Gender Relations, Demographic Change and the Prospects for Sustainable Development in Africa

Babatunde A. Ahonsi*

Résumé: *Cet article examine les interconnexions entre les relations de genre, les changements démographiques et les perspectives de l'Afrique pour un développement durable dans un contexte plus large des forces écologiques, économiques et socio-politiques qui déterminent les conditions de vie en Afrique au sud du Sahara. En commençant par censurer la critique du développement durable, il réfléchit sur la manière dont les aspects de l'actuelle crise économique et écologique africaine sont affectés par des facteurs démographiques, la subordination des femmes et les relations inégales de genre. Il termine par un ensemble de propositions comportant d'importantes démarches pour assurer un développement durable en Afrique basé principalement sur la transformation et l'amélioration des relations de genre existantes et d'autres inégalités majeures.*

Introduction

The subject of this paper is the interconnections between gender relations, demographic change and Africa's prospects for sustainable development in the larger context of the ecological, economic and socio-political forces that shape living conditions in the region.[1]

This task is made difficult by at least three factors. First, the issues involved are complex and controversial. Second, not only is the evidence bearing on them quite massive, diffuse and often contradictory, but it is very often not sufficiently gender-disaggregated. Finally, examining these issues in a region as culturally, ecologically and demographically diverse as Africa exposes one to the strong temptation of frequently resorting to 'stylised facts' which gloss over important sub-regional, national and local specificities.

To make the analysis manageable, the paper for reasons which would be clearer shortly adopts the concept of sustainable development as the

Africa Development Vol. XX, No. 4, 1995, pp.85-114

1 Africa is used in this paper to refer to sub-Saharan Africa. The discussion is limited to the area below the line drawn from Morocco to Egypt because countries here differ significantly from those above this line in ecology, history and contemporary geopolitics.

organising and selecting principle in the exploration of the issues central to the development of its argument. The thrust of this argument is that the rapid and uneven growth of population is only one of many factors implicated in Africa's econo-environmental crisis. But its strong synergism with gender relations and the limited scope for overcoming the externally derived problems means that a transition to lower fertility and elevated women's status may be Africa's most realistic avenue to sustainable development.

In the discussion that follows, Section II outlines the concept of sustainable development as used to guide the discussion. Section III deals with the salient aspects of Africa's demography and is followed by a discussion of the scale and nature of the region's environmental crisis in Section IV. The fifth section discusses Africa's economic crisis as a prelude to a discussion of the gender considerations common to the three highlighted aspects of Africa's developmental crisis. The paper is then concluded with a discussion of the implications of the analysis for the continent's quest for sustainable development.

Concept of Sustainable Development as an Analytical Framework

A commonly cited definition of sustainable development is the one given by the World Commission on Environment and Development (WCED 1987:43):

> Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

This rather broad conception was operationalised to include, amongst other objectives, the revival and changing of the quality of economic growth, providing for the essential needs of food, energy, water, sanitation and gainful employment, ensuring a sustainable level of population, strengthening the natural resource base, adopting environmentally friendly technologies, restructuring international economic relations, and making development more participatory.

As currently formulated however, it has been widely criticised for lacking a clear theoretical and analytical core and therefore, being subject to inconsistent interpretations (Braidotti *et al.* 1994, Lele 1991, Jacob 1994). Some scholars have, for example, questioned its relevance to the understanding and resolution of Africa's development crisis given the ease with which it can be associated with different ideas about development and the fact that it is often used in the context of continuing with the currently dominant, gender inequitable mode of development (Dei 1993, Braidotti *et al.* 1994).

Nonetheless, it seems quite a useful guide for the analysis of the interconnections between gender relations, demographic change and real

development prospects in Africa once its core components, 'development' and 'sustainability', are clearly specified. This is especially so if adequate attention is given to its other elements in the exploration of the issues.

Development for one is a value-laden concept whose definition often depends on the conceiver's political ideology. But however it is conceived, development in the African context is taken here to mean a process involving the reduction and eventual eradication of malnutrition, squalor, disease, early death, illiteracy and gross inequalities in income and participation in the political process. This definition necessarily includes the enhancement of the capacity to ensure the itemised improvements over time. The real ends of development must therefore include national self-reliance, higher levels of individual welfare, and the reduction of class, gender and geopolitical inequities.

On the other hand, sustainability may be viewed as having two aspects (Braidotti *et al.* 1994), the *intergenerational*, which relates to the exploitation of the natural environment in a way that assures both the present and future generations equitable access to its resources; and the *intragenerational*, which has to do with equal access to resources between countries or regions, and between classes, men and women as well as between other groups within countries. Equity is thus the principle that links both development and sustainability. This link seems easier to operationalise as a guide to analysis if sustainability is perceived in ecological terms.

