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RURAL COUNTRIES**

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DETERMINANTS OF A DEMOGRAPHIC TRANSITION
IN PREDOMINANTLY RURAL COUNTRIES

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For
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Determinants of A Demographic Transition In Predominantly Rural Countries¹

Uma Lele and Michael Martin²

Introduction

Why focus on predominantly rural countries, which is the charge of this paper? It is because predominantly rural countries influence population growth and demographic transition differently than urbanized countries. Following Gary Becker, it is now generally believed by economists that human fertility and population growth rates are determined by income and education. Especially as women's access to income and education increases and with it the value of their time, they substitute quality of children for quantity. They invest more in fewer children. It is no wonder then that since the Bucharest Population Conference in 1974, the two most commonly advocated themes in population policy have been rapid and broad-based economic growth, to influence the demand for smaller families, and effective family planning to influence the supply of contraceptives which would control fertility (Ridker). The inverse relationship of fertility with income and women's education and, its positive relationship with infant mortality is by now well established (see figures 1-3). There are, nevertheless, numerous non-economic factors which enter into fertility decisions. These are particularly significant in

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predominantly rural countries. Typically, they are low income countries in which non-market activities dominate. The level of education is limited, particularly for women. Agriculture dominates in income, employment, savings, investment, food, exports, etc. The rural sector absorbs the bulk of the population growth. Labor productivity is very low. Whereas nearly a third of the GNP in a predominantly rural economy originates in agriculture, between half to three quarters of the population resides in the rural sector. At best ,per capita rural income is typically only a fifth to a third of the urban average.

Women's labor force participation tends to be high in food production, storage processing, marketing, water and fuel wood collection. Yet their high labor force participation is typically not associated with low fertility levels. Predominantly rural countries tend to lack physical and institutional capital and the trained personnel necessary to provide quality public services such as clean water, education or health services. Access to information and factor and product markets tend to be imperfect stressing the role for the government in activities which would otherwise be handled *by* the market, for example, the supply of contraceptives. The cost of providing such services, however, tends to be high due to the limited human and institutional infrastructure.

For analytical purposes, the economic development riddle can be divided into three independent but interrelated pieces: 1) vigorous overall economic growth involving income growth in both agricultural and the manufacturing sectors, a la East Asia; 2; vigorous growth in the food and the agricultural sectors without necessarily a stellar macro economic performance, a la South Asia; and, 3) investment in the social sectors

with or without a strong macroeconomic performance, a la China, Kerala or Sri Lanka. All three can achieve varying degrees of decline in fertility rates, but the failure on the first two fronts for any length of time can make investment in the social sectors unsustainable and result in high levels of fertility as in Africa. The African situation raises the old Malthusian concerns by now largely rejected by the economic profession, as well as a variety of non-economic considerations such as tastes and preferences discussed later in this paper.

The paper reviews the recent empirical evidence to determine the extent to which, income residence (rural or urban) and women's education determine fertility levels and overall population growth rates. Macroeconomic and sectoral performance affecting fertility rates is reviewed first, followed by the micro level behavior of households. The experience of East and South Asia is explored where population policies and patterns of rural and overall economic growth have differed widely. Those differences have resulted in quite different outcomes with regard to the rates of population growth. The paper inevitably ends up with a treatment of Africa, where demographic transition has not yet occurred. On the basis of the evidence presented, Malthusian-Boserupian debate about population growth as a liability or an asset to economic development is explored. The paper identifies the need for more location specific, quantitative research at the household, community and regional levels. It illustrates why such research needs to transcend traditional sectoral and disciplinary boundaries to effectively address the interactions between demography, agriculture and the environment, and to explore its implications for policy (see for instance Lele and Stone).

Definition of Rural Countries

How should one define predominantly rural countries? One way would be to choose an arbitrary cut off point such as the share of the total population living in rural areas, e.g. 50 percent or more. According to WDR 1992, such a definition leads to inclusion of all low income countries, excluding China, with a total population of 1.9 billion and 22 middle income countries in Latin America, Africa and the Middle East (with the total population of 691 million). Exclusion of China, with 46 percent of the total 1.13 billion people reported to be in rural areas in 1990 (WDR 1992), may however be questioned. China's rural population exceeds the entire population of Sub-Saharan Africa. Moreover, the Chinese experience raises important policy issues for other developing countries. Its population growth has dropped to only 1.3 percent in 1985 compared to 2.2 in 1965. On the other hand, Africa and the Middle East explain the wide range of population projections by the World Bank until 2160. Their likely future population growth rates remain a matter of conjecture, and account for between 85 to 90 percent of the difference between the base case and alternative (higher) scenarios of population growth. The share of Sub-Saharan Africa alone is estimated to be nearly two thirds of the differences from the base case. The projections assume a rapid, continent-wide demographic transition in Africa, lagging Asia's transition by only a few decades. But whether such a decline will be induced by a deliberate policy or be a by-product of economic development is not made dear. This is a matter of particular interest. The World Bank's assessment of economic growth prospects for Africa remain pessimistic. On the other hand, some of the Bank's most influential analysts have accepted the "revisionist view" which holds that rapid population growth is not an obstacle to economic development

except under some special circumstances (Birdsall). A major new research project on

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new research project on population growth is likely to throw considerable light on fertility behavior in Africa (Ainsworth). Concerns from other noneconomic disciplines need nevertheless to become an integral part of the World Bank's research on determinants of fertility in Africa.

A justification for the World Bank's position and that of the prestigious National Research Council of the National Academy of Sciences on population is based on the fact that Total Fertility Rates (TFRs) and population growth rates have declined in all parts of the world except Africa. But TFRs have remained virtually unaltered at over six live births per woman in Africa (WDR, 1992). There is some recent evidence of decline in fertility in a few countries, e.g. Kenya.

