Turning but not Toppling Malthus: Boserupian Theory on Population and the Environment Relationships

Catherine Marquette

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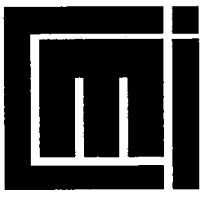

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Summary:
Subsequently to the Brundtland Report, the 1992 Earth Summit, and the resulting Agenda 21, the issue of population and development has increasingly evolved into discussion on the "population, environment and development nexus". In the face of this new mandate for research on population, environment and development dynamics, theoretical frameworks are limited. Conceptual thinking on population and environment within both the social and natural sciences has traditionally suffered from a long-term confinement within opposing "Malthusian" versus "Cornucopian" views. The work of Ester Boserup, however, continues to transcend the boundaries of this polarized discourse. This paper reviews the main points of Boserupian theory and its relevance to developing regions, in particular to sub-Saharan Africa. Recent reinterpretations of Boserup's work relevant to population and environment relationships in developing countries are also considered.

Indexing terms:
Boserup
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Introduction

In response to the 1992 Earth Summit and Agenda 21 (United Nations 1993), population scientists have actively reordered priorities on their research agendas. The issue of population and development has increasingly evolved into the 'population, environment, and development nexus' (e.g. Cleaver and Shreiber 1992). In the face of this mandate for research on population and environment dynamics, theoretical frameworks are limited. Conceptual thinking on population and environment within both the social and natural sciences has, in fact, traditionally suffered from a long-term confinement within 'Malthusian' versus 'Cornucopian' polarities. These opposing points of few have made it, somewhat notoriously, into the popular media through the antagonistic work of the biologist Robert Ehrlich (1968 and with A. Ehrlich 1990) and the economist Julian Simon (1981 and 1990). The work of Ester Boserup, however, continues to transcend the boundaries of this polarized discourse by pointing to a more integrated , if less trodden, way for both researchers and policy-makers.

As T. Paul Schultz observes, Boserup "turns" Malthus on his head (Schultz in Boserup, 1990, p.2). Indeed, Boserup, also an economist, may turn Malthus but she very consciously does not topple him. Her work, as a result, has stimulated some social scientists to synthesize the insights of Malthus with her own ideas in analyzing population and environment relationships. Several demographers, most notably Bilsborrow (1979, 1989, and 1992), have thus, formulated frameworks that integrate Boserupian and Malthusian ideas and account for population impacts on as well as responses to their environment. It is the aim of this paper to review the main points of Boserup's theory and its relevance to developing regions, in particular to sub-Saharan Africa. We then briefly consider Bilsborrow's recent reinterpretation of her work which also focuses on population and environment relationships in developing countries.