In other words, development in Africa would be sustainable if the relations between Africa and the North and between groups within Africa are such that irreversible damage (such as the exhaustion of renewable resources) is not done to the natural environment. One would argue however, that while for Africa there is a need to continue the struggle for a more equitable world economic and political order, the quest for sustainable development must still be done largely at the regional, national and local levels.

The analytical utility of the concept of sustainable development is further enhanced if it is adapted to overcome some of the significant weaknesses in its mainstream formulation (Lele 1991:613). For instance, rather than conceive of poverty as being linked in a two-way manner with environmental degradation, poverty and environmental degradation would be situated within an 'access to resources' complex that recognises the recursive nature of the linkages between affluence, technology, population, environmental degradation and poverty. Further, in the African context, attention needs to be paid to the distinction between renewable resources, non-renewable resources and environmental processes thought to be crucial to life in general. This is because the unsustainable depletion of renewable resources is the more pressing problem for the continent (ENDA 1981, Salau 1991, The World Resources Institute 1994).

With the foregoing qualifications, the need is now for a clear specification of the reasons for considering the concept of sustainable development appropriate for exploring the interrelations between gender relations.[2]

First, sufficient evidence has been marshalled to show that Africa's quest for development is made very difficult, even with increased application of modern technology, by the increasing stress to her rather fragile ecology (Braidotti *et al.* 1994, ENDA 1981). The environmental stresses have been shown to derive mainly from the sort of development strategies pursued since the colonial period, Africa's worsening location within the international economic order, and rapid and uneven population growth in the context of long run geophysical and climatic changes.

Second, apart from the fact that women make up more than half of the adult population in Africa, they play critically important multiple roles in economic production, social reproduction and the exploitation and management of local natural resources. But they as a group, remain socially subordinated to men and benefit less from the fruits of economic production. Given that the concept of sustainable development is based on the recognition that nations cannot reach their economic goals without also granting their citizens equitable access to productive and reproductive resources, as well as achieving less rapidly expanding population, it stands to reason that since women's roles impact upon these two factors, then sustainable development cannot be approached without greatly enhancing women's status and vice versa.

Finally, since the environmental impact of a growing population depends upon factors such as its spatial distribution, poverty, land use patterns and the nature of natural resources management, women's productive, reproductive and environmental management roles imply that elevating women's status relative to men's is critical to the fruitful pursuit of sustainable development. Further evidence would be adduced to substantiate the interlinkages between the propositions just outlined.

Some Salient Aspects of Africa's Demography

Critical to the application of Africa's prospect for achieving sustainable development is the manner fertility, mortality and migration have been interacting to determine the distribution and growth of population and the latter's impact on the environment through human action. It is, thus,

---

2 'Gender relations' is used here to refer to the relations between men and women as 'socially and historically constructed, materially grounded and continually reformulated' (Jackson 1993:649).

appropriate at this point to sketch Africa's demographic regimes since the precolonial era.

Long-run Demographic Trends

It is an exceedingly difficult task to attempt to paint a reasonably accurate picture of the growth of population in Africa since pre-colonial times. This is simply because of the absence of demographic data sufficient in quantity and quality for such a task especially as regards the long stretch of history before around 1950 (Brass *et al.* 1968). With the vastly improved demographic data collection and analytical apparatus now available, we know how easy it is for small errors, even in the counting of demographic events (especially deaths), to result in highly inaccurate estimates of demographic levels and trends (Van de Walle and Foster 1990, Blacker 1994).

Consequently, the attempts by archaeologists and historians to reconstruct Africa's demography in the distant past through the use of such sources as archaeological findings, historical linguistics, travellers' accounts and administrative records,[3] basically amount to exercices in conjecture. All that we can get from such reconstructions are broad outlines of demographic levels and trends in the pre-colonial era which however, have to be interpreted with extreme caution. Nonetheless, these educated guesses enable us to make a number of general observations.

First, Africa which constituted slightly less than a fifth of the world population as at the beginning of the 17th century suffered a reduction to around 8% as at 1900 as a result of the Atlantic and trans-Saharan slave trades (Isiugo-Abanihe 1994, Zeleza 1993). Although there were considerable variations across regions, the gender ratio for the slave trade has been put at 150 men to 100 women in the Atlantic trade, and 203 women for every 100 men in the trans-Saharan trade (Zeleza 1993:66).

Second, however, Africa's population has since grown relative to that of the world from around 9% in the 1950s to roughly 11% by the late 1980s and is projected to be about 20% in 2025 (World Bank 1989, Green 1992). But it is instructive to view Africa's past population size in the context of a world population that did not reach one billion until about 1800. Given that the world's total population only reached the two billion mark around 1930, Africa's population even as recent as 1960 could not have been more than 150 million compared to over 500 million today.