The AIDS epidemic is projected to reduce Africa's population growth rate by one half percent to one percent in the early 21st century (WDR 1992). TFRs in Africa remain higher than in other parts of the world even with similar levels of per capita income (Figure 1). It should be noted, however, that relationships of TFRs with female education and life expectancy follow standard inverse patterns (Figures 2 and 4). Yet, recent empirical evidence on fertility behavior in some African countries reviewed later offers results contrary to those normally expected, i.e. increased income and women's increased access to primary education seems to be associated with higher fertility rates.

Diversity of Population Growth Experiences and Need for Empirical Research.

As the preceding discussion illustrates, there is great diversity among continents, individual countries and indeed even among regions within single countries (e.g. China,

Kerala vs. the rest of India, or more recently the central province vs. the rest of Kenya).

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This diversity makes generalizations difficult. Not only do countries differ widely in the size of populations (e.g. China vs. Chad), but also in population densities, development of physical, human and institutional capital, social norms as regards family size, the extent to which Joint or nuclear families prevail, (the incidence of polygamy is still pervasive in Africa), the extent of settled or nomadic populations (in the latter case population growth rates are significantly lower), the extent to which female children are undervalued relative to male children as, for instance, in China and India, the nature of religious beliefs, most notably the role of Islam in reducing female labor force participation and the differences in the levels of technologies and factor productivity. For example, value added of labor per hectare on a typical smallholder farm in Africa is about 85 percent (implying little or no use of capital) compared to 45 percent in India (despite India's labor abundance) reflecting the use of higher level of technology in Indian agriculture, i.e. animal draft power, chemical fertilizers, etc. (Delgado and Ranade).

Undercapitalization has resulted in high labor intensity per unit of land in African agriculture. However, low population densities, fragmented labor markets and acute seasonality of rainfed agriculture also cause labor shortages. Clearly, increasing labor productivity, especially of women that have the primary responsibility for food production

is an important impetus for reducing fertility. Yet, following the Asian model, much of the agricultural technology generation in Africa has focused on increasing land rather than labor productivity. Such new technology frequently generates considerable additional demand for labor (eg. in weeding, harvesting, storage, etc.) accentuating rather than alleviating labor bottlenecks and perhaps creating a justification for larger families.

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The labor requirements of households increase considerably when collection of water (much less easily accessible in rural Africa than in rural Asia or rural Latin America), and fuel wood (much more extensively used in rural Africa than in rural Asia) are taken into account. Sheer survival calls for considerably more arduous labor and children constitute an important part of the rural labor force as transporters of water, gatherers of fuel wood and guardians of cattle and younger siblings. The cost of rearing children is relatively low where access to primary and secondary education is limited, although considerable strides have been made in the expansion of social services in Africa.

These various factors *together* affect rates of growth of population and per capita income. Yet the relative importance of cultural, technological, infrastructural, institutional and economic factors in rapid population growth is a highly debated issue. Also debated is whether rapid population growth and increased population densities are an asset or a liability for economic development, including in particular the effects of population growth rates on investment, factor productivity and ultimately on economic growth, debates to which we return later.

Differential Population Performance

Table 1 shows the rates of population and GDP growth in the three continents in the 1960s, 1970s and 1980s. GDP growth rates were higher and population growth rates lower in East Asia leading to the highest rates of per *capita* GNP growth, followed by South Asia and Sub-Saharan Africa.

Table 2 shows the number of people living in poverty (ie. with per capita incomes less

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than one dollar per day) in the three continents and their projected numbers if present economic trends continue. South Asia and Africa are the regions where the bulk of poverty will remain concentrated. Furthermore much of this poverty is concentrated in the rural areas and that is where the problem of rapid population growth will remain. Of the 1.13 billion living in poverty in 1990, nearly 750 million live in Asia and well over half a billion in South Asia alone. By the year 2000, the number of poor in East Asia is expected to decline from 169 million to 73 million, and in South Asia to 511 million, down from 562 million. In Sub-Saharan Africa, the number is expected to increase from 216 million to 304 million.

The Malthusian concern of population growth outstripping the rate of growth of food production has been virtually abandoned except perhaps in Africa, although it had much validity in East and South Asia until the mid 1960s, i.e. until technological change in the agricultural sector increased return to land and labor and accelerated the rate of growth of food production above the rate of population growth. The Green Revolution eliminated recurrent food shortages and, by keeping food prices and wage costs low, provided a boost to overall economic growth. Per capita income has been higher in each successive

decade in South Asia. Yet South Asian countries have experienced slow growth of employment in the manufacturing sector and slow overall economic growth due to protective industrialization policy. But in East Asia, the effects of favorable performance in food production have been further reinforced by favorable macroeconomic policies which have ascribed high priority to export orientation, leading to a rapid growth in employment in the manufacturing, as well as, the agricultural sector. Such *personal* income growth has been combined with substantial expansion of public investment in the

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social sectors leading to female access to primary education in Indonesia exceeding 100 percent in 1985 compared to 67 percent for India and only 46 percent for Bangladesh (WDR 1992). An even more certain determinant of fertility reduction, namely women's access to secondary education, stood at 23 percent in Indonesia compared to 22 percent in India, only 9 percent in Bangladesh and 7 percent in Senegal. But female illiteracy rates provide an even more favorable picture in Indonesia. They had been brought down to 32 percent in Indonesia compared to 66 percent in India, although in the early 1960s Indonesia's female access to education was 57 percent compared to India's 65 percent.

The examples of Sri Lanka and the Kerala state in India that have also brought down fertility rates considerably show that investment in the social sectors and the spread of primary education can result in sharp reduction in fertility rates at low levels of per capita income. Similar differences in economic and social sector strategies explain why India has done better than Bangladesh or Senegal (Table 3). Indeed, fertility rates in Indonesia and India, with per capita incomes of \$520 and \$350 respectively in 1990 were comparable to those in Mexico, Brazil and Colombia. The latter three had per capita incomes three to

six times higher but their income distribution is more skewed, with significant incidence of poverty.