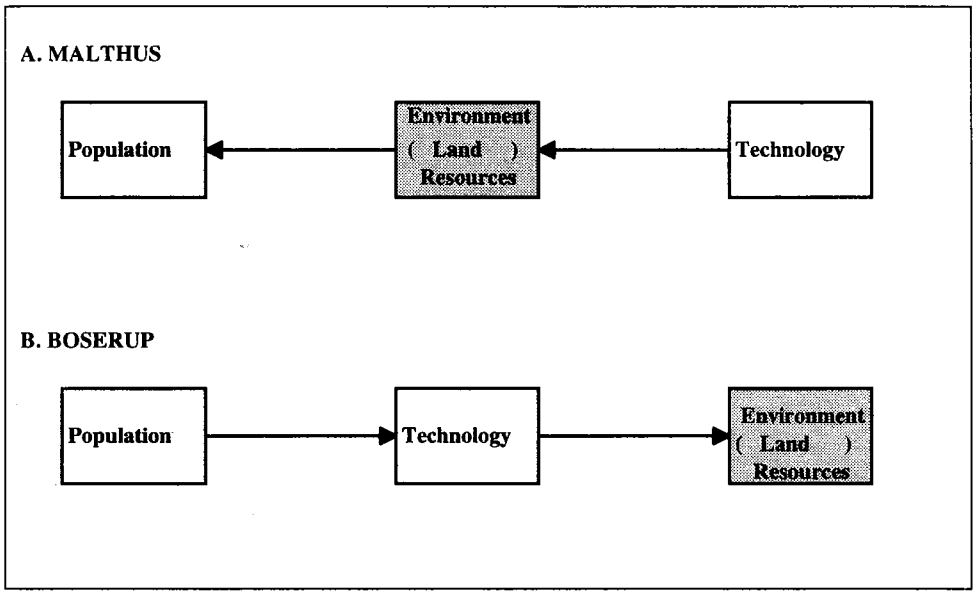
I. Malthus versus Boserup

The oft repeated central tenet of Malthusian theory (1798 and 1803, republished 1960) is that the growth of human populations always tends to outstrip the productive capabilities of land resources. The result is that resources place a direct restriction on population growth and size and 'positive' checks (famine and increased mortality) or preventative checks (postponement of marriage and limitation of family size) work to reduce population growth. Writing before the agricultural revolution, Malthus presumed that the productivity of resources, namely land, were fixed because agricultural technology was largely fixed --as was the case in Malthus' pre-industrial world. From a Malthusian perspective, technology and environment (considered in terms of land resources) are therefore seen as independent variables that work together to determine the dependent variable of population, which he sees mainly in terms of population growth and size (Figure 1).

As later interpretations of Malthus have pointed out, he does not entirely discount the possibility of technological change--since historically important innovations had obviously occurred to his time, for example the plow (e.g. Lee 1989). Rates of population growth and population size may sustainably increase, according to Malthusian theory, through technological innovation, for example use of the plow, that can expand the productive potential

of land resources. Ron Lee calls this element of Malthusian' theory an "invention-pull view of population history" which suggests that the "carrying capacity of an area expands due to autonomously occurring inventions" and "population size quickly follows" (Lee, 1986, p.98). The core of Malthusian theory, may therefore, be best captured by the 'dependent' role he assigns to population growth in relation to the independent factors of environment and technology.

Figure 1. Population, Environment, and Technology: Malthus and Boserup



Boserupian theory similarly focuses on the relationships between these three factors: population, environment, and technology. Her concept of 'population,' in contrast to Malthus, encompasses population density as well as absolute size and growth. Like Malthus, her concept of environment refers mainly to land resources and related factors such as climate and soil quality. Since her focus is either historical civilizations or developing countries, 'technology' for Boserup, as for Malthus, refers mainly to the tools and inputs used in agriculture, the primary productive activity in these societies. Writing after the agricultural and industrial revolutions and during the green revolution, Boserup's (1965, 1976, 1981) concept of technology naturally refers to a wider range of agricultural tools (e.g. tractors), techniques (e.g. fallow patterns), and inputs (e.g. fertilizer). It is important to recognize that neither Boserup nor Malthus specifically address 'population', 'environment', and 'technology' per se but rather the topics of land use or food production. Implications on the linkages between these factors are subsequently inferred from their work.

In arraying relationships between population, environment, and technology, Boserup turns the Malthusian linkages around (Figure 1) proposing that:

> It is generally agreed that successive change in technology has an important influence on population size . . . The opposite side of the interrelationship, the influence of population size on technology, has attracted less attention (Boserup, 1981, p.3).

In response, Boserup focus her attention on exploring the role of population as an independent variable that influences both the development of agricultural technology which, in turn, shapes the productive capacity of resources.

The origin of Boserup's view has historical roots in diverse economic and social theory and may be traced to the work of Smith, Marx, and Durkheim as well. In his well known concept of the economy of scale, Smith specifies the need for a growing population that will permit more efficient production through the division of labor. Marx's concept of "verkeher" also refers to the need for population growth and a minimal density that allows productive action (Marx and Engels, 1846, p.42, note 1). Similarly, Durkheim proposes a threshold "dynamic density" of population that will support the necessary division of labor and more efficient production (Durkheim, 1893, pp.151-153). What unifies Boserup with these lines of historical thought is the independent role assigned to population. Smith, Marx, and Durkheim (although strange bedfellows in general) all propose that population growth induces change in the organization of labor which subsequently extends the productive capacity of resources. Boserup, writing in the midst of the concurrent rapid population growth and technological change which have characterized much of the 20th century, extends population-induced change in the organization of labor to include population-induced change in technology which may similarly extend the productivity of resources.