---

3 See Zeleza, 1993, for an exhaustive list of such sources.

Thus, although the distribution of Africa's population across the continent prior to colonialism partly reflected differences in the onset and abolition of slavery, the picture over the long stretch of history up to the early part of the present century was one in which the population grew quite slowly due to the offsetting of the high fertility levels by almost equally high mortality. With this very slow growth, spatial distribution of Africa's population seem to have been significantly shaped by the prevailing combinations of climatic conditions, vegetation, soils, land forms, hydrology and minerals (Hance 1975, Osirike 1992). This rough balance between the population and natural environment in Africa until the recent past still partly accounts for the contemporary settlement patterns despite the modifying impact of recent economic, political and socio-cultural changes.

The point about the rough balance between population and natural resources in the past may be illustrated with the West African situation. The sub-region appears to consist of four broad eco-demographic belts (Hance 1975). These population belts being rather broad contain a number of exceptions. But it is clear that the southern belt (that is, the area between the Atlantic coast and the Savana) has been one of high population density. Because of its rainfall pattern, it was easy to produce throughout the year many subsistence crops such as yams, corn, plantains and palm oil. Its rain-forest/savanna border zone with its easy-to-clear soil was particularly suitable for many important export crops especially cocoa. When taken with the presence of many minerals, it is then not surprising that this belt witnessed a number of large kingdoms (Yoruba and Bini, for example) whose relative political stability facilitated the rise of diversified economies and intensive contacts with the outside world which attracted to it many migrants.

Moving to the middle belt, we confront relatively less densely settled populations. This pattern has been linked to the presence of the tsetse fly which made the zone inaccessible to cattle rearers and led to the high incidence of human trypanosomiasis. Also partly implicated are the widespread absence of permanent water supplies and, thus, the belt's unsuitability for many valuable tree crops. Its location between powerful kingdoms to the north and south which exposed the zone to regular slave and land annexation raids further resulted in its relative depopulation.

By contrast, the northern belt is characterised by many high density nodes. Explanations put forward for this include the belt's suitability for the cultivation of such food crops as sorghum, millet, groundnuts and beans as well as such cash crops as cotton. This situation seems not to be unconnected with the presence of some through-flowing streams and easy-to-tap underground water in several areas, and the availability of some relatively good soils. Important also was the development of advanced agricultural practices such as heavy application of animal and human waste

which enabled annual cropping without fallow in some areas. These factors contributed to the growth of urban centres and the emergence of powerful states which acted as a further stimulus to the growth of dense population settlements.

Finally, we have the sahel and desert belt whose generally low population density seems to be strongly associated with its relatively harsh agroclimatic (that is, climate and soils) conditions. The main exceptions are areas that have available to them through-flowing streams and/or easy-to-tap ground water.

The purpose of summarising Hance's excellent 1975 study in the last four paragraphs has been to draw attention to the importance of ecological factors in any consideration of issues related to the interaction between population and pressures on resources. The picture that emerges from dispassionately examining the geography and ecology of Africa (Osirike 1992, Salau 1991, Richards 1983, ENDA 1981) is that although sub-Saharan Africa has over 700 million hectares of potential cropland, out of which only about 20% is being currently intensely cultivated, we get a misleading picture of a vastly under-populated continent once we ignore questions about the difficulty of domesticating and cultivating this potential cropland (even with the help of modern technology) without inflicting irreversible damage to it. This is more so if we overlook the increasing desertification of this land and the relatively leached latosols, extending across much of West Africa and the dry regions, whose fertility is easily threatened once the covering forest is cut down to enable intense cultivation. In short, as would be substantiated further shortly, it is not by accident that large parts of Africa remain seemingly sparsely populated.

More Recent Demographic Trends

Since around 1950 the population of countries in Africa have witnessed very rapid growth due to major reductions in mortality (especially among the under-fives), mainly attributable to widespread application of relatively cheaply imported medical and sanitation technologies (vaccines, quine-based drugs, water-tapping/purifying technologies, etc.), and stably high fertility levels (Forte *et al.* 1993, Isiugo-Abanihe 1994, Green 1992). The broad levels of the two main components of population change in Africa are shown in Table 1 for selected countries.[4]

4 The countries have been selected to reflect the diversity of demographic, ecological and economic conditions across Africa.

Table 1: Demographic Indicators for Selected Countries, 1950-199..

Region/ Country	Total Population		Life Expectancy (Years)			Total Fertility Rate	
	1950	1990	1970-75	1990-95	F/M%[1]	1970-75	1990-95
West							
Cote d'Ivoire	2.8	12.0	45.4	51.5	107	7.4	7.4
Ghana	4.9	15.0	50.0	56.0	107	6.6	6.0
Nigeria	32.9	88.0*	44.5	52.5	107	6.9	6.4
Senegal	2.5	7.3	40.3	49.3	103	7.0	6.1
East and Central							
Ethiopia	19.6	49.8	41.0	47.0	107	6.8	7.0
Gabon	0.5	1.2	45.0	53.5	107	4.3	5.3
Kenya	6.3	23.6	51.0	58.9	107	8.1	5.4*
Tanzania	7.9	25.0	46.5	50.9	106	6.8	6.8
Uganda	4.8	17.6	46.5	41.8	104	6.9	7.3
Southern							
Swaziland	0.3	0.8	47.3	58.0	106	6.5	4.9
Zambia	2.4	8.1	47.3	44.1	104	6.9	6.3
Zimbabwe	2.7	10.0	51.5	55.8	107	7.2	5.3

Note: 1 - F/M% Indicates the female/male ratio multiplied by 100.