Recent Trends In African Fertility

Demographic and health surveys in eleven countries in Africa show that while Total fertility Rates (TFRs) are very high in Africa, nearly in every country they are significantly lower

³The figure exceeds 100 percent because It is based on an age cohort of primary school children but females outside that cohort enrolled In school.

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in urban than in rural areas, perhaps due to a higher concentration of women with secondary and higher levels of education in urban areas. Differences in fertility with only primary schooling are, however, smaller and sometimes in the opposite direction than those expected (1984 WDR, and Cochrane 1979, 1988) leading to a concern that the spread of primary schooling could result in increased fertility rates.

Use of contraception is strongly and positively related to the level of education. Recent survey data suggest that between four to 49 percent of married, nonpregnant women would like to stop child bearing, suggesting that policies that improve the access to contraceptives and encourage their use are likely to result in a substantial decline in fertility (Table 4).

Although lack of contraceptives is a problem in many African countries the primary reason for high fertility and low contraceptive use appear to be continued high demand for children

(van de Walle and Foster 1990). The ideal family size on recent surveys remains at six to nine children per woman. This suggests that large scale expansion of family planning programs is unlikely to have much effect on fertility rates in Africa (Ainsworth). Indigenous culture clearly plays a role in the determination of family size, but low levels of education of women, and high child mortality also play a part. The recent increase in malaria and AIDs has resulted in an increase in mortality rates (by year 2000 mortality of children under five is expected to increase by a fifth to 43 percent in ten severely affected countries (Ainsworth), and this should be expected to keep fertility rates high.

Micro studies of fertility behavior show substantial differences among African countries.

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For instance despite higher per capita income and higher level of urbanization fertility is higher in Cote d'Ivoire than in Ghana, and appears not to have changed in recent years. Child mortality is very high in both countries. Women's education is strongly related to fertility decline in both countries and secondary education brings it down more substantially, but women's education is highly limited in both countries. Only 62 percent of the female population attends primary schools in C6te d'Ivoire and 67 percent in Ghana⁴. The rates are even lower for secondary schools, namely 20 percent and 39 percent respectively.

Income seems to have opposite effects in the two countries, in Cote d'Ivoire it is positively related to fertility and negatively in Ghana (Kofi Benefo and T. Paul Schurtz, forthcoming). Urbanization seems to have only a limited effect in Ghana but seems to contribute to a fertility decline in C6te d'Ivoire. Women's education is thus the most important determinant of fertility decline, other things being equal (Benefo and Schultz).

Even among high fertility rate countries differences among socioeconomic classes lead to a conclusion that high demand for children might well be a result of high rates of mortality and low levels of schooling of female children (Cochrane and Farid). Yet empirical support for the decline in fertility associated with decline in child mortality is weak in Africa. Frank and McNicoll argue that fertility rates in Kenya in particular and Africa in general may be reduced more quickly by directing attention to women most likely to be interested in ceasing childbearing (e.g., women who already have several children

4/ The data are from the years 1985 for Cote d'Ivoire and 1987 for Ghana.

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or adolescents whose early pregnancies increasingly conflict with education) rather than spreading program attention over all child bearing families. They lament that economic and demographic models do not take into account the impact of local government organizations, delivery systems, land tenure institutions or ethnic factors that influence women's security and child bearing decisions.

Malthus Vs. Boserup

The impetus for an active family planning program in India and China, discussed below, has been prompted by high population densities and exploitation of already qu'rt marginal lands, with extensive landlessness. Boserup, on the other hand has argued, particularly in the case of Africa where population densities have been generally low until recently, that population growth and increased densities can stimulate intensification of agriculture by inducing technological change made possible by changes in relative factor proportions as well as by the development of factor and product markets, specialization and development

of property rights, all in turn leading to greater investment in land. Leie and Stone have shown, however, that there is no universal guarantee of such outcomes. Rather they are determined by the nature of public policy. For example, where land access is restricted to a privileged few, and price, technology and infrastructural investments by the public sector discriminate against small farm production, as in Malawi, policies can result in involution much as Gertz observed in Java in the 1950s. In contrast, more egalitarian and pro-active agricultural policies such as those pursued in Kenya can result in rapid intensification of agriculture through shift to high value crops and increased yields per ha.

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Kenya's agricultural success notwithstanding, there is growing evidence in Kenya and other parts of Africa of stagnation or decline in per hectare yields of major crops, caused by increased population pressure on the land, a reduction in the bush fallow, absence of crop rotation and widespread migration of populations to the poorer lands (Leie and Stone). According to various recent international assessments (e.g. WDR 1992), prospects for economic growth are by far the least promising in Africa due to a combination of a rapidly growing population and an ineffective public policy.

Whether Boserup or Malthus prove right in the long run in Africa depends on the quality of public policy that is in turn influenced by a variety of external factors. For example, the world food situation has changed considerably relative to that which Asian countries faced in the mid 1960s. The depletion of US food surpluses by the end of the 1960s followed by a severe drought in 1973 resulted in a sharp rise in world food prices adversely affecting large food importers in South and East Asia (e.g. China, India and Indonesia). The increased food import dependence was an impetus for Asian policy

makers to increase domestic food production. Concern about domestic political stability also weighed heavily in Asia.

In contrast, African countries are small importers. Even with a doubling share of world cereal imports they stood at only 12% in 1990. Moreover, the world food situation is now considerably more favorable with virtually all industrial countries having become major surplus producers. High levels of per capita aid have been easier to mobilize for small African countries (see Figure 5). There has been less impetus to get African agriculture in order. Technological breakthroughs have also been harder to achieve in rain-fed

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African agriculture in contrast to the irrigated agriculture of Asia, with the result that increased population pressure has frequently had disastrous effects. The growing concerns about environmental sustainability has challenged the conventional approach of intensifying agriculture, namely, through the increased use of modern inputs. Because external dependence is much greater these concerns have had the inadvertent effect of keeping fertilizer consumption low in African agriculture.