Boserup asserts that Malthus overlooks an important mechanism for increasing production, namely, agricultural intensification, or the "gradual change towards patterns of land use which make it possible to crop a given area of land more frequently than before," which is induced by population growth (Boserup 1965, p.43). In describing this development, she states that small sparsely distributed populations use 'fallow' to retain soil fertility. They farm different plots in different years and allow the most recently used land to lay unused to regain fertility. However, with increased density, a growing population can use land more frequently and increase output by substituting technological inputs such as fertilizer or irrigation for fallow to retain soil fertility. Thus, Boserup proposes a "dynamic" relationship between arable and fallow land that changes in response to population density (Boserup 1965, p.13, p.15 and p.20). In contrast to the Malthusian idea of 'invention-pull' population growth, Boserup proposes 'invention-push' agricultural change. To Boserup, advances in agricultural technology such as the plow, irrigation or fertilizer cannot be seen as independent or exogenous inventions. Their development and dissemination have evolved in relation to population growth.

Given this dependent linkage between population dynamics, agricultural technology, and production, she defines six different food systems with increasing technological levels and their associated population density (Table 1). Although defined discretely, Boserup stresses that the strategies used by any population, particularly a growing population, is an evolving mixture of these levels. For example, a sparse but growing population that had previously used long-fallow systems will gradually begin to use shorter fallow on some of its land while keeping the remaining proportion devoted to traditional long fallow. Similarly as a population continues to grow it gradually makes transitions from shorter-fallow to annual cropping or annual cropping to multi-cropping more than once a years on all of its land. Thus, their is a "continuum of types of

Table 1. Boserup: Agricultural Systems and Population Density

System	Description	Population Density (Persons/km2)
1.Gathering /Pastoralism	Wild plants, roots, fruits and nuts gathered Possibly domestic animals	0-4
2.Forest-fallow	1 or 2 crops followed by 15-25 years fallow	0-4
3.Bush-fallow	2 or more crops followed by 8-10 years fallow	4-64
4.Short-fallow	1-2 crops followed by 1-2 years fallow	16-64
5.Annual cropping	1 crop each year with few months fallow	64-256
6.Multi-cropping	2 or more crops in same fields with no fallow	>256

Source: Boserup, 1981, p.9, Table 3.2, p.19 and Table 3.7, p.23

land use" or "coexistence of cultivation systems" such as exists in the world today (Boserup, 1965, p.14 and p.56).

Boserup also counters the Malthusian assumption that a growing agricultural population ultimately leads to falls in agricultural output. She argues that in the short-term a period of sustained population growth would lower output per man hour. This occurs since more intensive methods mean more hours of work (additional hoeing, weeding, the application of fertilizer and the construction of irrigation ditches) on the part of the agricultural laborer. The ratio of output to labor costs, thus, deteriorates in the short run. In the long term, however, workers would become more efficient at the tasks required by the new intensive regime. More importantly, the growing population would stimulate more efficient production by allowing the division of labor. Therefore, a growing population or increased population density leads ultimately to long term increases in output that outweigh short-term declines (Boserup, 1965, p.39-42). Similarly she rejects the related assumption that rural population growth inevitably leads to labor surplus and push-migration to urban areas. She asserts that intensive agriculture, as stated above, has higher labor demands than more primitive low technology systems (Boserup, 1990, p.14-18). As result, the switch to more intensive agriculture can preclude the production of labor surplus and push-migration out of rural areas.

