a speech on the issue and the government started a national campaign. The strategy was to import large amounts of rat poison from ICI of England and from two German manufacturers. These were distributed to farmers at subsidized prices and with adequate free instructions provided through the extension machinery of the Ministry of Agriculture. The campaign does not seem to have achieved its goal. The question is, why is it that the farmers did not cooperate. Rats are clearly not like children. Their cost to the farmers is obvious and their benefit seem not to exist. But it needs collective action for successful eradication. It also needs a basic understanding of the environmental changes responsible for their sudden growth. These cannot be influenced by extension workers' efforts alone. It is also likely that farmers do not perceive the additional gain in output as worthwhile, given the relative value of agricultural output. This is not meant as a digression. A deep examination of the factors influencing both reproductive behaviour and the production and exchange system seems essential.

Dr. M. Fahim Khan: First of all, allow me to challenge your calculations that you made in the beginning about the growth rate of the world. You calculated from Adam and Eve and I think we should calculate it from the time of Noah and his wife when the entire world was reduced to only two persons. I think then the picture will not be so gloomy because I think that was a period much less than 50,000 years ago. But my main question is what relevance population models will have for medium-term plannings for the countries like Pakistan where we depend only on medium-term plans of 5 years. How can we build population models and our macro models? Some attempts have been made in the past and

several attempts are now being made to construct macro-economic models but none of these models has incorporated the population models or population or population policies. The reason is obvious – that we do not expect the results of population policies within 5 years. Therefore, we just ignore it and we do not have any perspective models so far.

Prof. Sirageldin: Starting from Adam and Eve, there might have been more disasters like that of Noah which we do not know about but which were part of the cycles. In that sense, and even if you take it from Noah's time which I am not sure that we really know exactly when, we will find out that it is far less than the current rate. Even if we take it from 50,000 years, growing at the current level, the world as it is now would have been flooded with people instead of with water.

In terms of demographic-economic modelling, I think there are basically two main reasons for their use. One is conceptual. It helps policy makers to understand the possible connections and feedbacks and give a lead to the basic points of pressure. The other is empirical or applied. What I mentioned is that more sensitivity analysis is needed to evaluate the policy use of a given model. On the conceptual level, the assumed structure should be related to the situation at hand, especially if the purpose of social policy is to change some of the structural factors.

Dr. Sarfraz K. Qureshi: My question relates to the debate between the pro-natalist and anti-natalist and the point of departure that I have is a remark from a colleague of mine that around 1970 we all agreed, at least in Pakistan, that the larger size of population involves a demographic burden. But then came this possible use of surplus labour and we got foreign exchange in return for their services in the OPEC countries. So this is point of departure. I will take now Professor Simon's contribution in this area where he says that the ultimate resource is the size of population. The more the population you have, the more the possibilities of induced innovation and the more the possibility of human knowledge and all that.

So he has started this debate that population growth may be a boom to mankind in the long run. I have read some of your work in this area. So my question really is: is that a dead issue or in the next ten years or so we may develop more uses of surplus population and instead of this being a burden it may be a boom as he maintains it?

Prof. Sirageldin: I agree with Simon that people are the ultimate resource. But Simon's conclusions do not flow from this statement. Correlations are not necessarily causations. Most of the scientific developments of the twentieth century were done in countries where the rate of population growth has been declining. The miracle achievement of Japan occurred while Japan experienced one of the most remarkable demographic transitions. Some of the danger, however, is to interpret tautologies as theories. A model might have its conclusions built into it. Simon's model seems to have this efficiency. If we assume that investment in social infrastructures is a direct function of high dependancy ratios, then we are assuming that investment is a function of high fertility. We are simply assuming the conclusion. The short run in the model is too long. It is between 60 and 70 years. In that span, positive population growth produced negative effects. We should remember that the life expectancy of almost 80 percent of all children born on earth today is less than 55 years. It is hard to accept that logic as guide to social policy.

Prof. M. Yusuf Kaleem: My question is again conceptual in the same framework of discussion that we were discussing right now in the last question. I will just try to emphasize one or two more things, a little more elaborately. The rate of technology is really posing a challenge to us. The rate of change in technology is getting faster and this is already creating lags in social organizations and institutions' adjustments. Probably it is getting difficult for us to adapt our education system which is a long-term process to the needs and requirements that we will be having after two or three decades. We are not being able to recognize and appreciate what will be our requirements then and to change our educational institutions. Similarly, in other social institutions there is a clear wide lag,

existing and being created, by the faster rate of technology. Then there is another lag in the personnel, in the human personality and sociology which is of attitudes. The attitudes are more rigid and so there is only one segment of population which is younger or young people who are more amenable to change and flexibilities and learning, adapting to the new technology. Providing skill and education is yet another component, institutionally of course. Now, well, conceptually it looks that if we keep getting more young people at faster rate, probably there is a way out. Probably we are trying to force the variables which are uncontrollable and if we try to manage the variables on the other side which are more controllable, probably we can end up utilizing our resources more efficiently. So keep getting new, younger people at a faster rate and try to manage the other controllable resources on the other end, trying to blend them in the total resources. I think even if we try to manage migration, rural and urban, probably that is more controllable attitudinally as well rather than the fertility planning efforts that we are doing. So my focus is again on the planning of resources rather than on the planning of the population; but it is again a macro-level, conceptual-level question and I am not going into those details which, if included, will of course yield different scenarios. It is only one-variable point of view.

Prof. Sirageldin: I think you have raised again a point which has been somewhat controversial and to some extent I think has both the conceptual and empirical importance. Let me repeat your point in the way I understood it. You are simply saying that for the development of the labour force under a fast technological change, a relatively high rate of growth of population will imply that the replacement effect of the labour into a more educated one will be faster and will be easier because there are more people coming into the labour force and accordingly they can be educated better. There are severe limitations to this point of view, unfortunately. Your other point is that the control of rural-urban redistribution in line with resources might be much easier conceptually and operationally than controlling of fertility. This has not been verified by the empirical facts. Let me take them one by one.

The truth of the first point should be self-evident in rich countries with high rates of population growth, like the oil-surplus countries where capital is no constraint. Indeed, in these countries very generous resources are being devoted to educating the new addition to the labour market to accelerate what is being termed the replacement effect. They also devoted generous resources to the importing of expatriate labour to carry out the infrastructure necessary for the utilization of that future flow. Now I will be discussing that part of the immigration problem tomorrow. The effectiveness of the investment in education in the development of the indigenous labour seems to have been not very profound. It seems that population growth is not a sufficient condition for the development of human resources even if there were no financial constraints. But most developing countries are not blessed with abundant capital as in the cases of Egypt, Pakistan, India, Bangladesh and others. The problem here is: how much can you allocate for education and to what extent can you control its quality while the base is growing up. It is an empirical question whether the present quality of education in these countries is at least at the same level as it was 15 years ago.

Attempts at population redistribution or the control of urban growth have faced many difficulties even in countries which have been successful in their fertility planning programmes as in the case of Taiwan or South Korea. Indonesia, for example, has attempted to redistribute population from Java to Sumatra, but without much success. It seems that they are having better luck with their fertility planning programme.

Dr. Sabiha Hafeez: My question pertains to equality index and its impact on fertility behaviour. If I have correctly understood, researches indicate that the equality index has little or no impact on fertility. My question is: how do you foresee going beyond this particular finding? Do you expect to improve the concept of equality and, correspondingly, its operational measures? As to the nature of social progress and that of occupational mobility, I know of only one kind of occupational mobility or social process, i.e. when you have a situation where a very large number of people are

increasing their earnings by improving the level and form and quality of education and correspondingly the changes in their occupations. Now this is legitimized mobility; but in Pakistani society we are also witnessing occupational mobility, onion-skinned occupational mobility or instant occupational mobility, where a large number of people are making increases in their earnings, in their income levels, without making changes in their level of education. My fear is that in Pakistan the incidence and prevalence of this onion-skinned or artificial occupational mobility are much larger than the legitimized occupational mobility. So I have a feeling that when we allow for this artificial or instant mobility, then probably we can find some kind of positive correlation between equality index and fertility.

Prof. Sirageldin: Well, first a disclaimer. I did not say that there is no relationship between equality and fertility. I said that equality itself is a very complex process, as you just mentioned. It might be that when you have a stratified society, the movement is mostly within rather than among strata, i.e. the opportunities for inter-stratum mobility are very low. It is precisely this movement which creates conflict with fertility behaviour. Accordingly, a rigid system may resist change in its reproductive behaviour. But the situation is more complex. Fertility seems to have declined among countries with and without the same level of the equality index. My fear is that the equality index does not reflect social equality and may not necessarily reflect economic equality. The paper which was mentioned has to do with the relationship between social mobility within and across social groups on the one hand and the change in income within and across the groups on the other. Those two may not necessarily bring the same direction or directional effect on fertility. In many instances, the outcome can only be verified empirically.

Prof. Alan Heston: I am a little uneasy about the question I am going to ask you for two reasons: I was not quite clear on all of your criticism of the new home economics, and I usually feel much more comfortable attacking Richard Easterlin than trying to defend him

but let me just try to defend him in the present context. If I understand a number of your remarks you appear to suggest that much of the modelling that has been done in the new home economics has to be questioned and partly on the ground that it applies to marginal sort of decisions which are not appropriate to the kind of structural differences which one finds today. My question I guess is rather broad. Many of the structural changes that have hit many other countries of Europe and North America in the last 150 years are much larger than the structural differences across countries today and so I like to ask another related question. It seems to me that you assume that the structural changes being undertaken in many countries today are very large compared to the kind of body of empirical evidence we have relating to the new home economics. I think that when large structural change is taking place, the theories like that of Easterlin may have some viability.

Prof. Sirageldin: I think you have a point here. However, let me make the qualifications to what you imply. Easterlin's analysis started by a diversion from the school of home economics. His long-run theoretical analysis of the US fertility is basically a long-term cohort analysis. Parents, at the time when they decide on their family size, evaluate their income position relative to that of their parents at the time their parents had theirs. If, for example, the current cohort feels that they are relatively better off, then they will decide to have more children, according to Easterlin. This is an interesting hypothesis about the cyclical behaviour of fertility. It proved to have a wide intellectual appeal. It is not evident to me how it relates to trends (or transitions) in fertility. What the framework is dealing with, it seems to me, is the movement around some "equilibrium" values of vital rates. Why those values in the first place? The theory is silent. The success of the theory in explaining fluctuations in the US fertility is being debated. I am questioning the relevance of its application to the case of developing countries.

Summing up*by***Professor Syed Nawab Haider Naqvi**

At this point I would just thank Professor Sirageldin for an excellent exposition of the demographic problems we face today and for performing the 'taming-of-the shrew' type act in handling a very exciting discussion of a wide range of issues that his lecture inspired. I would not try to summarise all that has been said in the discussion, but would just recapitulate the basic points of the lecture.