Sources: United Nations Population Fund, Organisation for European Co-operation and Development, and the World Bank as cited in World Resources Institute (1994) *World Resources 1994-95* (New York and Oxford: Oxford University Press) and modified (as indicated by *) to take account of the most recent evidence on Nigeria's total population (National Population Commission 1992) and Kenya's fertility level (M'Backe 1994).

Given that most African countries prior to 1960 had life expectancy figures of below 40 years (Brass *et al.* 1968), the figures for 1990-95 suggest gains ranging from 10 to nearly 20 years, with the current female figures being on average 3-4 years higher than the male ones. While it is true that the pace of mortality decline has noticeably slowed down in some countries due mainly to AIDS and, in others, to the adverse effects of economic and/or political crisis, there can be no doubt that the substantial reduction in mortality levels since 1960 has been the principal direct contributor to rapid population growth.

Between 1950 and 1990, countries such as Nigeria, Senegal, Gabon, Ethiopia and Uganda more than doubled in population size, while those like Zimbabwe, Kenya and Côte d'Ivoire more than tripled. The population of Africa as a whole has therefore more than doubled in the last three decades and at current growth rates would double again in another 25 years. What is worth stressing about these figures is that both in terms of the absolute

numbers and the rates of growth, they are historically unprecedented. Moreover, even if the fertility rates were to drop suddenly to replacement level, Africa's population would continue to grow massively in absolute numbers for the next generation or two during which the present cohorts of children (that is, the under-15's) pass through their reproductive years. Thus, what is critical to the long-term and therefore, to the prospects for sustainable development, is the current levels of fertility across the continent.

It should be noted at this point, however, that Kenya, Botswana and Zimbabwe seemed to have entered a phase of sustained fertility decline, while recent evidence pertaining to urban Senegal and southern Nigeria suggest that these countries may be at the beginning of their transitions to lower fertility levels (Forte *et al.* 1993, M'Backe 1994, Caldwell 1994).

In trying to make sense of the sometimes conflicting explanations for these emergent trends, it is clear that whatever their immediate precipitators (economic crisis or changing valuation of children) may have been, past achievements in the expansion of women's access to formal education, formal wage employment and to modern reproductive health services have been largely implicated in the lowering of women's fertility desires and their increasing use of modern contraceptives within marriage to limit family size (Van de Walle and Foster 1990, Forte *et al.* 1993).

It is arguable also that in spite of the persistence of patriarchal ideologies and social structures in much of Africa, the fact, as may be gleaned from Table 2, that a relatively high proportion of women are now having children outside marriage and opting out of traditional marital and familial arrangements is indicative of weakening patriarchal control over women's sexuality and reproductivity and, of perhaps, an emerging renegotiation of gender relations. At the minimum, this trend is depictive of African women's increasing resistance of patriarchal domination.

A similar inference may also be drawn from the fact of a fairly even use of contraceptives across the different marital status categories of women of reproductive age (see Table 3), given that this is a cultural milieu in which men's opposition to their spouses' or daughters' use of contraceptives is widely documented (Olusanya 1969, Van de Walle and Foster 1990, Adepoju and Oppong 1994). Moreover, there is accumulating evidence which shows that men in Africa tend to desire more children than women and frequently express stronger son preference (Ezeh 1993, Mason and Taj 1987). This pattern probably has a lot to do with women's better articulation of the impact of the increasing costs of child rearing (especially formal schooling) and of the tendency in the changing socio-economic context for assistance from children to be less predictable in general, though less so when the children are well-educated and gainfully employed (Mhloyi 1992).

Table 2: Proportion of Mother's Reproductive Years Spent in Different Marital and Residence Statuses (Ages 20-49): Circa 1984-1992

Region/ Country	Not Married	Married		
		Partner not Resident	Partner Resident	
			Married 2ce+[1]	Married Once
West				
Ghana	.14	.27	.21	.38
Nigeria (Ondo State)	.05	.16	.10	.69
Senegal	.08	.15	.18	.59
East and Central				
Kenya	.17	.17	.05	.60
Burundi	.14	.04	.12	.70
Southern				
Zimbabwe	.17	.24	.10	.49
Botswana	.45	.12	.04	.39

Note: 1 - '2ce +' refers to 'Twice or more'.