On the other hand, she also states that for small populations with low density it is not worthwhile switching to more intensive regimes that require more labor inputs and that entail short-term productivity losses. She asserts that density must increase to a certain level before it is worthwhile accepting short term declines in labor output and the "hard toil of intensive agriculture" (Boserup, 1965, p.51). Once higher densities occur, however, it becomes imperative for the population to undertake the increased labor investment of more intensive systems for the sake of the long term advantage of increased output.

Boserup formulated her theoretical understanding of the relationship between population growth and agricultural change on historical Europe. Due to periodic famines and plague in Europe prior to the 18th century, the population was not large enough for the long-term benefits of more intensive agriculture. For that reason, more intensive methods such as irrigation, which were used in a few more densely populated areas like Italy and the Low Countries, were known throughout the rest of the continent but were not adopted (Boserup, 1981, p.114-116). In this context, she proposes that conditions were not "ripe for the diffusion" of new agricultural technology "on a large scale" (Boserup, 1981, p.96).

However, in the mid-18th century cycles of famine abated. The European population began to grow and population density increased such that more intensive methods of agriculture were adopted. For Boserup this increase in mid-18th century Europe drove both the agricultural and industrial revolution. Population-induced intensification of agriculture in Europe resulted in the necessary food surplus needed to support growing urban manufacturing areas. Moreover, the growing population in both urban and rural spheres raised the opportunity for economies of scale or the creation of infrastructure such as roads. This, in turn, allowed the wider

transfer of agricultural inputs, stimulating further intensification of agriculture, greater surplus and ultimately further urbanization and industrialization (Boserup, 1990, p.19).

II. Boserup on sub-Saharan Africa

Although Boserup formulated the basis of her theory of population growth and technological change in agriculture based on historical Europe, she applies it to understand patterns of development in contemporary developing countries. She asserts that in relation to developing countries "neo-Malthusian theories . . . are misleading because they tend to neglect the evidence we have of growing populations which managed to change their methods of production in such a way as to preserve and improve the fertility of land" (1965, p.20). We single out her interpretation of the current situation in sub-Saharan Africa as an example.

Boserup sees sub-Saharan Africa as historically a sparsely populated continent relative to other world regions. As result, subsistence agriculture and low-technology, long fallow systems predominate in the region. As Boserup states:

> Because past rates of population growth were much lower in Africa than in other parts of the world, extensive land-using subsistence systems, that is, long-fallow agriculture andpastoralism--continue to be much more prevalent than elsewhere. In large parts of Africa, there is more land than the sparse population needs for growing crops" (Boserup, 1990, p.258).

Countering Malthusian images of overpopulation, Boserup points out that in sub-Saharan Africa only a proportionally small percentage of land is currently cultivated while large areas remain non-cultivated as permanent pasture, forest or grassland. As Boserup suggests, recent data on sub-Saharan Africa shows that over 95 percent of all land falls into one of the non-cultivated categories (Boserup, 1990, Table 1, p. 117 and The World Resources Institute, 1990, Table 17.3, pp.272-273).

Boserup counters the prevailing view that the non-cultivated land included in the categories of forest, permanent pasture, grassland or other is marginal or of poor quality (Boserup, 1990, p.117). Rather she suggests that a proportion of this land may actually be playing a role in long-fallow systems (Boserup, 1981, p.16-17). Moreover importantly, much of this land could be transformed into frequently cultivated land given the necessary inputs such as fertilizer or irrigation. As Boserup asserts, economists fail to distinguish between land "which is used and land which could be used if the population was larger or they used modern equipment" (Boserup, 1990, p.117).

She concludes that there is much scope for intensification of agricultural production in sub-Saharan Africa and notes that unlike historical Europe, modern agricultural inputs, such as Green revolution technologies, exist that are capable of vastly increasing output (Boserup, 1981, p.202). On the other hand, she states that current population growth rates are much higher in sub-Saharan Africa than in historical Europe and that "agricultural intensification must take place more quickly" (Boserup, 1965, p.65). She recognizes rapid population growth in sub-Saharan

Africa in recent years, in fact, has not resulted in rapid intensification of agriculture and technological change. Indeed, food production has consistently fallen in sub-Saharan Africa during the last decade (World Resource Institute, 1990, p.277).