Yet, the growing environmental concerns may well affect the world's ability to feed a growing population, even though virtually every recent global study has concluded that the world has the necessary physical resources to feed a much larger population (Srinivasan). However, these studies do not factor in the economics of increasing food production. Changes in input prices which more correctly reflect the true environmental costs could increase the cost of food production considerably, thereby rendering it less profitable in developing countries than it has been in the last two decades. Yet the world

food prices continue to decline following a virtually autonomous technical change in agriculture in industrial countries.

The emphasis on structural adjustment since the early 1980s has shifted the attention away from these micro level realities to macroeconomic policy reforms. Investment rates, including especially public investments in irrigation have dropped throughout the developing world, and growth of fertilizer use is expected to decelerate in a situation of devaluations, reductions in fertilizer subsidies and crowding out of the private sector access to institutional credit (Lele, 1992).

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In summary, prospects for rapid increase in per capita food availability are believed to be less promising in the next two decades than they did in Asia in the 1960s and 1970s. This makes it all the more important and yet all the more difficult to reduce the rates of population growth in a situation of growing poverty.

Structural Adjustment

The impact of structural adjustment on the social sectors is a matter of interest. A major IMF study of government expenditures covering the 1975-1986 period concludes that there has been a general upward shift toward higher educational spending in all regions of the developing world, eight to fifteen percent higher than levels predicted in relation to the structure of the economies and growth rates of GNP (Heller and Diamond). While gains in women's education have been more significant than average throughout the world, major variations exist among the lowest income countries (e.g., Kenya, Lesotho,

Togo and Zaire are above the predicted level but Sudan, Cameroon and Tanzania are below).

The same IMF study finds that foreign debt is a major constraint on education expenditures. Furthermore, none of the demand factors (such as the size of dependent population, birth and population growth rates and poor access to clean water) have a significant influence on the share of health expenditures in GDP. Rather health expenditures too are *most significantly and negatively* related to the size of the foreign debt.

The higher cost of providing services in rural areas tends to raise the share of

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expenditures. This may explain why the share of actual health expenditures to GDP ratios were higher than those predicted for Africa with its greater share of rural populations compared to Asia.

In a recent study, Sahn concludes that there is no conclusive evidence to suggest that countries reduce government expenditures either in real terms or as a percent of GDP as a *consequence of receiving adjustment loans*. In those countries where compression in government spending is noted in the 1980s, it preceded the beginning of adjustment programs. That, however, is little consolation since the interest is in knowing about the impact of adjustment (rather than of loan conditionality) on the access to social services. Sahn concludes that real spending on a per capita basis has declined. Precisely how a contraction in those expenditures has affected services is not known. It depends on: whether the balance of investment and recurrent expenditures has become more or less

appropriate, within recurrent expenditures; whether the resources for operating expenses - that tend to be the most constrained in the least developed countries- improved or worsened; whether the quality of public services deteriorated; or whether expenditure cuts resulted in the marginal activities being eliminated.

The increased emphasis on cost recovery has been justified on grounds that subsidized services do not benefit the most deserving and result in rationing of supply by constraining the budgetary resources allocated to those activities (Jimenez). There is little empirical evidence yet to indicate the actual increase in cost recovery in the social sectors, and whether it has resulted in expanded services. It is likely that the poor would be unable to pay for such services. If they did not benefit before the reforms were

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introduced, they would not benefit from expansion of market based services either, particularly in the rural areas. Subsidies targeted specifically for the poor are clearly essential. More empirical research is needed on the quantity and the quality of social services than exists currently.

Fertility and Democracy

The much faster decline in fertility rates in China than India raise additional policy issues especially in the context of the contemporary interest in the exercise of democracy. In both countries economic and social incentives to reduce fertility have been combined with exercise of compulsion, albeit more consistently in China than India, e.g. the one-child policy in China and the temporary use of forced sterilizations following the declaration of emergency in the early 1970s in India. India was unable to enforce compulsion on a sustained basis however. The unpopularity of sterilizations and the ensuing loss of election

by Mrs. Gandhi set back the political will to actively promote family planning programs in India even where market demand for such services now outstrips supply.

China's better performance is a result of more effective economic incentives as well as stronger enforcement of compulsion. Through a revolution, China redistributed assets and ensured a much more broad-based access of households to productive services in the agricultural sector than India could manage through democratic means. China's policy of personal responsibility in agricultural production since the early 1980s accelerated and diversified agricultural production. China also greatly increased women's access to education and health services and expanded their labor force participation. Three quarters of women in China had access to contraceptives in 1985 compared to 45

Gender Bias In China and South Asia

Whereas the supply of contraceptives may affect the motivation to plan families, the absence of a democratic environment at the household level also has effects on infant and child mortality. Both India and China are notorious for their discrimination against female children. Over 50 million females are estimated to be missing in China and India (Coale).

South Asia has fewer females to males in the total population (Visaria) due to discrimination against female children and their consequent excessive mortality (see for instance D'Souza and Chen, Wyon and Gordon, Levinson). Such differences are more pronounced in North than South India (Dyson and Moore). Moreover, whereas such discrimination should be expected to prevail in the rural areas, recent evidence suggests

that increase in incomes, access to education including particularly women's access to education, and indeed even the general decline in fertility rates caused by overall economic growth has not eliminated discrimination against female children.

Girls in families with one or more surviving daughters are more likely to suffer discrimination. In the Punjab, girls face 2.36 times higher mortality than their male siblings. Expenditures on medical care are 2.34 times higher on boys before the age of two, as compared to girls. Boys also benefit from higher quality nutrition, better clothing, etc. (Das Gupta).

A strong preference for male children is accentuated by the reduction in the size of the family, and this has been noted in China (Arnold and Liu). Sten Johanssen and Ola

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Nygren estimate the excess female infant deaths in China to be about 39,000 per year or about 4 per 1,000 live bom births. They attribute the phenomenon of the so-called missing females to under-reporting of girls, differential abortion and female infanticide.

Summary

The main characteristic shared by predominantly rural countries is the low level of per capita income. Other social and economic conditions vary substantially, however, highlighting the need for location specific population research. Availing contraceptives to women has little impact if cultural or institutional constraints adversely influence economic incentives to bear children.