Source: Derived from Demographic and Health Survey datasets by Lloyd (1993:7).

However, it would amount to an oversimplification to posit that much of the ongoing destabilisation of traditional family and marital regimes is due to women's conscious renegotiation of their subordinate status to men. An important co-determinant has been male labour out-migration (Oucho and Gould 1993). Given that close to 70% of Africans currently live in rural areas, rural-to-rural migration continues to be the most common type of the major movements. Important also is the recent proliferation of migration streams induced by civil strifes and natural disasters and male labour migration to the mines of South Africa from her neighbouring countries. These three factors have resulted in a situation in which the number of international migrants on the subcontinent (about 50% of the world total) is much larger than what would be expected on the basis of her population size (Forte *et al.* 1993).

Nevertheless, rural-urban migration is the most significant form of movement for the long-term trend in population distribution. The phenomenon of expanding large-scale rural-urban migration has been driven by a multiplicity of factors. This includes the increasingly short supply of suitable land for cultivation, depressed agricultural prices, the non orientation of formally schooled youths to rural life, and colonial and post-colonial state policies which concentrated infrastructural and industrial

development in the urban areas (Oucho and Gould, Toure and Fadayomi 1992, Kol and Lewison 1983).

Table 3: Proportion of Reproductive Age Women (Ages 15-49) Using Contraception (All Methods) by Marital Status

Region/Country	Currently Married	Formerly Married	Single
West			
Ghana	.13	.14	.09
Liberia	.06	.13	.13
Mali	.05	.07	.01
Senegal	.11	.09	.06
Togo	.16	.26	.28
East and Central			
Kenya	.27	.23	.14
Uganda	.05	.09	.05
Burundi	.09	.06	.01
Southern			
Zimbabwe	.43	.32	.07
Botswana	.33	.30	.27
Average	.17	.17	.11

Source: Derived from Demographic and Health Survey Datasets - Circa 1985-92 by Llyod (1993).

In the ongoing redistribution of Africa's population attributable to rural-urban migration, it is crucial to recognise the fact that although the pre-colonial and early post-colonial phase of this phenomenon was male-dominated, the proportion of women in the migration streams has been increasing and autonomous migration by women driven mainly by economic motives is now more important than marriage-induced migration (Oucho and Gould 1993, Tienda and Booth 1991). However, women's educational and skill disadvantages relative to men and the increasing participation of men in the urban informal sector activities hitherto dominated by women has meant that despite the achievement of economic gains by some, especially the highly educated, women's status is very often not significantly elevated after migration.

It is also worthy of note here that because of the extreme concentration of industries in African cities (between 1/2 and 3/4 of all manufacturing concerns are located in and around capital cities in many countries), the non-enforcement of industrial pollution regulations, and the inability of the

existing waste disposal systems to handle the increasing amount of waste generated by urban households, African urban environments are becoming evermore degraded (Kol and Lewison 1983, Hardoy *et al.* 1992) as their gender compositions become more balanced.

Prevailing Demographic Regimes and the Ecological Context

Given the focus of this article, it is important to quickly deal with the issues raised by the question of whether rapid population growth is severely pressurising Africa's natural environment. By the very nature of the interaction between population and ecological processes in Africa sketched earlier, it would be quite uninsightful to simply crudely relate national populations to national land areas as a basis for arguing that the continent is a relatively empty one waiting to be filled by a larger population. One has to take account of soil quality (or the extent of soil degradation), the availability of resources, and of technologies to convert potential land to productive use without doing further damage to the environment (via for example, deforestation and large-scale irrigation-induced salinization) (Pingali 1990, ENDA 1981, Hance 1975).

To better capture the relationship between population growth and environmental sustainability, more refined measures ought to be used like the physiological density index which relates population to the total land under temporary crops and temporary fallow under meadows for mowing pasture and market and kitchen gardens (that is, arable land). Alternatively, we could further relate the population to the hectares of domesticated land (that is, land dedicated to raising crops and permanent pasture for livestock).

When this is done as presented for selected African countries in Table 4, a clearer but totally different picture emerges. Even without standardising the arable land for soil quality and climatic conditions,[5] it turns out that in terms of domesticated land, Africa is far more densely populated than most

5 If we were to use a more refined measure (which standardises for soil quality and climate) like the agroclimatic population density defined by Pingali (1990) as 'the number of people per million kilocalories of population potential', an even more dramatic picture would emerge. At the global level for example, Bangladesh is placed first, India, seventh, Kenya around the middle and Niger near the bottom of the ranking of countries by population per km^2 of agricultural land. But when agroclimatic population density is considered, Niger and Kenya are more densely populated than Bangladesh and India. This fact has been adduced as part of the explanation for the intensive cultivation observed in nominally sparsely populated countries like Niger and Botswana (Pingali 1990). In many countries in sub-Sahara Africa, a substantial segment of the land is 'agriculturally marginal' as for example, in Kenya where 80-85% of the total land area is, for now, only suitable for use as rangeland.

of the other main regions of the world except Asia and Western/Central Europe.[6] Furthermore, the physiological density of Africa has been rising even in most of the rural areas, with the rate of expansion in permanent pasture and cropland being only about 0.9% and 5.0% per annum respectively. Within this broad picture, however, there exists national and local variations. Compared to relatively land rich Zimbabwe for example, Lesotho, Rwanda and Kenya are quite land poor having respectively used up 100, 85 and 64% of all their arable land (Ayiemba and Oucho 1994).