Professor Sirageldin has shown graphically that our forefathers were wiser than we are in playing the game of procreation in an economically and socially viable way. While they clung steadfastly to the 45-degree line – indicating long-run zero population growth rate path –, we have deviated from it (Figure 1). His advice, in plain language, for the present generation is that they had better hark back to the 45-degree line, if only out of compassion for posterity. How fast we should run to stay at the same place – on the 45-degree line, that is – is a very ticklish issue. It can not be a mechanical exercise in reducing the vital rates. Professor Sirageldin has cautioned us that the population problem is a complex one, embedded in the matrix of socio-economic norms and cultural mores and the state of economic development. It is essential that demographic adjustments be in line with the socio-economic change. Indeed, the marginal social cost of a precipitate fertility reduction may be too high in relation to its marginal social benefits. For instance, without at the same time attaining high levels of technological growth that relies on a limited supply of skilled labour (or robots!), a sharp reduction in fertility may not confer any net benefits on the society. For a steep decline in fertility will change the age structure to sharply increase the proportion of old people in the population. How the shrinking younger generation would take the increasing load of an ageing population is a relevant question for population planners to contemplate. Or, to take another example, the rising age at marriage beyond a certain point depends on the social acceptability of special kind of sexual morality

in the pre-marital stage. Thus, attempts to change or impose social rules without understanding the minimum prerequisites to accommodate such changes are likely to be counterproductive.

Also, in finding a viable solution of the problem, the concern for the *quality* of population should be at least as much as our concern for reducing the *size* of the population. Even though the two are fundamentally related, the relationship is not an iron-clad law. A smaller size of the population can be of as low quality as a larger size if the socio-economic and cultural matrix is not such as promotes a high-quality (smaller) population. The quality of population is crucial because human capital is at least as important as physical capital for economic growth and technical change.

In this connection, Prof. Sirageldin has emphasized that international migration has indeed made the population-induced economic problems, e.g. the unemployment of skilled and unskilled labour force, less tractable; but that should not make us complacent. Like the proverbial chicken, the migrant labour will ultimately come back to roost, not literally, of course. It must be understood that migration is not a solvent of the demographic problem but only a short-run, though welcome, palliative.

Thus the need for an active, 'comprehensive' population policy is too compelling to be ignored. It needs to be comprehensive because an adequate supply of, and even the demand for, contraceptives is only part of a fruitful population policy. *There are countries like Jordan – and Pakistan also falls in this recalcitrant reproducers' category – where contraceptive use is high and yet fertility has been going up!* To understand this paradox, Prof. Sirageldin has called our attention to the taxonomy of total fertility rate (TFR), which he shows consists of five elements – indices of marriage, non-contraception, abortion, lactation, and fecundity. For population policy to induce a decline in fertility, it is essential that the policy makers require that all the five components march together. Unfortunately, natural instincts, particularly those relating to sex behaviour, tend to be a rebellious lot, seldom obeying any explicit, loud-mouthed rules of good behaviour. This

explains, incidentally, why population policy has *historically* been a rather inconsequential element in the chain of events leading to the observed low-fertility, low-mortality cycle in the developed countries. Here, if not elsewhere, it is the invisible hand of voluntary self-restraint, influenced by technological changes and cultural norms, that has propelled Western societies towards the 45-degree line that Professor Sirageldin has so firmly planted in the midst of the “demographic and social transition” box.

Thus the demographic problem – or, shall we say, the demographic riddle – is a difficult one and there is no cheap way out of it. A continuation of the past population growth rates is clearly a prescription for social and economic disaster, particularly in the developing countries. And yet it is not possible to effect a drastic fall in fertility rates without straining the economic and the social and family structures of these societies almost to the breaking point. Here is then the puzzle: we cannot allow population to grow at the present rates and yet it is not possible to engineer a very sharp and precipitate fall in fertility rates. Are we then back to square one? Or is it a prescription for an attitude of desperate resignation, letting the reproductive machine to take humanity where it pleases? Professor Sirageldin would say, “Certainty not”. To substantiate this oracular negative reply he can usefully refer his audience to his present lecture.

Having exhausted my 15–20-minute time limit for winding up the discussion, I now adjourn the session for today, invite you all to a cup of tea and request you to come tomorrow as well if only to show that you are still interested, regardless of your respective ages, in the mystique of married couples’ reproductive behaviour.

Lecture II

POPULATION POLICIES AND DEVELOPMENT: PUZZLES IN MIDDLE EASTERN MIGRATION

Professor Naqvi's clear and precise summary that he gave yesterday is an accurate presentation of my discussion. There is no simple way out. Society must find the cost of its demographic behaviour. Such behaviour cannot be isolated from its social and economic environment. How to minimize such cost is really the crux of the problem.

Today, I would like to examine two controversial issues related to the consequences of the Middle East International Migration. The first has to do with its effect on the development policies of the labour-importing countries, with a special reference to the case of Kuwait. The second relates to its effect on the growth potential of the labour-exporting countries, with special reference to recent development in Egypt's agricultural productivity. But, first, a brief note on the nature of international labour migration in the Middle East and on the public view of emigrants as export commodities.

On the Dimensions of Middle East International Migration

In contrast with other sources of population change, international migration has certain features which make it unique in policy terms: policies dealing with the flow or stock of migrants require policy decisions by at least two governments. Attempts by

any one government to influence its own nationals to emigrate or to attract immigrants will be constrained by national and international legal obligations as well as by policies of other governments regarding their own self-interest. International migration flows being more responsive than either fertility or mortality to short-run changes in the socio-economic environment, their effect on the growth and structure of the labour force is more immediate. Furthermore, the process itself is not easily predictable. Migration flows are seldom unidirectional but tend to generate a sizable flow of return migration induced by the initial flow of out-migration. Once started, migration develops its own momentum through information network and the social and financial support established and provided by earlier migrating friends and relatives. The momentum may persist for short periods even in the face of changed economic conditions since the factors that produce it effectively lower the costs of relocation. However, the determinants and consequences of international migration will vary among countries depending on their respective labour market conditions and the various policies they pursue. Countries, however, may be grouped into three major categories, where it is reasonable to assume that economic objectives and policy measures regarding the management of international migration will vary accordingly; namely

- (a) Labour-importing countries – mainly capital-surplus, oil-exporting countries;
- (b) Labour-exporting countries; and
- (c) Labour-exporting countries with a sizable inflow of foreign labour, e.g. Jordan and Yemen.

These categories are well illustrated by the countries of the Middle East.

Since the early 1970s international labour movement has been playing a pivotal role in the economic growth experience of the oil-exporting countries of the Middle East. It has generated socio-economic repercussions that go far beyond the immediate bound-

aries of that region. In 1975 the volume of migrant labour working in 10 oil-exporting countries in the Middle East was 1.884 million persons (Table 1). This is a sizable labour flow in both absolute and relative terms, i.e. relative to the population size of the labour importing countries. The projected total manpower requirement in those countries was estimated to increase by about 40 percent and the demand for expatriate labour by 54 percent (Table 2). As is evident from Table 2, the projected demand cuts across all skilled and unskilled categories. This persistent high level of demand for expatriate labour will have important socio-economic and demographic implications for both the labour-importing and labour-exporting countries. From the labour-importing countries' perspective, their demand for labour seems to have been based primarily on economic grounds, i.e. to meet some economic growth targets. Demographic concerns were given secondary policy considerations. Similarly, the response of the labour-exporting countries was mainly based on assessing the economic consequences of the expected flows, e.g. the effects of workers' remittances on foreign exchange constraints. An implied view for the labour-exporting countries is that emigration is an export industry that needs encouragement and even development. This seems to present a naive policy perspective that could have negative consequences for countries' development potentials.

**Puzzles in a Labour-Importing Country:
The Case of Kuwait**

In many development plans of the Arab labour-importing oil-exporting countries, a desired ratio of expatriates to nationals is usually assumed. From a policy perspective, the maintenance of such ratio becomes an objective in itself. But the determinants or implications of such "given" ratios are neither adequately specified nor derived in the plans methodology. For example, it is obvious that changing or maintaining a given population ratio implies the manipulation of one or more of the three basic components of population dynamics: net external migration, fertility and/or mortality. An analysis of these alternative means is often missing. A more fundamental deficiency is the lack of clarity of the stated

Table 1
Immigrant Labour in the Middle East and North Africa by Source and Destination, 1975
 (in thousands)

Source/Destination	Algeria	Bahrain ¹	Iran	Iraq	Kuwait	Libya ²	Oman	Qatar	Saudi Arabia	United Arab Emirates	Total
Egypt	1.0	1.2	-	2.3	37.6	175.0	5.3	2.7	95.0	12.7	332.8
Jordan	.4	.8	-	3.1	47.7	13.0	2.6	1.7	175.0	6.4	250.7
Morocco	.3	-	-	-	.1	1.8	-	-	-	-	2.2
Oman	-	1.5	-	-	3.7	-	-	1.5	17.5	7.0	31.2
Somalia	-	-	-	-	.2	-	.1	-	5.0	1.6	6.9
Sudan	-	.5	-	-	.9	7.0	.2	.5	35.0	1.8	45.9
Syria	.4	.1	-	.2	16.5	15.0	1.5	.4	15.0	3.4	52.5
Tunisia	.2	-	-	-	-	29.0	-	-	-	-	29.2
Yemen Arab Rep.	-	.9	-	-	2.8	-	1.0	1.6	280.4	3.5	290.2
P.D.R. Yemen	-	.4	-	-	8.7	-	-	1.0	55.0	1.5	66.6
Europe and North America	6.1	4.4	35.0	.7	2.0	28.0	3.6	9.2	15.0	9.1	113.1
India	.3	9.0	4.4	.3	21.5	2.0	24.8	19.8	6.0	73.0	161.1
Pakistan	.1	6.7	2.4	.9	11.0	5.0	20.2	14.5	25.0	94.0	179.8
Others	1.0	3.9	140.2 ³	.9	58.7	19.2	7.9	8.9	49.5	31.8	322.0
Total	9.8	29.4	182.0	8.4	211.4	295.0	67.2	61.8	773.4	245.8	1,884.2
Percent of total employment	.2	.38	.2	.1	.71	.33	.39	.83	.39	.89	

¹ Jordanians and Palestinians.

² End of 1976.

³ Includes 120,000 Afghan workers and others from the Gulf states.

(-) Nil or insignificant.