Due to its massive poverty in global terms, the biggest challenge of population growth is in Africa and South Asia. With respect to Africa, aspects and assumptions pertaining to the Boserup hypothesis merit critical examination to determine the extent to which population growth can actually assist economic development. The same conditions that averted a Malthusian crisis in Europe and more recently in Asia do not prevail in much of Africa. Promoting universal female education, health care, contraceptive materials and training is clearly critical. Agricultural research, extension, credit and labor productivity are also critical to increase agricultural productivity, income and thereby to lower fertility rates. International aid is important but past aid efforts focussing simplistically both on integrated rural development and structural adjustment without an economic development strategy have had a very limited impact (Leie, 1991). More aid to Africa without assessing its impact and implications for the future is therefore not a solution. Reduction of implicit domestic taxation of agriculture and intersectoral redistribution between agriculture and

industry attempted through structural adjustment is essential, but has not occurred in many African countries and in any case is not sufficient. It cannot generate sufficient revenue to alleviate the poverty that contributes to high fertility rates. The evidence from IMF studies indicates that large foreign debts and budget cuts have threatened essential social services. Predominantly rural countries also face higher per unit costs of delivering social services, given their poor infrastructures and the wide geographical dispersion of their populations.

In South Asia, female fertility rates have not declined as much as they could because, with the exception of Sri Lanka and Kerala in India, South Asia has not given the priority to investment in education and the social sectors that it deserves, including especially the

focus on women. The often fatal discrimination of female infants in China and South Asia has been well recognized. Yet surprisingly little attempt has been made by the countries' policy makers and social and religious leaders to deal with the problem. There is a need to encourage public discussion and massive public education of men and women within the countries involved on an issue in which male national leaders must clearly take the lead. International agencies should assist their counterparts in countries where female infanticide occurs and offer support for whatever policy initiatives that diminish the problem.

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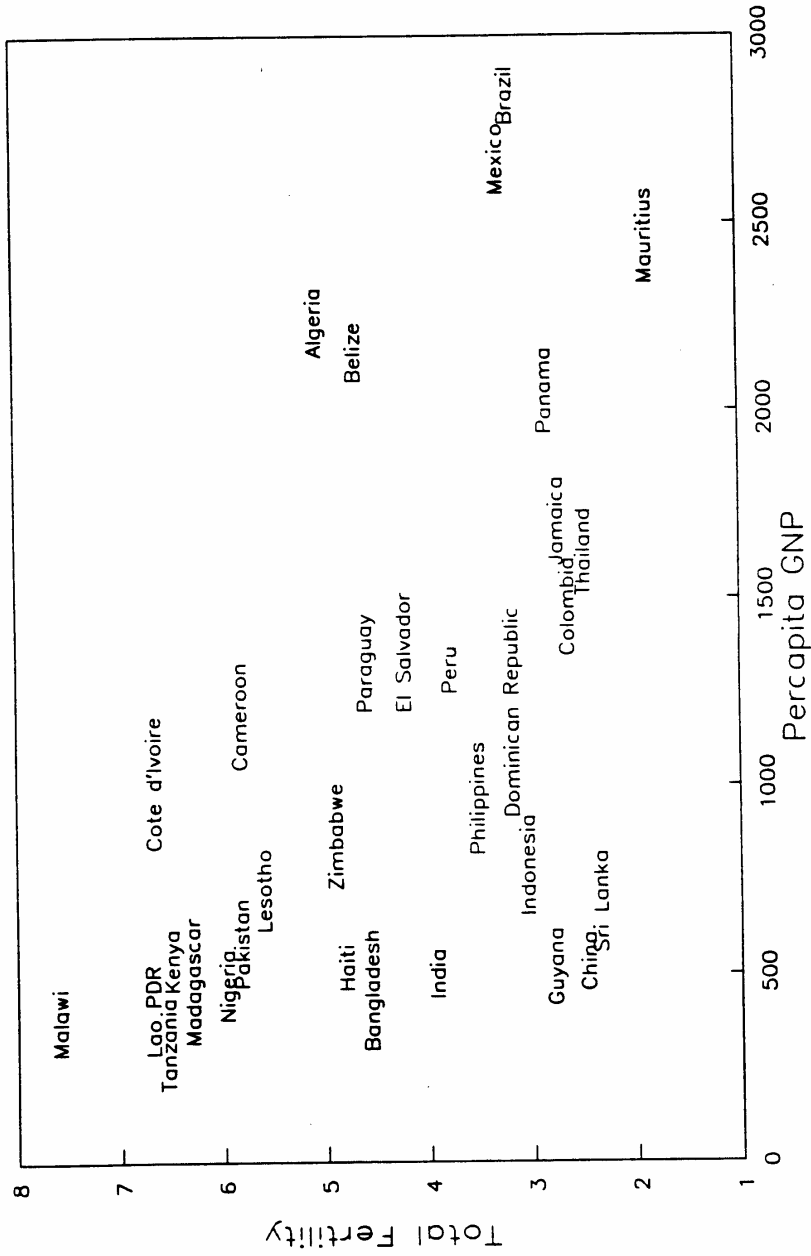
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Figure 1