When these refined measures of population density are considered along with the growing problem of desert encroachment, rugged terrains in different parts of the continent, limited water supplies and intensifying deforestation (ENDA 1981, Osirike 1992, Salau 1991, Green 1992), the pressure of rapid population growth on natural resources (especially land) takes on an enhanced significance. This is not the same thing as saying that Africa is 'over-populated' or is about to 'exceed its carrying capacity'. Such concepts with their in-built static and maximalist bias do not allow for the role of socio-economic, cultural and technological adaptations to higher population densities (Davies 1991). What is to be stressed however, is that for many countries in Africa, less rapid growth in their populations is likely to ease the adaptation of their social institutions, land use practices and technologies to accommodate the achieved sizes without irreversible damage to their natural resource base.

Put differently, with the increasingly closed nature of the land frontiers, rapid population growth in the ecological and socio-economic context of Africa tends to weaken or render inadequate long-established social mechanisms and agricultural or land-use practices that hitherto helped to protect the environment. For example, one would argue that recent rapid increases in the density of rural populations across Africa have tended to make it difficult to sustain such 'environmentally friendly' practices and institutions such as the sacredness of certain forests, the diversification of cultivation and grazing fields, the substitution of staple foods with gathered foods, and possibly, the mobilisation of kinship, friendship and community solidarity networks to deal with environmental problems especially as land poor and landless adults migrate in increasing numbers to seemingly better socio-economic milieu. There remains of course, the possibility of a high man/land ratio induced technological progress and agricultural growth, an issue to which we now briefly turn our attention.

---

6 See World Resources Institute, 1994; for the figures for the other world regions.

Table 4: Population Density and Deforestation Indicators for Africa, Circa 1975-1990

Region/ Country	CPD (Km^2)[1]	Population density per 1000 hectares[2]	Physiological population density (Km^2)		Annual deforestation	% all forests lost as at late 1980s
	1985	1990	1975	1985	1981-90 (%)	
West						
Cote d'Ivoire	32	421	83	355	1.0	80
Ghana	54	723	940	1146	1.3	82
Nigeria	103	1310	276	334	0.7	80
Senegal	33	413	173	123*	0.6	82
East and Central						
Ethiopia	35	496	215	320	0.3	86
Gabon	4	50	421	340*	0.6	35
Kenya	35	458	848	1083	0.5	71
Tanzania	24	325	306	551	1.2	40
Uganda	66	964	296	316	0.9	79
Southern						
Swaziland	n.a	473	n.a	n.a	n.a	54
Zambia	9	120	100	135	1.0	30
Zimbabwe	21	282	256	313	0.6	56

Notes: 1. Crude population density (population per square kilometre of land).
2. Population per 1000 hectares of domesticated land (about 36% of Africa's land surface).
* The declines are due to the exclusion of large areas by these countries of what is considered fallow land resulting from shifting cultivation.

Sources: The World Resources Institute (1994); Oucho and Gould (1993).

Are Boserupian Response Processes in the Offing for Africa?

One conclusion frequently drawn from some of Boserup's (1965, 1981) writings is that increasing population growth and density acts to induce agricultural intensification and this increases productivity. This inducement comes through the adoption of higher yielding crops and soil fertility-enhancing, labour-saving and land-recuperating technologies and practices.

It is of course, true that West European societies at the height of their population growth and African societies up to the first half of this century were able to roughly maintain their per capita food output levels through improved farming techniques associated with farmers' own informal

experimentation. But it is worth remembering that the densities of these populations and especially their growth rates were, at the most, only about half of the rates observed for the majority of Africa's national populations since the 1960s (Lipton 1990).

More fundamentally, apart from its implicit mechanicalism, the Boserup model would only have been less flawed had contemporary African societies been purely own-account farming and largely unmonetised, socio-structurally egalitarian and stably changing ecologically. Rather, there is considerable evidence which accords with the view that the responsiveness of agriculture to increasing food demand, associated with population growth, depends on the rapidity of that growth, the agroclimatic milieu, the conduciveness of the prevailing social institutions to agricultural innovation, and the population's command over food *vis-à-vis* the other demands on cash incomes through which nearly all households in present-day Africa meet most of their needs (Lipton 1990, Pingali 1990, Palmer 1991).