Continued -

Table 1 - *Continued*

Sources : Algeria: Ministry of Labour
Kuwait : The 1975 census
Libya : Ministry of Planning and Scientific Research
Saudi Arabia : J.S. Birks and C.A. Sinclair, "International Migration Project, Country Case Study: Saudi Arabia University of Durham, England, 1978.
Bahrain : Estimates based on 1971 census and 1976 arrival departure statistics.
Iraq : Estimates based on "Foreigners in Iraq by Sex and Nationality, 1974" statistics.
Iran : Estimates of the Ministry of Labour.
Oman, Qatar, U.A.E. : Author's estimates derived from available information on population, employment, work permit and other related published data.
Ecevit, Zafer H. "Labour Imports/Exports for Economic Development - The Middle East Experience," *mimeo*, (Washington, D.C. : World Bank).

Table 2
*Eight Arab Labour Importing Countries¹: Manpower Requirements, by Occupation,
 1975, 1980, and 1985*

Occupations	1975		1980		1985	
		Percent		Percent		Percent
Professional and technical						
Total manpower requirements	110,200	100.0	202,600	100.0	297,300	100.0
Available supply of nationals	42,300	38.4	57,200	28.2	82,700	27.8
Expatriates required	67,900	61.6	145,400	71.8	214,600	72.2
Other professional						
Total manpower requirements	250,100	100.0	399,600	100.0	563,400	100.0
Available supply of nationals	116,100	46.4	143,700	36.0	184,600	32.8
Expatriates required	134,000	53.6	255,900	64.0	378,800	67.2
Technician						
Total manpower requirements	190,300	100.0	334,300	100.0	476,600	100.0
Available supply of nationals	113,500	59.6	123,200	36.9	151,200	31.7
Expatriates required	76,800	40.4	211,100	63.1	325,400	68.3
Other subprofessional						
Total manpower requirements	249,700	100.0	361,500	100.0	490,200	100.0
Available supply of nationals	194,300	77.8	237,500	65.7	324,200	66.1
Expatriates required	55,400	22.2	124,000	34.3	166,000	33.9
Skilled office and manual						
Total manpower requirements	923,500	100.0	1,353,100	100.0	1,750,100	100.0
Available supply of nationals	497,700	53.9	530,400	39.2	638,900	36.5
Expatriates required	425,800	46.1	822,700	60.8	1,111,200	63.5
Semiskilled office and manual						
Total manpower requirements	1,752,100	100.0	2,077,700	100.0	2,685,800	100.0
Available supply of nationals	1,280,500	73.1	1,470,800	70.8	1,816,100	67.6
Expatriates required	471,600	26.9	606,900	29.2	869,800	32.4
Unskilled						
Total manpower requirements	2,735,000	100.0	3,523,200	100.0	4,042,900	100.0
Available supply of nationals	2,305,300	84.3	3,031,200	86.0	3,492,600	86.4
Expatriates required	429,700	15.7	492,000	14.0	550,300	13.6
Total manpower requirements	6,210,900	100.0	8,252,000	100.0	10,306,400	100.0
Available supply of nationals	4,549,700	73.3	5,594,000	67.8	6,690,300	64.9
Expatriates required	1,661,200	26.7	2,658,000	32.2	3,616,100	35.1

Source: *Interim Report Assessment of Migration situation in 1975 and Preliminary Projections of Labour-Importing Country Manpower Requirements to 1985*. World Bank (1979).

¹Algeria, Bahrain, Kuwait, Libya, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

Source: Sirageldin, Ismail and James Socknat, "Migration and manpower needs in the Middle East and North Africa, 1975-85," *Finance & Development*, Vol. 17, No. 4, December 1980.

objective. There are alternative meanings of the term “desired parity”. For example, parity could be sought in terms of three alternative formulations: the proportion of foreigners in the total population, the proportion of foreigners in the labour force, or in terms of the proportion of the total value added by expatriate labour. Each formulation implies a different socio-economic consequence and calls for a different policy strategy.

Building on an earlier analysis made by me, it is possible to illustrate the relationship between these alternative formulations by using some simple identities. Thus, the following relations could serve as a basis for the discussion:

$$R_1 = R_2 \times (R_3 - R_4) \quad \dots \quad \dots \quad \dots \quad (1)$$

$$R_5 = (R_6 \times R_2) \quad \dots \quad \dots \quad \dots \quad (2)$$

where

R_1 = the ratio of national population to expatriate population;

R_2 = the ratio of national labour to expatriate labour;

R_3 = The proportion of the expatriate population who are in the labour force – can be interpreted as a crude participation rate for expatriates;

R_4 = the proportion of the national population who are in the labour force – can be interpreted as a crude participation rate for nationals;

R_5 = the ratio of the value added by national labour to that originated by expatriate labour; and

R_6 = the ratio of value added per national worker (i.e. average productivity of national workers) to that per expatriate worker.

The first relation, which may be labelled the socio-demographic linkage, simply states that the population ratio (R_1) is equal to the labour ratio (R_2) weighted by the relative participation rates (R_3/R_4). The second relation, which may be labelled as the economic

linkage, indicates that the value added ratio (R_5) is equal to the labour productivity ratio (R_6) weighted by the labour ratio (R_2). Although these two relations are purely definitional, they illustrate some important policy implications.

Equation 1 indicates that a given labour ratio can be compatible with various combinations of population ratios depending on the values of the labour participation rates of nationals and expatriates. These relations are illustrated in Table 3. If the crude participation rate of expatriates (R_3) is equal to 0.4 and that of nationals (R_4) is equal to 0.2 (Table 3, Panel a), then the population ratio will equal unity if the labour ratio R_2 (nationals to expatriates) is equal to 0.50. Indeed, the population ratio will double ($R_1=2$) if the labour ratio reaches unity ($R_2=1$), other things being equal. If, on the other hand, expatriates bring with them many dependants (whose unemployment status is assumed to remain unchanged), their crude participation rate (R_4) will depress the population ratio if not compensated by an increase in the labour ratio (R_2), as illustrated in Panel (b) of Table 3.

Indeed, the ratio of national to expatriate labour (R_2) is a weighted average across age and educational labour groups. Since age and education are basic determinants of family size, a given value of R_2 may be consistent with different values of (R_3) depending on the occupational and educational mix of the expatriate labour. For example, for the same value of R_2 , say, equals 0.25 (Table 3, Panel a), the value of R_1 will be more favourable (i.e. higher) if the expatriate labour is relatively educated or old, since they will more likely have a higher crude participation rate (R_3). The education mix of expatriate labour should have a significant effect on productivity and output. Accordingly, a main concern should be with the relation between the labour ratio (R_2) and the relative contribution to total output (R_5). Table 4, based on equation 2 above, presents the relative contribution of national labour and expatriate labour to total value added (R_5) for given combinations of labour ratios (R_2) and relative labour productivity (R_6).

Table 3
*Population Ratio (R_1) for given Labour Ratios (R_2) and
 Crude Participation Rates (R_3 & R_4)*

Ratio of Kuwaiti* to non-Kuwaiti Labour (R_2)	Non-Kuwaiti Crude Participation Rate (R_3) is equal to			
	0.40	0.35	0.30	0.25
(a) If Kuwaiti Crude Participation Rate (R_4) = 0.20				
0.25	0.50	0.44	0.38	0.31
0.50	1.00	{0.88}	0.75	0.63
0.75	1.50	1.31	{1.13}	0.94
1.00	2.00	1.75	1.50	1.25
(b) If Kuwaiti Crude Participation Rate (R_4) = 0.30				
0.25	0.33	0.29	0.25	0.21
0.50	0.67	0.58	0.50	0.42
0.75	0.98	0.87	0.75	0.63
1.00	1.33	1.16	1.00	0.83

*Indeed the ratio of National to Expatriate Labour (R_2) could be easily converted to the proportion of Nationals in the labour force. Thus, let the latter = (R'_2), then: $R'_2 = R_2 / (1 + R_2)$. For example, if $R_2 = 0.25$, the value of $R'_2 = 0.20$.

Table 4
*The Value Added Ratio (R_5) for given Labour Ratios (R_2)
 and Relative Productivity (R_6)*

Ratio of Kuwaiti to non-Kuwaiti Labour (R_2)	Relative Labour Productivity: (R_6)			
	0.50	0.60	0.70	0.80
0.25	0.13	0.15	0.18	0.20
0.50	0.25	0.30	0.35	0.40
0.75	0.38	0.45	0.53	0.60
1.00	0.50	0.60	0.70	0.80

The message of Table 4, although self-evident, is that, other things being the same, the reliance on foreign (critical) skills, with relatively high productivity – e.g. an R_6 equals 0.50 – will reduce the relative contribution of local labour to the total output. Thus, a policy objective that attempts to maintain relative output (R_5) at 0.50 would require a labour ratio (R_2) that equals unity, if relative productivity (R_6) is equal to 0.50. But, as Table 3 illustrates, a labour ratio (R_2) that is equal to unity could imply different values for a population ratio (R_1) depending on the values of the crude participation rates (R_3) and (R_4). Thus, the present accounting framework could serve as a base for checking the internal consistency of a given policy design.

The previous discussion provided a general *accounting* framework that links some international migration policy objectives (R_1 or R_2) with demographic and economic factors and options. The following example is mainly illustrative of the use of such framework for Kuwait. In a recent study of forecasting sectoral employment in Kuwait, some estimates of labour ratios, population ratios and crude labour participation rates were provided. In that study, forecasts of sectoral employment were performed with two independent methodologies: (a) the input-output method (I-O), and (b) the sector shares method (SSM). Both forecasts produced very similar results. Table 5 presents some of the findings for low, medium and high growth scenarios based on the findings of the input-output method (I-O).

In this simulation exercise, it is assumed that the Kuwaiti labour crude participation rate (R_4) will increase by about 13 percent during the decade of the eighties, i.e. from 0.196 to 0.222, while that of non-Kuwaiti labour (R_3) will decline by about 18 percent during the same period, i.e. from 0.373 in 1980 to 0.305 in 1990. Given these assumptions, it is expected that the population ratio (R_1) will exceed unity by 1990 in the low- or medium-growth scenarios and reach 0.969 in the high-growth scenario. The labour ratio (R_2) would increase by about 40 percent in the low-growth scenario and by 35 percent in the high-growth scenario during the

decade. These estimates are consistent with the bracketed values in Panel (a) of Table 3. That table, however, indicates what alternative values for R_1 and R_2 could be obtained if R_3 and/or R_4 were assumed to change differently. The projected values of labour ratio (R_2) could also indicate possible ranges for relative value added (R_5). As Table 4 illustrates, an $R_2 = 0.50$ indicates a range of relative output between 0.25 and 0.40, depending on the value of relative labour productivity (R_6). For an increased value of R_2 , projected in the range of 0.75, the relative value of (R_5) increases accordingly. A crucial factor in the scenario is clearly (R_6).