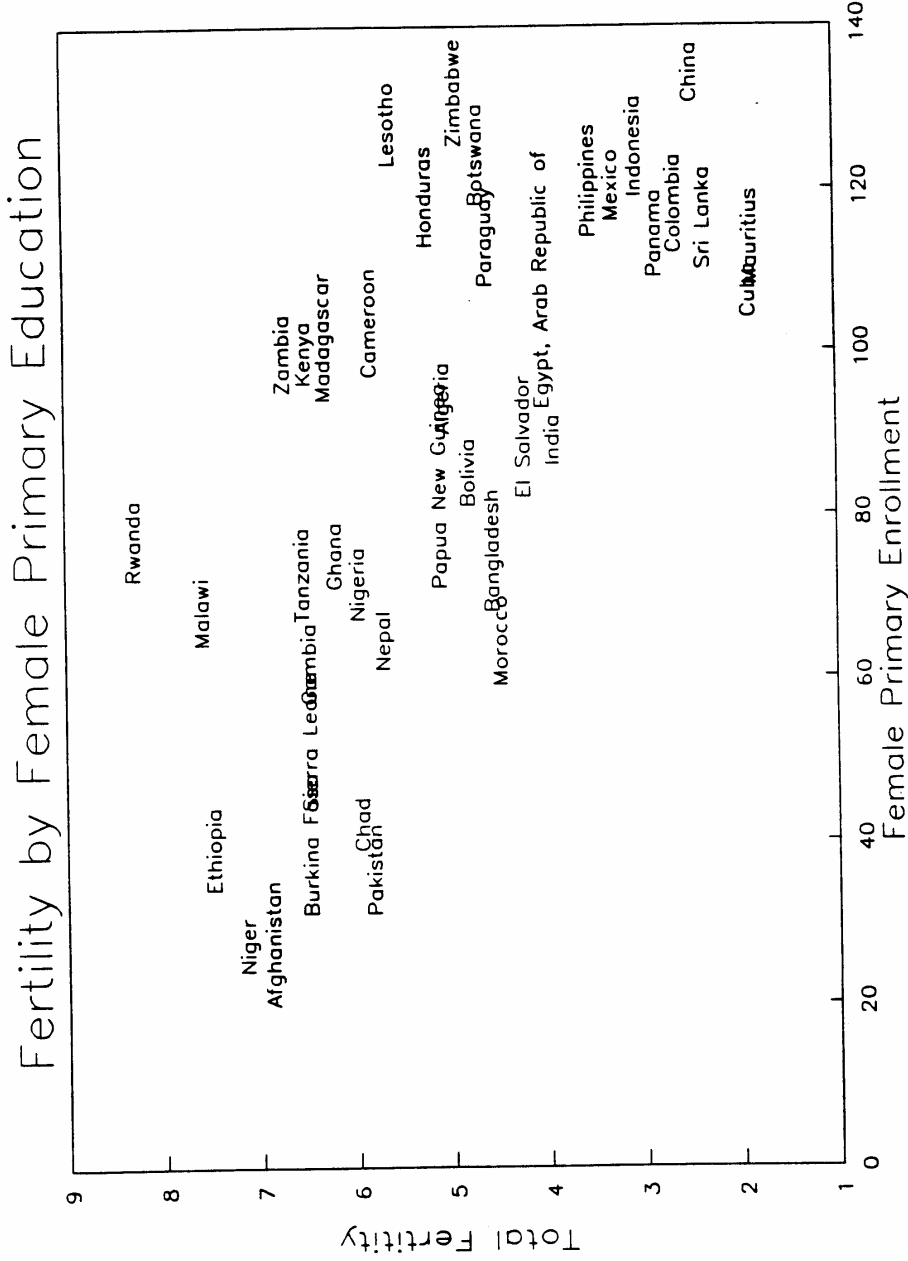
Fertility by Percapita GNP

Selected Countries



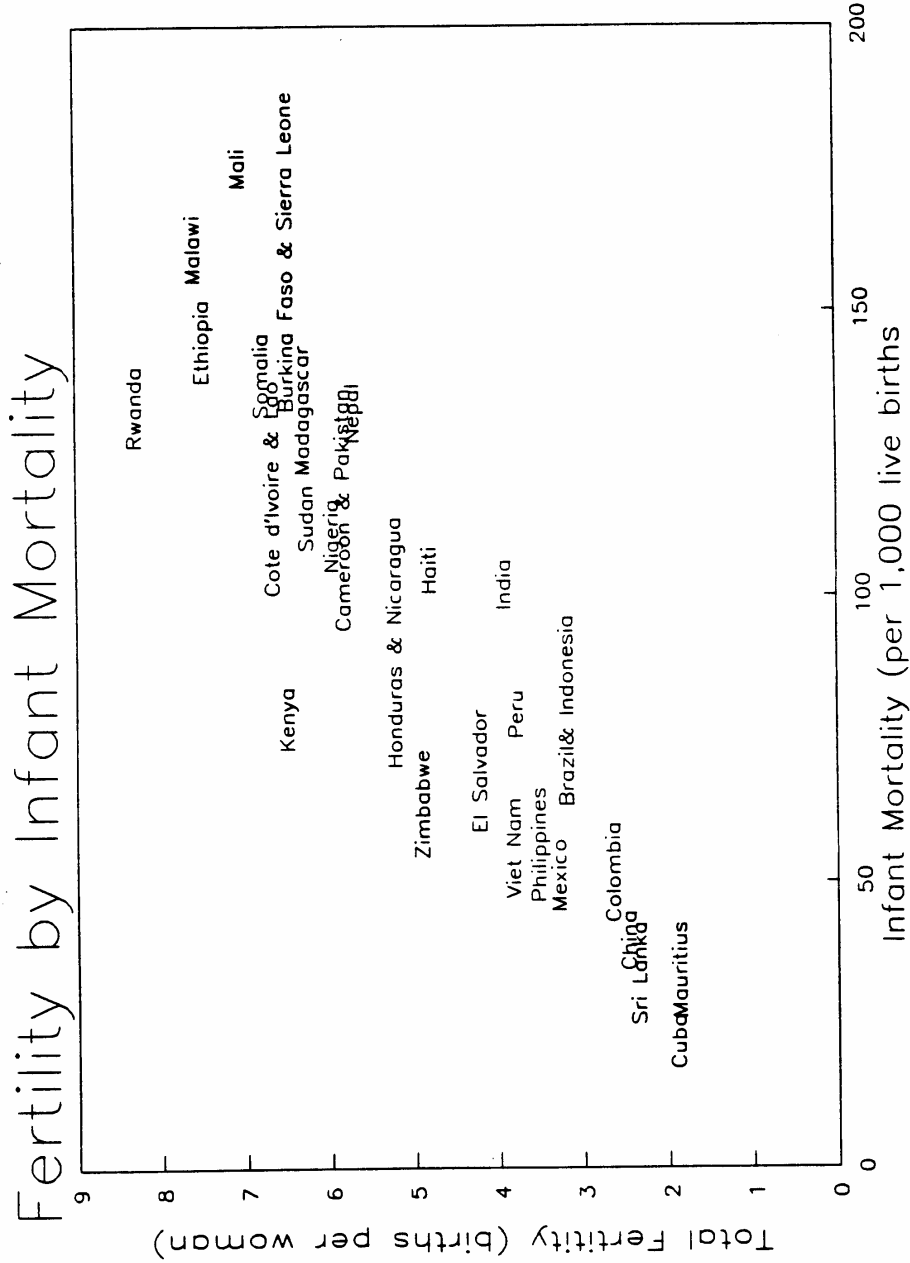
Source: Social Indicators of Development 1991-92, A World Bank Book, Baltimore: Johns Hopkins University Press, 1992.