It seems that Boserupian technological transformations in Africa have remained inadequate because of the preponderance of annual national population growth rates in excess of 3% and relatively fragile or agriculturally 'marginal' ecologies as well as the highly skewed gender and class distribution of arable land, the neglect of women and small-scale farmers in general in agricultural development interventions, and the declining purchasing power of the masses. These conditions have tended to generate strains of such magnitudes that have overwhelmed productivity gains attributable to small-scale farmers' own innovations.

On the limited arable lands in sub-Saharan African, the shallowness of the soils, their deficiency or hyperefficiency in moisture and relative inadequacy in humus, and the high susceptibility to leaching of their nutrients and minerals once they are deforested imply that whatever Boserupian responses may be achieved, they are unlikely to be adequate given the prevailing socio-economic conditions, and their delayed emergence may only be at the price of further degradation to the environment. This is an environment that is already severely stressed as discussed next.

Environmental Degradation in Africa

Despite the increased attention being paid to the effects of such life-impacting changes in the global environment as the depletion of the ozone layer, global warming and loss of bio-diversity on African environments and ecologies, the most visibly major aspects of environmental deterioration with quite direct effects on the living conditions of the rural population especially women are drought, desertification, deforestation and land degradation (Salau 1991, Braidotti *et al.* 1994, Rodda 1991). For the

urban areas which currently contain one-third of Africa's population, but are projected to contain about half in less than 25 years, the main problem is that of air and land pollution with rapid urbanisation being also a factor in the deforestation of rural lands.

Drought and Desertification

Due to the extreme peakedness of rainfall distribution[7] in about two-thirds of Africa, evapotranspiration often exceeds rainfall. Consequently, the supply of water in many areas is insufficient to ensure adequate growth in crop production and the productivity of natural pastures (Salau 1991, ENDA 1981). Moreover, it is no longer questioned that the climate in Africa is becoming increasingly variable as a result of the interactions between recent human activities and the long run trends in geophysical processes. As a result, the Sahara and Kalahari deserts are advancing at such a pace that agricultural production may be more seriously compromised in the future than in the recent past.

The less remote determinants of this process that have been put forward include the destruction of the vegetation cover due to over-grazing, unmanaged wood cutting and inappropriate cultivation. These have in turn been related to market and population pressures which are overwhelming the prevailing agricultural techniques and practices. It has also been argued that Africa's increased vulnerability to drought in the twentieth century is partially attributable to the replacement of low yield/low variability crop varieties by high yield/higher risk 'improved' crops (Richards 1983).

A brief moment of reflection would lead one to see that many of the problems attributed to drought relate to the high and increasing intensity of land use. Such intense use of land is in turn not unrelated to the needs of rapidly growing populations. Thus, wells dry out when continuously drained and land lose in moisture and physical content when intensively farmed and its covering vegetation cut. But the picture would be incomplete in terms of the link to Africa's food crisis if we ignore the role of 'colonial and post-colonial state agricultural policies which switched many farmers with too much speed (for example, from grains to groundnuts) from drought-resistant crops or plants to planting cash crops, in the process of which previously fallow land were rapidly expropriated (Richards 1983).

Overall, in terms of human impact, there is abundant evidence (discussed further later), especially from the Sahel, that women are over-represented in the population forced to eke out a living on lands rendered marginal by drought and desertification (Salau 1991, Monimart 1991). In particular, both

7 Two-thirds of Africa receives more than half of its rainfall in just three months (Salau 1991).

fuel-gathering and water collection have become more difficult with the depletion of water resources and many women now devote close to four hours a day to the fetching of water for home and farm use (Braidotti *et al.* 1994, Trupp and Estes 1994, Monimart 1991).

Deforestation

The process whereby forest is converted to agricultural and residential use has reached critical levels in many countries as indicated by the figures on the percentage of all tropical forests that had been lost as at the late 1980s shown in Table 4. Sub-Saharan Africa as a whole is estimated to be losing its forest at a rate of about 0.8% annually (World Resources Institute 1994), with West Africa which had by the late 1980s lost over 80% of all its forest, being the worst affected sub-region. The experience of Côte d'Ivoire seems to be a good illustration of the complex of factors in the rapid deforestation of Africa.[8]

According to Yao *et al.* (1992), as recently as 1940, the forests of Côte d'Ivoire blanketed over 90% of the country's total land area and half of this was closed canopy, humid evergreen forest. But three-quarters of the original expanse of forest has been lost and even during the 1980s annual deforestation totalled at least 300,000 hectares. What is therefore striking about this situation is not just the total land area affected, but also the high rate of land clearing. The complex causal picture is one in which because of the pursuit of a development strategy which left so-called market forces unregulated, the state since the colonial era appropriated agricultural surpluses through export taxes on cocoa, coffee and timber for the financing of urban development. This strategy not only kept the lid on rural incomes and therefore, intensified poverty as the rural population grew, but resulted in a rapid destruction of the rural environment. For instance, in the absence of adequate checks on logging firms and timber processors, about six million hectares of forest was logged over between 1965 and 1985 but only 59,000 hectares were replanted.