To summarize, the basic parameters of a desired population parity are clearly interrelated. It is possible to influence the labour ratio (R_2) as well as the non-Kuwaiti crude labour participation rate (R_3) through a migration policy. Thus, given a policy objective of some desired balance stated in terms of one or more of the above-mentioned parameters, it is possible to analyze the consequences of alternative migration strategies. But it is important to consider the role of relative productivity (R_6). An attempt to change (R_6) has implication for both the design of a migration policy and a national policy of human capital formation. Other factors, however, may not be immediately related to a migration policy. For example, a large component of the Kuwaiti crude labour force participation rate (R_4) may be related to changes in the female labour-force participation and to changes in fertility.

The question then is whether these ratios are sensitive to policy intervention. In the simulation exercise it was assumed that the Kuwaiti crude labour participation rate (R_4) will increase by 13 percent during a period of ten years. R_4 increases if relatively more people work. Women are one segment of the labour force that is not adequately represented, partly because of traditions, lack of skills, and the presence of high fertility. None of these can change in the short run without an active policy of social reform. But the assumption seems to be in the right direction. A policy that attempts to reduce R_4 through increasing fertility in Kuwait is

Table 5

*Estimates of Population Ratios (R_1) and Labour Ratios (R_2);
given Crude Participation Rates (R_3, R_4) for
different Growth Scenarios*

Growth Scenarios Based on (I-O)*	R_1	R_2	R_3	R_4
1980 Estimates				
Low Growth Scenario	0.883	0.464	0.373	0.196
Medium Growth Scenario	0.880	0.462	0.373	0.196
High Growth Scenario	0.873	0.458	0.373	0.196
1990 Estimates				
Low Growth Scenario	1.058	0.773	0.305	0.222
Medium Growth Scenario	1.012	0.739	0.305	0.222
High Growth Scenario	0.969	0.709	0.305	0.222

Source: Based on "Structural Change and Forecasting Sectoral Employment in Kuwait" Discussion Paper. World Bank (1979).

*The Input-Output model (I-O) may be summarized in terms of the following three equations system:

$$\begin{aligned} (I-A) X &= F & (1) \\ V &= BX & (2) \\ F &= HR & (3) \end{aligned}$$

where :

- A = the matrix of technical coefficients
- X = a vector of sectoral gross output
- F = the final demand vector
- V = a vector of sectoral value added (i.e., (V) for sector i), defined as the difference between gross output of sector i (X_i) and intermediate inputs delivered to sector i ($\sum_j a_{ij} X_j$)
- B = diagonal matrix with $(1 - \sum_j a_{ij})$ elements on the diagonal and zeroes elsewhere
- R = a vector representing the breakdown of GDP by its basic components

By combining the three equations system and rearranging, the value added vector (V) is determined as follows:

$$V = B(I-A)^{-1} HR \quad (4)$$

Accordingly, sectoral employment (L) is calculated using the following equation:

$$L = V/Y \quad (5)$$

where Y = a sectoral productivity vector.

clearly like sailing against the tide. Here the identity of the TFR ($C = C_m \cdot C_c \cdot C_a \cdot C_i \cdot TF$) should be useful as a general guide to an appropriate policy action.

In Kuwait the TFR is about 7.0. It is high but still lower than those of some other communities. For example, the Hutterites of North America have a TFR around 10. Then a Kuwaiti planner and demographer would ask why Kuwait cannot reach that level. Kuwait is a healthy society (TF is high) and marriage is universal. Then, what are the means to increase TFR from 7 to 10 in order to manipulate R_4 . An objective examination of such possibility for the case of Kuwait should point out which one of the TFR components could be influenced by policy. If these components are moving in the opposite directions, given the dynamics of society, could a policy be formulated to go against the tide? Is it feasible, and at what cost? The direction of social change in Kuwait seems to exert a downward pressure on fertility. For example, the number of living children ever born to Kuwaiti women in age group (40–44) varied between 6.6 for illiterate women and 4.3 for women with secondary education, and 2.9 children for those with university education. Given the current high school enrolment of Kuwaiti girls, the future seems to be towards a decline rather than an increase in R_4 . Other trends seem to influence fertility negatively, e.g. age at marriage (C_m) seems to increase and lactation behaviour seems to decline (i.e. C_i increases). Female labour force participation also shows an upward trend. On the other hand, lactation behaviour seems to decline (i.e. C_i increases) with a positive effect on fertility. Indeed, discouraging lactation has undesirable health and psychological consequences. Accordingly, a policy that attempts to increase R_1 by influencing R_4 should consider the expected trend in R_4 and the negative consequences of altering that expected path. The social cost of such policy needs careful evaluation.

Influencing the non-Kuwaiti crude participation rate has its own limitations. An R_3 of .4 is relatively high. It can be increased, however, through contractual arrangement, e.g. duration and the number of dependants allowed. For example, labour is being

imported as part of a contract with a specified job and duration. This novel system, being labelled as the "camp approach", is essentially a contract to import semi-finished goods to be completed in the host country using foreign labour and technology. It minimizes interaction between local and foreign labour forces and reduces the diffusion of new skills to local workers. It seems that attempting to influence R_3 through either of these two strategies could produce negative externalities.

A direct and efficient way to increase R_1 is to implement a more liberal naturalization policy. At present, Kuwait has a restrictive policy. The policy is being debated. But demographic concern is only one of many factors to be considered. The long-run vision of achieving an optimum size of a Kuwaiti population that is in balance with the long-term development potential of the country's resource endowment that is also internally integrated, whose value system is consistent with the heritage of an Arab society and that is socially and politically in harmony with the larger society of the Arab world, is indeed a complex task to design. There is an understanding cautionary attitude to use naturalization as a demographic policy tool to influence R_1 .

Another policy option is to induce changes in R_2 and R_1 by influencing the rate of growth of economic activities and the degree of its labour intensity. Slower economic growth seems to be the current strategy – a response partly to a weakened international demand for oil and partly to demographic considerations.

To summarize, the labour-importing countries, faced with recent unfavourable demographic realities will actively develop population policies that are consistent with their socio-economic plans. The flow of labour immigration is a tool that can be manipulated on relatively short notice. The economic cost of such policy is *relatively* simple to estimate. The labour-exporting countries on the other hand should not take the current pattern of international migration as given. Past growth in labour demand has been a function of changes in national and international conditions.

It was not difficult then to predict these trends. But as we have seen, the demand for expatriate labour is becoming increasingly the outcome of complex socio-political decision processes. These are difficult to predict, even when using the best tools in the economist's bag. Relying on the economic returns of emigration (remittances) as a critical resource for long-term planning could be risky. There are additional costs, however. These will be examined next.

**Puzzles in a Labour-Exporting Country:
The Case of Agriculture in Egypt**

Now, we can examine the case of labour-exporting countries. It is an interesting subject where the emphasis has shifted dramatically from a concern with the negative aspects of the brain drain to an attempt to maximise the drain of human resources regardless of its skill content. Contrast, for example, the concern of Bhagwati or Zahlan with that of Ecevit or the World Bank. The current emphasis is to maximize the emigrants' remittances, especially their foreign exchange content. This is a dramatic shift of social concern. It is almost a 180° shift. It implies a novel economic-demographic policy – a policy that could have unexpected implications for the stability of the socio-economic system. It also raises difficult conceptual issues. An important question is the validity of perceiving human resources as an export commodity. I think this view needs reflection. If workers are export commodities, then society should be willing to treat them as such. There should be an R&D activity that searches for the "best" available technology to produce these exportable human resources at minimum cost. There should also be a system of quality control that screens out those who do not meet the minimum "export standards". Fiscal and monetary policies should be developed to ensure that the production of these exported skills are sensitive to relative local and international "prices", to maximize foreign exchange earnings in the long term. And, as an accounting procedure, their "value" should enter the foreign trade statistics. One may even consider whether it is more "profitable" to export these human resources at younger age or older age, e.g. the export of children may produce

higher *net* discounted returns. More to the point, once they have been exported, society may have to give up its claim of “ownership”, as in the case of any other traded (non-public) good!

The purpose of these remarks is not to be sarcastic, but to indicate the non-emotional implication of this emerging public perception of human resources as an export commodity. The history of social sciences – and that of economics is no exception – indicates a heavy metaphorical tendency. Putty clay, a marriage market, turnpikes and human capital are illustrative examples. Indeed, “metaphorical thought” is a distinctive mode of achieving insight. Children, like durable goods, and emigrants, like exportable goods, imply that both do not have their own opinion. Yet the metaphor provides us with implications that, in its absence, may not have been foreseen. We must be careful not to end up believing that what we invented is the undisputed reality.

Indeed, the process of current emigration is not strictly comparable with the export of goods on another fundamental account. Most of the migrants return back, with an average duration of 2-3 years – probably as net consumers in their native lands. Another metaphor is to view emigrants as social capital whose services are exported. The capital good itself (i.e. the emigrant) is being rented out. It is moved temporarily to the importing country and returned home at the end of the contract period. Conditions of the contract may include provisions for penalties in case of misuse (e.g. abnormal depreciation) and credit in case of additions (e.g. training). The scope of these conditions and their effective implementation will depend on the relative “power” of the negotiating parties. The social accounting implication of this view could be worked out in principle. But the societal welfare implications of viewing human resources as pure capital goods needs careful reflection. At this point it will suffice to quote Neil W. Chamberlain on the issue:

It is the implicit ethical foundation for this supposedly objective formulation which bothers me. While purporting to be ethic and value free, in the sense that it takes purposes and preferences as given and confines itself to drawing conclusions on the strength of the price and data which are generated,

human capital analysis harbors ethical persuasions... Capital, including human capital, is integrated into a production system and controlled for purposes which lie outside itself... We do not think of capital as having wishes and needs which are independent of the production process of which it is part... We are in danger here of repeating the intellectual excesses of the scientific management movement of the turn of the century. Under the leadership of Frederick Taylor, it treated workers purely as instruments in a production process...

The subject is evidently complex. Our purpose in this brief discussion is to narrow the focus. The present attempt is to deal only with one sector, agriculture, and with one issue, productivity; and to concentrate on one country, Egypt. It needs no reminder that there are other equally important issues, which require elaborate treatment.

Egypt has a limited arable land area. At present, the cultivated area is about 5.9 million feddans, with a cropped area of about 11 million feddans. In 1907, the cultivated area was about 5.4 million feddans, an increase of 0.5 million feddans compared with about 32 million people added to a population of 12 millions at the beginning of the period. During the past 20 years, about 900,000 feddans have been reclaimed at the cost of about one billion Egyptian pounds (£E = US \$ 1.2 at the official rate). Only 4 percent of this newly reclaimed land has reached current levels of marginal productivity. On the other hand, the cultivated area is losing about 75,000 feddans annually to urbanization, housing growth in rural areas and non-agriculture use.