Figure 2



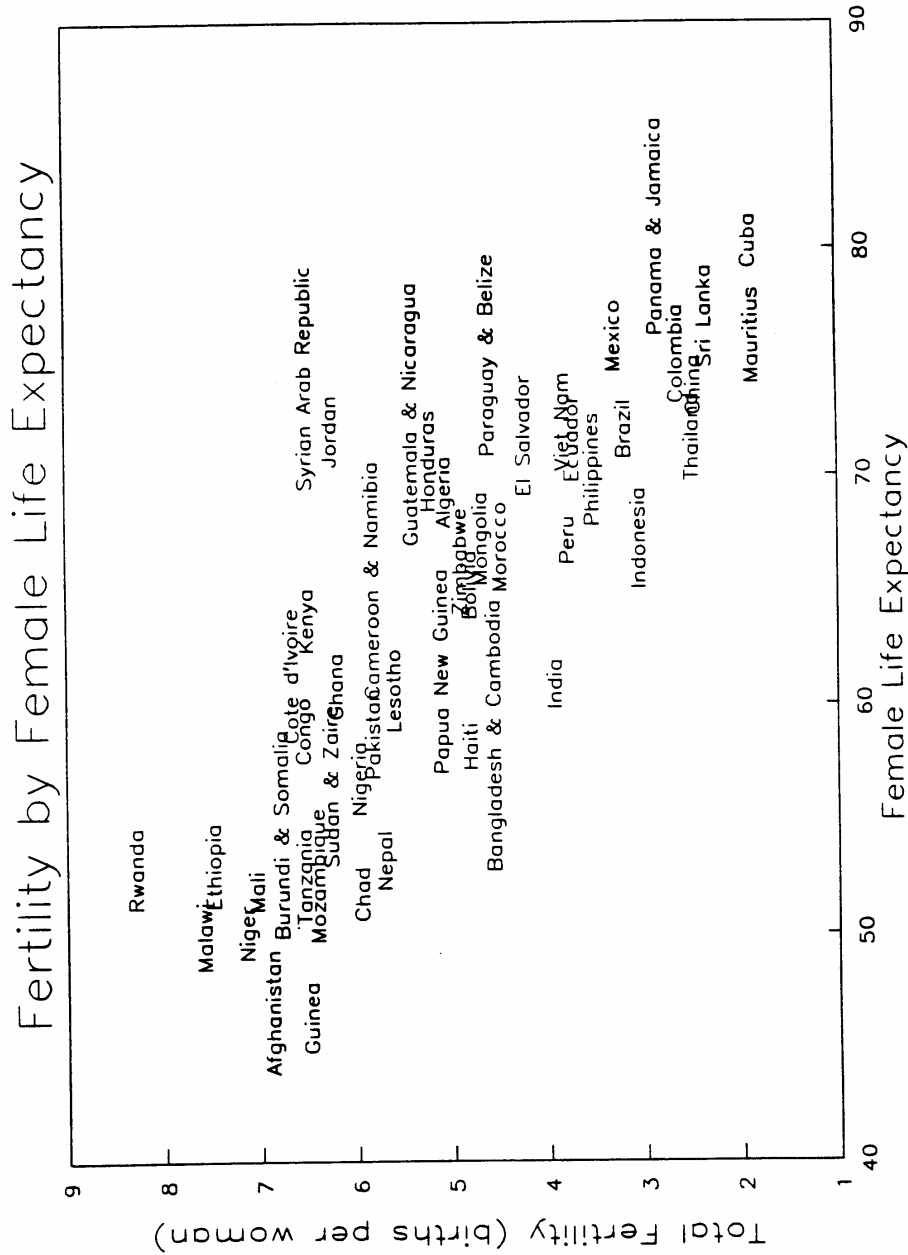
Source: Social Indicators of Development 1991-92, A World Bank Book, Baltimore: Johns Hopkins University Press, 1992.