Boserup proposes that three factors have thwarted rapid agricultural intensification in sub-Saharan Africa. First, there has been historically a lack of investment in rural infrastructure, for example in roads, and agricultural inputs. Boserup indicates "neglect of investment under colonial rule" is largely responsible for this situation in sub-Saharan Africa (Boserup, 1965, p.98). This lack of infrastructure and investment limits access and use of agricultural inputs such as fertilizer or irrigation that would allow intensification. As Boserup notes:

> Lower technology countries have much better means to accelerate food production than those available in the nineteenth century . In practice, however, nearly all these inputs are unavailable to most producers in the lower technology countries. In most areas that supply towns and export market with agricultural products, no purchased inputs are used except hired labor. Use of most types of industrial and scientific inputs is feasible only in rural areas which are well supplied with infrastructure (Boserup, 1981, p.202).

A second impediment to agricultural intensification in sub-Saharan Africa, according to Boserup, is that new systems of land use may entail land reform that could lead to disputes over land rights. Governments and powerful members of society such as large landowners or tribal chiefs may resist changes in land use since it may upset structures of power.

Finally, Boserup asserts that reliance on food imports to meet the gap between the growing populations food needs and production has undercut the pressure for domestic intensification of agriculture. By offering food aid and subsidized and concessionary food imports, the developed world has made it more attractive for many sub-Saharan African countries to import food rather than increase domestic production. She asserts that food imports also play a role in the continued lack of investment in rural areas. Dependence on imports lessens the need for investment in domestic food production. This allows all resources to flow into the production of crops for export or the urban industrial sector. This type of flow corresponds with the major development models of export-led growth promoted by international organizations, such as the World Bank, in sub-Saharan Africa (Boserup, 1981, p.202).

Boserup observes that the cost of food import dependence is high. As she notes, "To economize on rural investments by supplying towns with imported food was a dangerous choice because it prevented intensification of food production by means of modern inputs" (Boserup, 1981, p.202). In addition, rural areas become less attractive to live in and rapid 'pull-migration' to urban areas occurs. This, in turn, drains rural areas of human labor, the main input in the low technology agricultural systems. This loss of rural labor causes further deterioration of any domestic food production that may exists. Boserup states that in sub-Saharan Africa "food imports promoted rural-urban migration, and rural-urban migration promoted food imports, in a vicious circle" (Boserup, 1981, p.206).

III. Reinterpreting Boserup with Malthus: Bilsborrow's Framework of Multiphasic Response

It is important to recognize that Boserup never rejects the Malthusian idea that population in some sense must adapt to resources. Boserup recognizes that:

> On the one hand, population density has adapted to the natural conditions for food production by migrations and difference in natural rates of growth; on the other hand, food supply systems have adapted to changes in population density (1981, p.15).

She concedes that their is multidirectionality in the lines in Figure 1 but concentrates her effort in describing the less explored movement to the right.

At least two recent interpretations of Boserup's work, however, attempt to synthesize Boserupian and Malthusian theory. As Ron Lee states in his paper "Malthus and Boserup: A Dynamic Synthesis," it is possible that "the two theories are not contradictory, but rather complementary" (Lee, 1986, p.96). The thrust of Lee's synthesis is that at different times either Malthusian forces, whereby population must adapt to resources through preventative or positive checks, or Boserupian forces of population-induced agricultural change may prevail among a given population. Lee develops a purely theoretical economic model to illustrate the technological and population factors that determine under what conditions Malthusian or Boserupian forces
prevail.

Richard Bilsborrow also attempts to synthesize Malthusian and Boserupian theory but also introduces an empirical dimension in his approach. He draws on evidence from the developing world to construct a conceptual framework that encompasses the array of responses that a growing, rural agricultural population can make in adjusting to resource pressure (Bilsborrow, 1979 and 1992). Bilsborrows's framework integrates a.) the Malthusian view that a growing population demographically responds to resource pressure by fertility reduction or out-migration that ultimately reduce resource demands and b.) the Boserupian view that a population economically responds to resource pressure through changes in agricultural technology that ultimately increase supply. To do this, Bilsborrow draws on Kingsley Davis's concept of the "multiphasic response" (Bilsborrow, 1992, p.129 and Davis 1963).