Secondly, Egypt seems to be facing a widening gap between food production and consumption. As Table 6 illustrates, in 1970 the value of agriculture exports was almost double that of imports with a surplus of about 320,000 US dollars. In 1981, the deficit skyrocketed to 3.3 billion dollars. Projection for the coming years indicates a much wider gap. The gap is an outcome of many factors: an income-induced increase in food consumption, a very weak growth in agriculture productivity in general, and an apparent shortage in agricultural workers.

Table 6

Egypt : Value of Agricultural Imports and Exports, 1970-81

Year	Imports	Thousand \$ US
		Exports
1970	209,610	521,370
1971	309,640	557,500
1972	283,590	512,120
1973	427,429	717,150
1974	1,005,720	892,620
1975	1,497,432	782,090
1976	1,358,949	733,610
1977	1,670,858	822,820
1978	2,193,227	663,780
1979	565,000	610,110
1980	3,363,000	672,780
1981	4,000,000	700,000

Source : FAO Trade Yearbooks, United Nations Trade Data, CAPMAS, USDA Estimates.

The Egyptian Government outlined an agriculture strategy to deal with the situation. The strategy is developed around some objective criteria: to maximize total net national agricultural output, achieve a minimum standard of social equity, attain food security defined as the fulfilment of production targets, increase net agricultural economic industrial resources, and provide a stable supply of agricultural inputs to local industries. In the strategy, the factors responsible for the decline were divided as internal and external to the agricultural system. The first internal factor listed in the Ministry's strategy was the presence of an excessive rate of population growth. Others include an excessive degree of land ownerships fragmentation, the existence of primitive technology and techniques, an inefficient and ineffective marketing system and inefficient agricultural institutions at various levels. External factors included an inadequate agricultural pricing system for both inputs and outputs which have created distortions, inadequate flow of investments into agriculture and a lack of co-ordination. The strategy also calls for an ambitious programme of agricultural

mechanization to deal with current labour shortages. A high rate of net emigration of agricultural workers is being blamed for shortages.

It is a sort of a puzzle that the high rate of population growth in rural areas and their emigration behaviour are being blamed simultaneously for the decline of the agricultural sector. It is possible, however, to present a few hypotheses:

1. Given the complex pricing system of agriculture in Egypt, which penalizes producers for almost all crops except red meat, farmers may not have the necessary incentives to invest in their land.
2. Wage rates outside Egypt are much higher than the average wage for an agricultural worker. A farmer could earn a much higher net income as a construction worker in the Gulf area or as an agricultural workers in Iraq or Jordan.
3. Egyptian agricultural workers seem not to plan on permanent moves. This is illustrated by their high crude participation rates in the receiving countries. Accordingly, they tend to leave behind their wives and children as care-takers of the land.
4. The financial loss of a decline in land productivity even as high as 50 percent may be minimal relative to the new earning potential of the migrant workers, i.e. agricultural land is treated as a consumption good.
5. Agriculture labour supply seems to be declining on two counts: farmers' emigration, and the withdrawal of children and women from the labour market.
6. Consumption behaviour is no longer related to the earning potential of agricultural production. Agriculture is no longer a surplus sector. And the future seems to be even more pessimistic.
7. A new power in rural areas is emerging. Farmers could afford, because of their external income, to pay fines and challenge the existing pricing system in agriculture. It

seems to be much easier for the families concerned not to harvest the crop if they have to give a sizable part of it underpriced to the authorities. To them the cost is not worth the effort. An unknown proportion of the land is being kept out of cultivation or undercultivated. The power to implement fiscal measures is being challenged.

8. Remittances returning to rural areas seem to be spent mainly on the purchase of consumer durables, on housing and on the necessary maintenance of these purchases. Not much is going to enhancement of productivity.
9. There are indications that school drop-out rates are growing in rural areas. The opportunity cost of child schooling, given the going wages for child labour seems to be high enough to induce a significant increase in drop-out rates. These drop-out rates, when combined with apparent disruption in family life resulting from spouse separation, lead to sizable negative consequences for the development of the future generations.
10. It is not evident how many of those leaving agriculture, either as migrants or as withdrawals from the agricultural labour supply, are returning to the farming profession.

It is evident that emigration in the Egyptian agricultural case has to be evaluated not only in terms of the gross benefit of remittances, but also in terms of its effect on local production and its distribution in the short and long terms. Indeed, there is another factor usually forgotten: the rising expectations of those left behind. These are the frustrated ones. How much of that is reflected in their productivity is an open question.

A final note on the effect of these dynamic forces on fertility. Income has increased without much opportunity costs to reproductive behaviour. But aspirations for new levels and types of consumption have also increased. These may cause some conflict. On the other hand, the value of child labour, if at all changing, is going up. Also, reproductive norms may not be influenced much

by the emigrants' new environment. Agricultural workers are not going, for example, to Scandinavia; they are going to countries with high fertility norms. It is possible to argue that the separation of spouses may have a negative effect. This has to be documented. We cannot draw *a priori* conclusion regarding the effect of emigration on fertility in *rural* Egypt. Empirical analysis should join hand with undocumented hypotheses.

To conclude, it seems that population and development policies have to take care of the effect of emigration on agricultural productivity through two channels: (a) the effect of remittances on expenditure and labour market behaviour, and (b) its effect on fertility behaviour. To capture those apparently conflicting forces, there is a need for a more innovative and, probably, politically risky policies. One needs to look beyond the short term. It is not clear to me, if current trends continue, how the agriculture sector, which is a major component of the Egyptian economy, could be sustained through the '80s. The relevant questions to be investigated are the following:

1. Could the Egyptian village be maintained as a viable socio-economic unit, i.e. self-sustained with a positive surplus?
2. What are the alternatives to vertical development in agriculture, especially with the limited potential for horizontal expansion? I am afraid that the rush towards mechanization without an adequate accounting of labour flows beyond the current phase may result in undesirable consequences.
3. What are the changes in rural consumption habits? Are they permanent? To what extent do they compete with the saving and investment potential of the rural society?

To reiterate, I must emphasize that I am not saying that international migration is the only or even the most important factor in the existing problem of agriculture in Egypt. But it certainly is

an important factor, which should be given considerable thought when considering policies for the '80s. These are the issues that were created in the seventies and seem to survive and may probably flourish to the end of the century.

In conclusion, I hope that I made a case for my initial premises that (a) population policies, to be viable, should be examined within the historical context of the country's socio-economic and institutional development, (b) a country's demographic momentum cannot be isolated from inter-country differentials in their stages of economic and demographic transitions, and (c) international migration, like trade, should be related to the relative endowments of the means of production, reproduction and power in the international exchange system.

DISCUSSION

Dr. Nasir Khilji: I have two questions basically. (1) I am sure you are familiar with Arthur Lewis's theory of surplus labour where we had the dual labour hypothesis – labour in the agricultural sector was supposed to command a zero wage rate because the marginal productivity was less than zero. I would presume that it would be advantageous to any country, which had labour with the zero marginal productivity, to export labour. (2) What about supposing that we do not have any surplus labour? And as you said that there might be differences in production, we might evolve into a capital-intensive society and later on when the people come back, we might face another dilemma, for they would have to be absorbed in a highly capital-intensive as well as labour-surplus economy.

Prof. Sirageldin: I think these are important questions. The idea of relative productivity is not static. The labour-importing countries attempt to fill their requirements of labour through training of the current stock of labour and the new generation of workers. Planning to export labour should consider the competing production in the receiving countries, and indeed in other competing labour-exporting countries. You should also consider my reservations regarding the perception of labour as an export commodity.

Prof. Alan Heston: I want to ask if by agricultural productivity you meant productivity per acre. What I wondered is this: if you talk of per acre productivity and put in the usual production function type of variables then look at the wage rate and its influence in countries like Pakistan or Egypt, would that explain in fact most of the decline in productivity or failure to increase in productivity per acre. I have taken such a rash step as to bet five rupees that in fact if this was done in Pakistan that would account for at least 50 per cent of the decline in or failure to increase, if you like, productivity per acre, and that one does not need to go into a commission and look at fragmentation and institutions and all this. One can find most of that explanation in recent years in higher wage rates.

Prof. Sirageldin: Your point relates to pricing which is a major issue in the Egyptian agriculture, which is well taken. To what extent the inefficiency of the system of price controls has kept agriculture far below its potential is usually answered in the affirmative.

Prof. Alan Heston: I did not mean a pricing policy; I meant rise in real wage rate.

Prof. Sirageldin: The recent development in the prices of agriculture inputs, which include wages in recent years, has indicated that the real wage rates of agricultural workers seem to have been rising. Yet there are also shortages. The problem is that rising wages were also associated with changes in labour productivity. But to answer your question, I hate to take you on the bet. But this may not undermine the effect of the other factors I mentioned earlier.

Dr. Sarfraz K. Qureshi: Professor Sirageldin, you mentioned in your lecture that rural fertility in Egypt first came down and then went up again. Now, my question is, is it a statistical artifact of getting at the estimates of rural fertility from different surveys? If it is not, then it must be very disturbing. What are the factors that might explain first the fall and then the rise in rural fertility?

Prof. Sirageldin: There are two possible explanations. One is that marital fertility has not changed in rural Egypt. In other words,

what happened was a result of a change in the age at marriage during the early '70s. Some explain it in terms of a postponement of marriage during the war period and the mobilization of labour during the war of attrition in the late '60s and the early '70s. Some question the accuracy of the data. Another explanation is that natural fertility might have increased as a result of a decline in lactation behaviour. The process of lactation might have gone down, which implies an increase in natural fertility that overcompensated for contraceptive behaviour during the second part of the '70s. Some demographers play down the role of change in the age at marriage. Somewhere in between is the real fact.

The main conclusion in my opinion is that rural fertility is high and has not changed significantly through 1981. But there are two rural areas in Egypt that cut across North and South. These are small and large villages. Smaller villages, about 35 percent of the total, are not accessible except through narrow passes that are not fit for cars or even motorcycles. Population living in these small villages has less access to health, education and other social services. It is expected that their fertility is higher than the average but they might be under-represented in sample surveys. If the sample is well designed and executed, it is possible to have a higher estimate of fertility.

Miss T. Q. Mian: This is a very brief observation as well as a question. True, there may be economic benefits but in the long run both the economic costs and the social costs to a society should be taken care of. I mean, with the exporting of labour what happens to the psycho-dynamics of the family and the psycho-social development of children because this would in the long run affect the quality of labour and quality of life. Besides, we cannot expect to go on having a natural rate of population growth just for the sake of exporting because what effect is it going to have on the status of females and female life. Female mortality and morbidity rates have to be taken into account. With more children and child labour, which you mentioned, the process of child labour requirements is having a discouraging effect on the females, and when this happens,

you may like to comment on the effect that it has indirectly on the status of women, particularly with reference to Pakistan.

Prof. Sirageldin: Well, unfortunately, on Pakistan, I think, I am not the best authority. There are better authorities in this room. I am in agreement with what you said in general. There is indeed a psychological and social cost and I mentioned some of that. I also mentioned the discouraged labour or the tendency to withdraw from the labour market. This could be serious and needs empirical investigation.