Figure 3



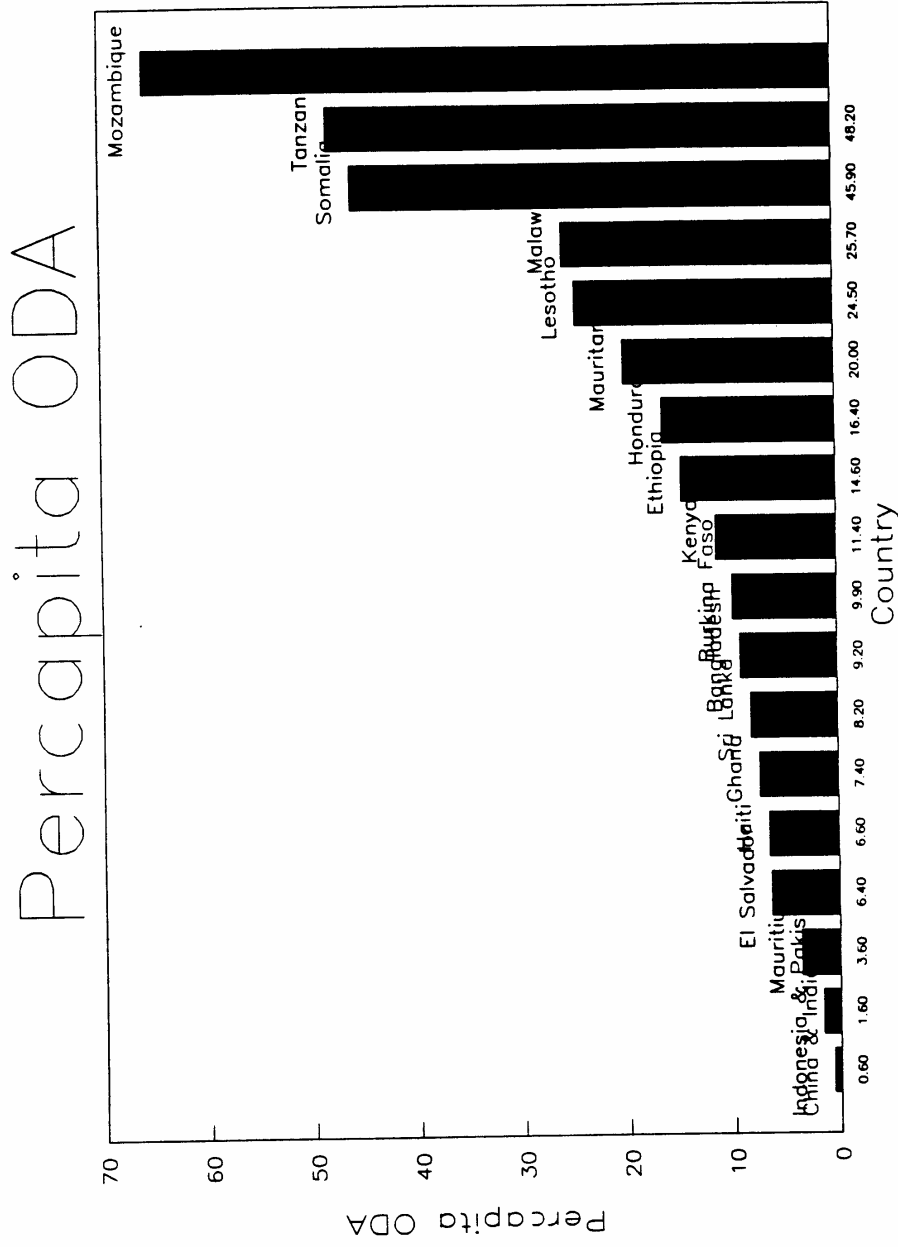
Source: Social Indicators of Development 1991-92, A World Bank Book, Baltimore: Johns Hopkins University Press, 1992.

Figure 4



Source: Social Indicators of Development 1991-92, A World Bank Book, Baltimore: Johns Hopkins University Press, 1992.

Figure 5



Source: Social Indicators of Development 1991-92, A World Bank Book, Baltimore: Johns Hopkins University Press, 1992.

T A B L E 1

**Population, GDP and Per capita GNP Growth Rates
for Selected Regions, 1990**

Region ¹	Population		GDP		Per Capita GNP	
	1965-73	1973-80	1965-73	1973-80	1965-73	1973-80
Sub-Saharan Africa ⁴	2.6	2.7	4.8	3.2	1.7	0.6
East Asia	2.6	1.7	8.1	6.6	5.2	4.7
South Asia	2.4	2.4	3.6	4.2	1.2	1.9
Europe, Middle East & North Africa	1.8	2.0	7.7	3.9	..	1.8
Latin America & the Caribbean	2.6	2.4	6.5	5.0	4.7	2.3

¹Source: World Development Report, 1991.

TABLE 2

Total Number of Poor For Selected Regions, 1985 – 2000

<u>Region</u> 1/	<u>(millions by year)</u>		
	<u>1985</u>	<u>1990</u>	<u>2000</u>
Sub-Saharan Africa	184	216	304
East Asia	182	169	73
South Asia	532	562	511
East Europe, Middle East & North Africa	65	78	93
Latin America & The Caribbean	87	108	126

1/ Source: World Development Report, 1991

TABLE 3

Population Growth Rates for Selected Countries¹
(%1990)

<u>Country</u>	
<i>Indonesia</i>	<i>1.9</i>
<i>India</i>	<i>2.0</i>
<i>Bangladesh</i>	<i>2.5</i>
<i>Brazil</i>	<i>2.0</i>
<i>Colombia</i>	<i>1.8</i>
<i>Mexico</i>	<i>2.1</i>
<i>Kenya</i>	<i>4.1</i>
<i>Senegal</i>	<i>2.9</i>

Source: Population and the World Bank: Implications from Eight Case Studies, World Bank, 1992.

TABLE 4

**Percent of Currently Married Women Who Want No More Children
and Percent Who Wish to Postpone Among Those Who Want More
Selected Sub-Saharan Countries**

Country	Year/Source	Percent Who Want No More Children	Percent Who Wish to Postpone Among Those Who Want More
Benin	1982 WFS	8	55
Botswana	1988 DHS	33	24
Burundi	1987 DHS	24	76
Cameroon	1978 WFS	8	
Cote d'Ivoire	1980 WFS	4	38
Ghana	1988 DHS	23	70
Kenya	1989 DHS	49	68
Lesotho	1977 WFS	14	
Liberia	1986 DHS	17	48
Mali	1987 DHS	17	50
Mauratania	1981 WFS	11	
Nigeria (Ondo State)	1986 DHS	23	58
Senegal	1986 DHS	19	
Sudan	1978 WFS	15	
Togo	1988 DHS	25	71
Zimbabwe	1988 DHS	33	61

Source: Table 5, Cochrane and Sai, 1990.

Note: Pregnant women excluded.