Davis suggests that a growing population will respond 'multiphasically' or in any demographic way possible to reduce this resource pressure (Bilsborrow, 1992, p.129 and Davis, 1963). That is, populations generally respond by reducing resource demands through a combined response including declines in marriage, marital fertility and out-migration. Bilsborrow, however, asserts that the economic response of agricultural intensification that increases supply , as defined by Boserup, can also form part of a growing population's multiphasic response to resource pressure (Table 2). He also reclassifies out-migration as a combined 'demographic-economic' response. Although he does not precisely specify why he sees migration

as both demographic and economic, one infers it is because migration affects both demographic demand factors, such as population size, as well economic supply factors such as remittances to households.

Table 2. Bilsborrow's (1979) Multiphasic Responses to Resource Pressure

Type of Possible Responses	Response	Determinants of Response
Demographic	Change in nuptiality Decline in fertility	Level of Agricultural Technology Social and Cultural Practices Infrastructure and Development Institutional Factors Natural Resource Endowments Policy and Political Factors
Economic	Intensification of Agriculture	
Demographic-Economic	Out-migration	

Source: Bilsborrow, 1979, p.5 and 1992, p.131

Although the response a growing population makes may be multiphasic and involve any combination of the demographic, economic and demographic-economic changes considered, Bilsborrow notes that ". . . the more likely one response is to occur, the less likely the others, precisely because the pressures are then reduced, the stimulus mollified " (1979, p.14). For example, he cites the densely populated areas around Kano, Nigeria where population growth resulted in agricultural "intensification, changes in land tenure and social relationships, declines in average farm size, changes in crops grown" (Bilsborrow, 1979, p.7). The demographic response of fertility decline may not have been as evident in Kano, however, largely because the economic response of agricultural intensification was working to reduce resources pressure.

Bilsborrow also defines the determinants which shape the relative role demographic and economic factors may play in a growing population's multiphasic response (Table 2). He asserts that a country's overall stage of agricultural technology or its 'level,' in Boserupian terms, will influence the nature of response. For example, a very small sparsely distributed population that begins to grow and is using a long fallow regime is more likely to respond economically through agricultural intensification than demographically by reducing fertility. Bilsborrow cites the historical development of China in this regard over the last two millennium (Bilsborrow, 1979, p.9). In contrast a densely settled population already using multi-cropping on all of its land is more likely to respond to resource pressure by decreasing fertility or out-migration. As an example, Bilsborrow cites the island of Puerto Rico in the 1930's where the scope for agricultural intensification was limited and population growth led mainly to fertility decline and out-migration (Bilsborrow, 1979, p.8). He also notes that existing cultural and attitudinal factors surrounding reproduction will affect the potential for demographic response through fertility decline in all contexts.

Institutional factors such as government policies relating access to land, will also affect the components of response. For example, among the growing rural populations in Latin America the demographic-economic response of migration to urban areas occurs most frequently. Bilsborrow relates this to the fact that in Latin America there is a concentration of land-holding among large landowners. As result, migration is the major option available to the growing landless rural population. By contrast, in Southeast Asia agricultural intensification accompanied by rapid fertility decline has been the general response to population growth. He asserts that in Southeast Asia there is a more equitable distribution of land and emphasis on rural development as well as
family planning by governments. This has allowed growing populations to remain in rural areas and increase output through more intensive agricultural methods while reducing fertility (Bilsborrow, 1979, p.17-20).

The determinants shaping a population's multiphasic response relative to resource pressure are also not exclusively associated with any one type of response. Some infrastructure and development factors, such as the extent of agricultural extension networks, may promote or discourage the economic response of agricultural intensification. At the same time other infrastructure and development factors such as the availability of family planning clinics and roads may affect the demographic response of fertility change as well at the demographic-economic response of out-migration. Also determinants are clearly linked, for example, strong institutions in a given area frequently go hand in hand with better infrastructure development as well as access to agricultural technology.