Dr. Akhtar Hasan Khan: I would just like to ask as to what has been the impact of migration on fertility, especially in Egypt, because in the case of Pakistan we find that there are about 15 million families and about 1.5 million people who have migrated abroad without their families. But so far we have not seen any dramatic fall in fertility in Pakistan. What have been the findings in Egypt.

Prof. Sirageldin: Your observations are essentially conceptual since data are not available. Conceptually, as I discussed earlier, there is no *a priori* reason to expect fertility to decline or to increase. It could go either way depending on how migrants allocate their resources. I would expect that emigration to the Gulf area might maintain or even increase current high levels of fertility. Eventually it has to decline. Such postponement in my view is very costly.

M. N. I. Farooqui: My question is related to population and agricultural productivity. There are hypotheses, or rather there are some opinions of social scientists, that increased agricultural productivity has a depressing effect on, say, population growth or fertility. Now, the point is that to increase agricultural productivity in developing countries, especially in Pakistan, so many programmes – RDP, agriculture extension programmes and agriculture pricing policy incentives – are there but the problem is that in developing countries, the resources from agriculture are continuously directed to urban industrial bases. Now, how are we going to arrest this population growth in rural areas which dominates the whole country as well? Could you throw some light on this?

Prof. Sirageldin: The effect of fertility on agricultural productivity has been examined by Ester Boserup. In her thesis, high population growth induces more intensive and innovative ways of agricultural production. Recently, she has been more reserved in regard to that conclusion. On the other hand, it is hard to evaluate the effect of agricultural development on fertility when rural development efforts have not been successful. The parallel conclusion is that rural fertility has not changed either.

M. N. I. Farooqui: I meant that when agricultural productivity rises, this tends to increase the income of the rural families and in Pakistan, I think, the migrant workers who have gone abroad from rural areas are not many and if there is any effect, this might be to change their preferences for durable goods; but most of the population in rural areas has not gone out. So what has to be done is to increase their income through agricultural productivity and by government policies. So, I mean, this is not going to benefit the rural families in the long run as long as rural incomes or resources are being diverted to urban areas. This is not going to solve the population problem even of developing countries, if this process continues.

Prof. Sirageldin: I am in agreement. I mean there is no question.

Javed Zaki: My question relates to the demographic implication of socio-economic development. By theory, demographic implication of socio-economic development arises from a corresponding qualitative improvement in other social institutions which promote low-fertility orientations but if we observe, we see that in majority of the Third World nations, the demographic implications of socio-economic development have not been up to the mark. Two points come to my mind: socio-economic development in the Third World nations has been of an elitist nature, i.e. class-specific and mainly articulated by an artificial process of infrastructure improvement, that is by the import of economic infrastructure. It, in a way, is not well integrated in the broader or larger social structure. So do you think that it could be one of the major factors that reduce the area of influence of socio-economic development?

Prof. Sirageldin: The questions are becoming wider and more general and harder to answer; but let me try. The idea of trying to link population policy to socio-economic development is too complex a topic to be answered now. It needs a symposium. I will stick to the Egyptian case and you may make your own inference. The Egyptian population programme has a strategy of integrating development projects with population activities. I am somewhat critical of that strategy. It is not evident to me how community needs are developed or assessed. And, given the political and administrative structure in rural Egypt, political representation is independent of fiscal responsibility. The real authority is still the money power, i.e. the central government in Cairo. Funds given to localities for development of their own "needed" projects are central funds. They are given as loans. But since its inception, not a single loan has been repaid. Furthermore, many projects opt for buying mini-buses. As I mentioned earlier, about one-third of the rural population has no access to roads for such vehicles. I do not see that the minimum prerequisites for the success of such an integrated population development strategy have been met. As a final remark, there is a wide gap between social commitments, e.g. free health services and committed resources. In a stimulating and penetrating analysis, Abdel-Rehman indicates that with all good intentions, development strategies in Egypt have consistently resulted in wasting human resources.

Prof. Alan Heston: Has there not been any impact in Egypt, or other countries, of the migration on education in the villages in rural areas? And the second question I have is this: in countries like Kuwait, to what extent is it feasible for them to substitute capital imports for labour imports? MacDonald imports its hamburger patties all made up and they are not patted together, they just come. There are lot of prefabricated houses. In fact, if any country will take all of the U.S. prefabricated houses, it would beautify us greatly and I wonder to what extent Kuwait is interested in that kind of way to reduce its demand, trying to use that labour much more in physical quantities rather than in domestic production. Or is the direction the other way?

Prof. Sirageldin: Let me start with your first question. Now, a child can earn as much as a physician stationed in rural areas when he works in the street as a construction worker. The child wage is negotiable, but not the physician's. This is why I mentioned that as a possible explanation of the new tendency for school drop-outs. It seems that the return to formal education is declining at least in perception. I think that the tendency towards labour-saving, capital-intensive devices in both consumption and production activities is becoming a fact of life not only in the oil-exporting countries but also in countries like Egypt. Bridges are being assembled in Cairo. They are being imported in big segments, and put together with minimum of Egyptian labour input.

Dr. Munawar Iqbal: This is not a question; rather it is a comment. There has been a lot of discussion on the question of international migration today and even yesterday, and since I have been associated with the international migration project at the PIDE, I would like to make a couple of comments. On the first one relating to the question of Mr. Farooqui, I agree with you. This is concerning the impact of migration on rural development. I would agree that migration alone cannot solve the problems that the rural sector of Pakistan is facing and the ultimate solution lies in increasing agricultural productivity. However, I would like to point out that migration does have a lot of impact on the rural sector and rural development, and in this regard, the first thing that we have to keep in mind is that sometimes the data are somewhat misleading. Data show that migration from rural areas is about 60 percent but the true percentage is even higher because international migration is really a two-step migration. People migrate from rural areas to urban areas and spend there a year or so and then migrate to other countries. So, the real percentage of migrants coming from rural areas, belonging to rural areas, is much higher than that.

Secondly, what we have to keep in mind in terms of the impact of migration on rural development is that our study found out that a lot of expenditure is being incurred at what we term conspicuous consumption, marriages and ceremonies. The motive

behind that ceremonial expenditure is that the migrants belong to a lower status and they want to ride up the social ladder, and if the alternative arrangements are made then this migration or the remittances themselves can be used for rural development. There was a lot of interest among the migrants when they were asked whether they would like to spend on education or on setting up schools. That could be an alternative. That will give them social prestige if they contribute to setting up of rural schools. So that will satisfy their natural urge to climb up the social ladder but at the same time those funds can generate a lot of impact on rural development.

Thirdly, I would like to point out that it was very interesting to note that there is a large premium on skills (almost 100 percent). That is to say that if the average annual wages of an unskilled migrant are around 30,000 and the skill involved there is very minor and it does not take more than six months' training or one year's training, the premium involved is almost doubling of their income, the average income of skilled labour coming out to be more than 60,000 per annum. But the private sector is not responding to this large premium. An economist would expect that the private entrepreneurs will try to capitalize on this and then many private institutions will be established to give this quick skill but they are not coming up. So one of the things that is to be done at Governmental level is to set up such training institutes. Also, as was pointed out yesterday, in certain areas there are already shortages of certain skills. So, from a policy point of view, we have to look at migration at a disaggregated level by various skills and see the demand and supply situation.

Lastly, I would like to make a comment on the impact of migration on the income distribution because that was also mentioned yesterday. Quite contrary to our expectations, what we found out was that migration, instead of improving income distribution, has worsened it because of the reason that the migrants come from relatively well off income strata, maybe simply because of the expenses involved in generating enough funds for going abroad.

So, instead of improving income distribution, the migration phenomenon itself has been somewhat in the higher income strata. So, from a policy perspective, what we recommend is that government should subsidise going abroad and that is in line with the comment made yesterday that we should treat this as a cash crop or an export good and the government should subsidise this just like other exports. However, within the group of migrants if we see the sample of migrants themselves, then within that group the income distribution did improve. However, what is required is an improvement of income, especially in rural areas, and if a government does accept this proposal of subsidising export of labour, I think, they may even think of having a higher subsidy for people going from rural areas than for people going from urban areas.

Prof. Sirageldin: To your comments, I think, I like to add a comment or two. We have to be careful in giving more incentives to the migrants. We have to remember the non-migrants as well. Otherwise you will end up with a large number of unsatisfied people. The idea of training is also an important thought. Again, who is going to pay for it? I hope it is not coming from the taxes paid by the non-migrants. Also, if the government subsidises the export of labour, then it should also control the utilization of remittances. Otherwise, it will be subsidising conspicuous consumption.

Dr. Munawar Iqbal: I think there is no contradiction involved in subsidising the export of labour and its effect on income distribution. What I said was that the reason that migration has caused an adverse effect on income distribution is because lower income groups cannot afford, cannot generate enough funds to go abroad and that will also be if the government subsidises those people and helps them to go abroad to get them their subsidies, that will improve income distribution and not worsen it.

Prof. Mian M. Nazeer: Prof. Sirageldin, I think nearly everybody here is concerned with the effect of outmigration of labour on

development. I come from an area where the concern is now being felt with back movement of the people who had gone out and what consequences will there be when these people who have gone out will return to the places from where they went out, on the area, on the economic structure of the activities in that area and elsewhere where they will be settling down and on all the money which they will have with them. What do you think about that?

Prof. Sirageldin: The idea of subsidizing those who are not able to leave is well taken assuming that there is a demand for their departure. People who leave are selected on economic, demographic, psychological and social characteristics. Also, we must consider the case of return migrants who developed higher aspirations that may or may not be fulfilled. Is there also a public role in this case? We need more thought and more information.

Dr. Viqar Zaidi: Just a little question. My question is this: when you are talking about the element of child labour in the agricultural societies where some families have the exodus of their earning members while there are lot of others who have not exported any labour outside their family, does the child labour come from the families who have their members working abroad or does it extract the labour from those families which do not have any migrant labour because it will have some demographic and social implications?

Prof. Sirageldin: It seems that child labour is not as mobile. It is possible that children whose parents migrated may not feel the urge to work as much as those whose parents did not leave. So it has an equalising effect in terms of current income. But to the extent that the latter is losing education – for short term gains, the distributional effect might be negative on balance.

M. N. I. Farooqui: In a recent BBC commentary, there was a discussion on this rural outmigration from Egypt and agricultural productivity and the conclusion was that this has led to downfall in the agricultural productivity in rural Egypt. Now, is this a

phenomenon of the second agricultural sector that you mentioned or is this a BBC fabrication?

Prof. Sirageldin: I am sorry. I am not aware whether or how BBC lies but the conclusion is similar to the current analysis. I wish we have their empirical data base to evaluate.