In considering the overall current situation in developing countries Bilsborrow concludes that there is evidence of multiphasic response to population growth. He sights evidence of agricultural intensification, fertility decline and out-migration across all developing regions (Bilsborrow, 1979 and 1992). Bilsborrow stresses, however, that in many instances the responses undertaken by growing populations in contemporary developing countries have not been adequate to achieve an acceptable balance between resources and population (Bilsborrow, 1979, p.22).

His most recent work, in fact, examines the links between rural population growth, agricultural change and environmental degradation (Bilsborrow, 1989, Bilsborrow, 1992). Bilsborrow proposes that in developing countries agricultural intensification has often resulted in deforestation, desertification and soil degradation (Bilsborrow, 1992, p.130). At the same time, he implies that the in many instances, particularly in Latin America, the existing concentration of land
holdings forces the majority of the population to undertake intensification on more marginal lands and on increasingly smaller areas. At the same time, impoverishment limits access to inputs, which are ironically needed most on marginal lands. He concludes that in Latin America land redistribution and reform can considerably weaken the link between agricultural intensification and degradation.

In singling out the importance of land reform, Bilsborrow recognizes the transcendent role which political factors may play in determining the nature of multiphasic response a growing

population undertakes. In fact, Boserup, herself, has concluded that "government policy has proved to be a more important determinant of agricultural growth than the man-resources ratio" (Boserup, 1990, p.23). Similarly, Bilsborrow suggest that:

> Considering the effects of population pressures along with the existing distribution of land simultaneously allows us to see both the effects of land population pressures under existing institutional arrangements and the possible roles of government policies in changing each" (Bilsborrow, 1979 p.15).

Bilsborrow, however, also observes that the real situation in developing countries is one where high population growth combined with barriers to land reform and agricultural inputs will severely limit the process and efficacy of agricultural intensification for the foreseeable future. He concludes that:

> while there are undoubtedly positive rural economic responses from increased population pressures, it seems unlikely that the responses can be greater than the stimuli. . . Thus in the long-run a reduced rate of population growth seems desirable. (1979, p.23).

Bilsborrow proposes that the Boserupian process of agricultural change in developing countries must, in fact, be accompanied by the demographic or Malthusian response of fertility decline.

Conclusion

As Ron Lee observes, "There are two grand themes in macro-demographic theory: the Malthusian one . . . and the Boserupian one" (Lee, 1986, p.96). Boserup's theory and interpretations by others such as Richard Bilsborrow, in fact, provide the only extensively developed alternative to the orthodox Malthusian view of population, technology and resources. However, as recent interpretations Bilsborrow (as well as Lee) suggest, Boserupian theory may represents not a contradictory but, rather, complementary perspective to Malthus.

The Malthusian perspective alone, however, has deeply influenced development policies and led to a major emphasis on family planning and fertility control in developing countries. In contrast, there has been little development of the policy implications of Boserup's work besides that which she herself has undertaken (Boserup, 1990, p.273-83). Some of the implications that evolve from Boserup's analysis of sub-Saharan Africa are a reconsideration of the role of food imports and more self-reliance in domestic food production. This, in turn, would call for increased investment in rural areas particularly in subsistence agriculture. Also, both Boserup and Bilsborrow imply that governments in many developing countries should actively support land reform. Going against the strong tide of market liberalization ushered in by structural adjustment programs across the developing world during the 1990s, Boserup's ideas also calls for revisiting the benefits of import substitution policies.

Of course, these recommendations fly in the face of current development models being promoted by the World Bank, the IMF, and national governments which focus on production for export, emphasis on the industrial sector and non-interventionism. Boserup's antagonism to

neo-liberal models may well explain her lack of recognition within the development community at present. It is hoped that the continuing analysis of Boserup's work, to which this paper attempts to make a small contribution, represents the first step towards future policies shaped by her unique insights.

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