Dr. A. R. Kemal: I have a brief question and an observation. The question is that the Kuwaiti Government has some population ratio or labour ratio as target and then you said that they have many options and they have gone for the slow growth option so that this labour ratio or population ratio is in the desired range. Now this slow growth could be possible either because they have less oil revenues or they want to invest less oil revenues in Kuwait and take the capital outside the country. Now if it is the second option where are they taking capital outside the country? Maybe to export this capital to those countries from where the labour is being exported! Then this possibly might have better results than otherwise and that was just a question about what is being done. The observation was that yesterday's and today's discussions have been emphasizing that outmigration is always good if we ignore the social effects or income distribution effects, but to me, it seems that even though we are a labour-surplus economy it does not mean that all the labour which has been going abroad does not have any adverse effect on the production of the country. Now in those industries where skill shortages have developed right away the production has declined and then that frustration impact which you discussed yesterday would lead to a lower productivity if all other things remain the same. So unless we can show that it is necessarily good in the short run, even over the long run, it is very debatable what sort of impact it has on savings and investments and the composition of investment. But even in the short run, it may not be very profitable to export labour. Unless that is shown, I do not see how we should subsidise people. One may argue that because they earn more income than the family of those persons who are going they are using all services provided by the country. Why then should they not be taxed instead of being subsidised?

Prof. Sirageldin: Well, there are more points than one. I am not sure that it is implied in what I said that outmigration is always good if two conditions are met. There are many other factors to be considered. In the long run, however, the real issue is that of positive population growth. It seems that one negative aspect of international migration is that it has diverted attention from the basic population concern. In terms of subsidies the real question should be: Who will subsidise whom. The Crown Prince of Jordan recently argued that the labour-importing countries should subsidise training centres in the labour-exporting countries. A training centre in Cairo is being negotiated between Kuwait and Egypt. The counter-argument is that the emigrants are being subsidised anyway through on-the-job training. There are costs to both sides. A solution is not immediately apparent.

Dr. S. K. Qureshi: I will like to get one information from you. In Pakistan people who want to migrate out towards Middle East are much more than the number of vacancies available to the Pakistanis. In Pakistan the government has a system whereby certain formalities have to be completed before migrants can leave for those countries. This is the government side of it. Then there are a lot of recruiting agents who provide some services. Now, in newspapers we have a lot of stories about how these recruiting agents swindle the guys who want to go out and that they not only swindle, they take money and they do not send them out but they charge high rates. You have been to many other countries, like Egypt, Sudan or maybe other labour-exporting countries. What I would like to know is the kind of institutional arrangements evolved in those countries that protect the interests of the potential migrants.

Prof. Sirageldin: This is a normal case where there are imbalances of supply and demand and where the labour market is not perfect. I do not see a way out. I hate, however, to see Governments agreeing on multinational quotas.

CONCLUDING REMARKS

by

Professor Syed Nawab Haider Naqvi

I can see that there is still a considerable unsatisfied demand for questions, but I think that the inexorable time constraint must be respected even though doing so entails a less-than-optimum creation of useful knowledge. And, yet, knowing the inevitability of constrained optimization of whatever happens to be the objective function, we as economists and demographers should be quite happy with what we have received, or shall we say extracted, from Professor Ismail Sirageldin. I must congratulate him for giving us so many puzzles to play with, along with a few clues to help us to puzzle out these puzzles. I have no doubt that if he had been given more time he would have presented us with even more puzzles. So if only for this reason, perhaps, we need not be too bitter about the time constraint!

Within the span of only two highly 'pregnant' lectures that Professor Sirageldin has 'delivered', he took the chill off the population problem if only to show that the many sure-fire remedies proffered to solve this problem have to be taken with a pinch of salt. True, the less developed countries are faced with a difficult demographic problem, but should we then charge forth to strike at the fertility windmill? In yesterday's lecture he warned us against any such quixotic postures. While it is essential that we take the population bull by its horn, yet we had better respect the 'bull power' for what it is. In our desire to hark back to the magical

45-degree line of the demographic Pandora's box – indicating zero population growth rate – we cannot afford to force on the society a pattern of demographic change that violates the socio-economic and cultural constraints. Can the age at marriage be raised and/or marriage made much less than universal in high-population, less developed countries to replicate the experience of Western Europe during the demographic transition? Not necessarily, if we remember that the 'values' that can be taken by these demographic variables are constrained to a large extent by the ethical norms with respect to sex morality and by the centrality of family unit in a given, or even changing, societal framework. We should also not forget what Professor Sirageldin reminded us of: *if history is any guide, policy actions have not been of much help in bringing about the demographic transition in Western Europe.*

The failure of policy action has been clearly illustrated by the example of Jordan: we have the 'puzzle' that fertility remains high and dry *even* though the use of contraceptives is very high in a population whose per capita income is one of the highest in the world. This puzzle should shake those of us in Pakistan who have been blaming *only* low 'effective' demand for contraceptives for high fertility rates. What is then the clue to this puzzle? To those who would ask such a question, as we all would, Professor Sirageldin gives the complex answer that the fertility monster has five heads: marriage, contraception, abortion, lactation and fecundity; and that we should be familiar with the movement of each of these heads. For instance, the negative effect of high contraceptive use on fertility may easily be offset by a sharp decline in lactation.

Equally important is the consideration that despite low fertility rates, even if they materialize in a country where technological progress is not consistent with the 'new' demographic reality, *economic* problems will still arise. For instance, the resultant change in the age structure would entail an increasingly smaller proportion of younger people who would be required to feed a rising old and inactive population. Developed countries like Japan and Western Europe may handle the problem, but can less developed countries do the same for their old without achieving a

corresponding level of technological advance and high levels of productivity? These examples only illustrate the general point that the correlation between economic development and social change on the one hand and demographic transition on the other hand, though statistically high and significant, does *not* imply that the one is *sufficient* to cause the other. *We must not forget that the laws determining the socio-economic development and demographic change, though related, are not identical.*

In to-day's lecture, Prof. Sirageldin has invited us to look at the 'third' component of the demographic identity, namely net migration.¹ The question is: is migration a solvent of the demographic problem? It appears to be a way out for both the countries experiencing emigration and those having to face immigration. The former countries gain because they have so many people less to take care of and also because these people (i.e. those who migrate) take care of themselves and of their families whom they leave behind. The latter countries gain because they need skilled and unskilled labour to promote economic growth which otherwise would not materialize because of the lower-than-desired quantity and quality of population.

However, Prof. Sirageldin warns against complacency on this count particularly those countries which are experiencing emigration. The problems of countries facing immigration, like Kuwait, are not so difficult because migration is a variable that can be manipulated much more easily than the vital rates. They only have to recognize the demographic reality, in terms of both its quantity and quality, in their own countries and make corresponding adjustments in the flow of net migration. In the emigrating countries, like Egypt and Pakistan, the problems are much more difficult. For as outmigration continues, these countries experience brain (skill) drain, while the avalanche of workers' remittances, though

¹The demographic identity is as follows:

$$P = B - D + NM$$

where P is population change, B the addition to population due to birth, D the losses through death, and NM the changes caused by net migration.

solving the balance-of-payments problem, raises aspirational and consumption levels in the society of *both* the migrant and non-migrant families and puts the family unit under visible strains. Professor Sirageldin has given the example of Egypt where he has shown that agricultural productivity has been adversely affected by the shortage of labour and the relatively greater profitability of *non-farm* activities induced by remittances. From Pakistan's experience, I would add that the large-scale manufacturing and the construction sectors have also been adversely affected. It is in these sectors that *quality* decline is the most pronounced. Indeed, it is said that it is no longer safe to build houses because the quality of the architects is so poor that houses may really cave in under 'stress' of the first shower in the moonsoon season! Also, the manufacturing sector, in particular the textile sector, has also suffered very badly. Indeed, one of the reasons for export stagnation that has characterised the textile industry, despite all the incentives given to it since 1975-76, has been the fact that the *quality* of exports has declined sharply mainly because of the skilled labour that keeps on migrating at short notice.

Even though it may sound a little bit naive, I for one would say, "so far, so good". In Pakistan, we have gained a lot from remittances, which have increased at the rate of over 40 percent per annum since 1973-74, and have now reached the \$3-billion mark. They now constitute about 10 percent of the GNP and exceed by 150 percent resource inflows from all other sources combined. But Professor Sirageldin reminds us that the demand constraints originating in the labour-receiving countries will soon make their presence felt in the late '80s, if not immediately. He has amply demonstrated that it is no longer a safe assumption to make that the elasticity of foreign demand for our labour is infinite. This is because the Gulf countries, for which most of the migrant families are headed, may opt for either of the three following alternatives: either they go in for a capital-intensive technology, or they settle for a lower growth rate, or they maximise the production of indigenous labour. He has shown that the option of lower growth rate has been the favoured one because of the fact that the constraints on education and female labour-force participation and the

rise in the age at marriage and so on have tended to make the ratio of the domestic labour in the Gulf countries to total labour force there somewhat hard to manipulate downwards. By the same token, it is also not possible to increase the demand for imported labour by decreasing the share of the domestic labour.

Thus, Professor Sirageldin confirms the fears of those who maintain that we should start worrying now about the return flow of the migrants on a large scale. The chickens may soon start coming back home, and, being non-cannibals, we will have to live with them and to absorb them into the socio-economic rhythm at home. This latter problem may not be so easily solved if in the mean time capital-intensive techniques have been widely adopted in the construction, manufacturing and agriculture sectors, which have been the hardest hit by out-migration. The problem of unemployment may reappear in a magnified form, if not in the short run, then in the late '80s, which 'day' is also not so far away.

While these fears are real, both economically and demographically, I think that one can easily exaggerate them or misinterpret them. True, out-migration has adversely affected productive sectors of the economy by causing skill drain, but a PIDE study² has shown that these 'skills' are easily learned by the unskilled. What Prof. Sirageldin is advocating is not to stop out-migration but to see that policy response to the facts of outmigration and return migration are meaningful and purposeful. True, most of the remittance income may have been (mis)used on 'consumption', but this has been due to an inappropriate policy response. If there had been enough productive outlets, the migrant families were 'rational' enough to make use of them. Indeed, one startling finding of the PIDE study has been that only a very small proportion of the remittance income has really been wasted by the migrant households. It is also true that the family structure has come in for a terrible strain but then so be it. It was already under an even greater strain of acute

²Ijaz Gilani, M. Fahim Khan and Munawar Iqbal. "Labour Migration from Pakistan to Middle East and its Impact on the Domestic Economy". Three Parts. Islamabad: Pakistan Institute of Development Economics. 1981.

poverty before out-migration started. So, if the prosperity-induced strain on family life is an evil, this is definitely a much lesser evil than the quagmire of poverty in which the migrant families have been stuck for generations. At any rate, such strains are inevitable whenever a society is experiencing socio-economic change. No one has ever suggested that we should stop growing and remain poor simply *because* material prosperity causes family ties to become looser, makes people a little more materialistic and even spendthrift, and raises their aspirational levels. Why, then, take the socio-economic consequences of migration to be an indictment of the phenomenon itself, particularly when an inadequate policy response is a perfect scapegoat, and a real one at that? I think we as a society should 'tighten our seat belts' in anticipation of the rough weather of rapid societal change induced by migration and adjust ourselves consciously to this fact instead of crying our heart out on what has already happened. Those who have seen the face of prosperity, even though for a fleeting moment, will not forget it so easily. Indeed, they will strive, *with the help of the skills they learned abroad*, to make their life better at home than it was before the migration phenomenon offered them few moments of hope. All will be well if the economy in the mean time had grown to generate enough demand for these skills.

Perhaps for these 'reasons', Professor Sirageldin has been cautious not to condemn out-migration *per se* as some people, mostly belonging to the privileged classes, tend to do. He has only pointed out the need for devising a conscious policy of societal readjustments to make 'room' both for the money being sent by migrants and for the return migrants. Such a policy response is essential because the power structure in the Pakistani society will definitely undergo a profound change, as never before, if the migration phenomenon persists for another decade or so. The strong possibility that such changes may considerably weaken the hitherto 'invincible' feudal structure in the country must be *actualized* by the policy makers in developing, class-ridden societies like Pakistan and Egypt.

I would now conclude by expressing my profound gratitude to Professor Ismail Sirageldin for accepting our invitation to come to Islamabad and for rewarding us with two highly stimulating and erudite lectures. He says that he considers Pakistan to be his second home. Let me assure him that, after what we already have received from him by way of knowledge, we do not regard him as a “pro-digal son” but as one of whom we are proud. I wish him very many ‘home-comings’. I am also grateful to the audience who came to attend these lectures in such large numbers and shared with us these moments of intellectual delight and exhilaration.

Thank you, Professor Sirageldin, and the ladies and gentlemen in the audience.

**BIOGRAPHICAL SKETCH
OF
PROF. ISMAIL A. SIRAGELDIN**

Date of Birth: August 1, 1930 (Egypt)

Nationality: Egyptian (U.S. Immigration Visa – type NP-1)

Education: B.Sc., Cairo University. 1954. Agricultural Engineering

MSA, University of Toronto. 1962. Agricultural Economics (Production and Marketing)

Ph.D., University of Michigan. 1967. Economics: Econometrics Survey Methodology, Trade and Development.

Other Training: University of Michigan, Certificate in Survey Sampling, 1966, ISR Program for Foreign Statisticians

Major Research or Professional Training: *Economic Development and Population Growth:*
Interested in the areas of economic-demographic household behaviour with emphasis on the role of fertility change; the determinants and consequences of international migration; the demographic aspects of income distribution; and the planning and evaluation of population programmes in developing countries

The Economics of Household Structure, Formation and Productive Activities:

Research interest in non-market components of national income accounts and analysis, and in the study of households' structure and productive and reproductive activities.

Human Resources Development:

Health Economics, Manpower and Educational Planning

Economic Survey Research

Teaching and/or Research Experience:

Professor, Departments of Population Dynamics and Political Economy, The Johns Hopkins University, Visiting Professor of International Economics, S.A.I.S.: 1975 to date.

Associate Professor, Departments of Population Dynamics and Political Economy, The Johns Hopkins University: 1970–1975.

Assistant Professor, Department of Population and Family Health and Political Economy, The Johns Hopkins University: 1967–1970.

Chief Adviser, West Pakistan Research and Evaluation Centre, Lahore, Pakistan -- A Johns Hopkins, Ford Foundation, Government of Pakistan affiliated project: 1968–70.

Assistant Study Director, Survey Research Center, University of Michigan: 1964–1967.

Instructor, Department of Economics, University of Michigan: 1966–1967.

Assistant, Near East and Middle East Center, University of Michigan: 1962–1964.

Research Assistant, Center for Conflict Resolution, University of Michigan: 1963.

Assistant Director for Market Research, Japan Trade Center for the Near and Middle East, Cairo: 1956–1960. (Travelled extensively in the Middle Eastern countries to study and promote trade patterns and relationships.)

Agricultural Engineer, Middle East Agricultural Company: 1954-55. (The company's agricultural activities were concentrated in Sudan and Libya.)

Managed own farm: 1953–1958.

Other University
Responsibilities:

Member, Admissions and Credentials Committee, School of Hygiene and Public Health, The Johns Hopkins University;

Member, Subcommittee of Economics in Public Health, School of Hygiene and Public Health, The Johns Hopkins University.

Research Activities:

Principal Investigator: International Migration and Public Sector Productivity in the Sudan – a joint project between The Johns Hopkins University and the Economic and Social Research Council of the Sudan: 1982 to date.

Principal Investigator: Integrated Population Development Planning – a joint project between The Johns Hopkins University and the Research Triangle Institute: 1980 to date.

Member, Investigator: JHU-AID Program in O/R in Family Planning; responsibility for the CEA/CBA Component of the programme and jointly with J. McCarthy in the Egyptian Family Planning Activity Component: 1979 to date.

Member/Consultant: World Bank/Ministry of Planning, Saudi Arabia. A Study of the Labour Market in Saudi Arabia: 1978-1981.

Principal Investigator: A World Bank/Johns Hopkins Study for developing a five-year population research programme for the Bangladesh Population Study Center: 1975-1978.

Principal Investigator: A methodological study of designing KAP surveys (USAID/csd 2956 Amend. 15): 1973-1975.

Principal Investigator: A study of social change in Bangladesh based on the IMPACT Survey Data (USAID/csd 2956): 1973-1974.

Main investigator in the development, planning, sample design, conducting and analysis of the first National Study (6000 households) of the IMPACT of the Family Planning Programme in Pakistan and Bangladesh. Supervised a team of research workers and concluded an extensive *report* submitted to the Government of Pakistan in 1971. 1968-1970.

Co-investigator: A. U.S. national study of American families' time use and productive activities (planning, questionnaire design, field work, analysis and

report writing) conducted by the Survey Research Center of the University of Michigan. The outcome was two books and three articles (see Publications). Also, participated actively in other research activities of the Economic Behavior Program of the SRC of the University of Michigan: 1964–1967. Conducted and supervised a Market Research Team in the Middle East for the Japan Trade Recovery Organization of the Middle East and Africa: 1956–1960.

Consultant/Professional
Activities:

Discussant and rapporteur, and presented papers in various population – related meetings and seminars, e.g. PAA, Population Council, SAIS, NBER, ADC, World Bank Economics Department, SEADAG, WAPOR, Resources for the Future, WHO, ECWA, UNFPA.

Recent consultations included:

ECWA: Conference on International Migration in the Arab World, Nicosia, Cyprus. 1980.

UN: Chairman, UNFPA Mission to evaluate Population Activities of the Economic Commission of West Asia (ECWA). 1979.

Honorary Activities:

Series Editor, *Research in Human Capital and Development*, a research annual. Member of various NIH population research grant committees.

Member of IUSSP Committee on "Evaluating the Demographic Effects of Family Planning Programs", 1976–1979.

Member of WHO Advisory Committee on Health Statistics: 1974–1979. Guest lecturer on population and development at various academic institutions, including the UN Cairo Demographic Center, 1981, and The World Bank Population Seminars organized for Bank staff, 1978.

Member of Fellowship and Research Grant Committee for the Ford/Rockefeller Foundation Program in Support of Social Science and Legal Research in Population Policy.

Member, Editorial Advisory Committee of the *Pakistan Development Review* and the *ECWA Population Bulletin*.

Membership in
Professional Societies:

American Economic Association;
Royal Economic Society;
International Association for Research on Income and Wealth;
Population Association of America;
International Union for the Scientific Study of Population; and
The American Academy of Political and Social Science.

**Recent Representative Publications
of
Prof. Ismail A. Sirageldin**

A. Books

Health and Development in Research in Human Capital and Development (RHCD). Volume 3. Edited with David Salkever and Alan Sorkin. Greenwich, Connecticut: JAI Press, Inc. 1982.

Equity and Development in Research in Human Capital and Development (RHCD). Volume 2. Edited with Ali Khan. Greenwich, Connecticut: JAI Press, Inc. 1981.

Research in Human Capital and Development (RHCD), a Research Annual. Volume 1. Edited. Greenwich, Connecticut: JAI Press, Inc. 1979.

Non-Market Components of National Income. Ann Arbor: University of Michigan. 1969.

Productive Americans. With James Morgan and Nancy Baerwaldt. Ann Arbor: Survey Research Center, University of Michigan. 1966.

B. Articles and Chapters

“Intrafamily Interaction and Desired Additional Fertility in Pakistan: A Simultaneous-Equation Model with Dichotomous Dependent Variables”. With M. Ali Khan. *Pakistan Development Review*. Vol. XX, No. 1. 1981.

“Racial Differences in Early Marriages in the United States”. With Donna Strobino. *Social Sciences Quarterly*. Vol. 62, No. 4, December 1981.

“Demographic Transition and Socio-Economic Development”. In *Demographic Transition and Socio-Economic Development*.

With United Nations Secretariat. 1979. (United Nations, Department of International Economic and Social Affairs, Population Studies, No. 65.)

“Equity, Social Mobility and Fertility Control Policies”. With John F. Kantner. In I. Sirageldin (ed.) *Research in Human Capital and Development*. Vol. 1. Greenwich, Connecticut: JAI Press, Inc. 1979.

“Education, Income and Fertility in Pakistan”. With A. Khan. *Economic Development and Cultural Change*. April 1979.

“Some Issues in Determining Appropriate Methods of Family Planning Programmes”. In United Nations, *Methods of Measuring the Impact of Family Planning Programmes on Fertility: Problems and Issues*. 1978.

“Empirical Demographic Generalizations in Response to Family Planning Programs”. With John Ross. Mexico: IUSSP. August 1977.

“Son Preference and the Demand for Additional Children in Pakistan”. With A. Khan. *Demography*. 14(4). 1977.

“Family Planning in Pakistan: An Analysis of Some Factors Constraining Use”. With D. Norris and J. G. Hardee. *Studies in Family Planning*. May 1976.

“Fertility Decisions and Desires in Bangladesh: An Econometric Investigation”. With A. Khan, F. Shah and A. Ariturk. *The Bangladesh Development Studies*. July 1976.

“Family Planning in Bangladesh: An Empirical Investigation”. With Monowar Hossain and Mead Cain. *The Bangladesh Development Studies*. January 1975.

“Fertility in Bangladesh: Facts and Fancies”. With D. Norris and M. Ahmad. *Population Studies*. July 1975.

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