It is remarkable that as excessive logging and land clearing for agriculture proceeded, the state failed to develop effective land tenure institutions to complement the traditional system. In the latter, land was communally owned and women sometimes had relatively autonomous usufructory rights to farming plots as determined by their needs and the availability of reserves. This system worked well when population densities were relatively low and most exploitation was largely for self-provisioning.

---

8 As with Côte d'Ivoire, there are several examples of humid tropical forests in Zaire, Nigeria and Ghana which were cleared for intensive cultivation and/or logging and subsequently abandoned in a denuded state (Pingali 1990).

But as the demand for commercial land use and arable land for cultivation by the rapidly growing population intensified, the system lost its regulatory efficacy.

Additionally, the unregulated move toward private free holding turned out to have served mainly private, male and largely foreign capitalist interests. Women in Côte d'Ivoire as in other parts of Africa (Palmer 1991), appear to have been largely excluded from the formal registration of land holdings as a result of prevailing ideological constructions of gender roles. Many of the political elites (mostly men) used their influence to get community elders to part with vast tracts of communal forested land and to obtain disproportionate shares of lands reallocated by government. In response, many of the rural poor resorted to wholesale clearing of forest land to stake a claim as a prelude to securing freeholding rights. A general pattern which therefore emerged in response to the higher demand for food and export crops was one in which agricultural land clearing almost always took place on lands first opened up through logging.

Consequently, in the central and eastern regions where population and agricultural density are relatively high, continuous cultivation has caused notable degradation of natural soil fertility. Long rotations which allowed exhausted plots to recover their fertility under a natural bush fallow have been severely shortened as a result of increased demand for land, with reduced production of even coffee and cocoa as one consequence. Farmers mostly men, have begun to abandon the denuded cocoa belt, migrating in search of higher crop yields in the relatively fertile but now threatened western forest. Meanwhile, many of the women left behind by these men have probably had to eke out a living for themselves and their children on less fertile land.

All in all, the case of Côte d'Ivoire illustrates a pattern that has been fairly widely replicated across Africa. This is the pursuit of a development strategy, originating during colonialism, that generally depresses rural incomes and marginalises self-provisioning or small-scale commercial farmers, many of whom are women. The resultant negative environmental impact of this situation has forced the growing rural population to increasingly exploit any available open-access resources, especially forests, to supplement farm incomes. Paradoxically, the over-exploitation of the rural sector has been an inducement for the young adult population to leave for the cities at a rate that has produced adverse environmental consequences for the latter.

Soil Degradation

As may be expected, processes similar to those that have caused widespread deforestation also largely account for one of its main concomitants - soil degradation. For instance, the colonial government's promotion of oxen

ploughing in northern Nigeria as an 'agricultural revolution' turned out to have been a retrogressive development in relation to soil conservation because of its unsuitability for the region's soil type (Richards 1983:23).

In most of Africa the main immediate cause of declining fertility and productive capacity of the soil has been the loss of top soil due to soil erosion driven by the transportation of topsoil by wind, water or gravity (Salau 1991). Gully erosion which is quite widespread in parts of Nigeria and Swaziland is the most visible on the landscape, while sheet erosion is the most predominant. The latter can go unobserved for very long until it has scraped up the arable segment of the soil because of the evenness of its action. It significantly accounts for the fact that by the mid - 1980s, the countries in the arid, semi-arid and sub-humid regions had lost between 25 and 100% of their soils' natural productive capacity (Salau 1991, World Resources Institute 1994). This is a problem that is clearly synergistically linked to deforestation and desertification.

Air and Land Pollution of Urban Areas

As Africa's total population has grown in size, its urban proportion has expanded even more rapidly. One outcome of this process is that large amount of arable rural lands have been taken over by expanding urban settlements, thereby, intensifying the rate of deforestation across Africa. Relatively, where arable land is scarce, urban growth can undermine attempts at increasing food production (Gree 1992, Kol and Lewison 1983, Aina and Salau 1992). More importantly, in using more water and energy and generating more waste than rural areas, cities across the continent now find themselves with overwhelmed refuse and waste disposal machineries. Many residents lack access to basic safe water, health and sanitation facilities.

To compound matters, poorly regulated factories concentrated in capital cities continuously dislodge their effluents into water bodies in and around the cities, and vehicles alongside factories release fumes and other poisonous gases into the atmosphere (Hardoy *et al.* 1992, Aina and Salau 1992). In many African cities, squatter settlements and slums house between 30 and over 50% of the migrant population whose recent additions, as pointed out earlier, are increasingly women. Again, as implied earlier, the urban and gender biased economic policies and development strategies pursued so far largely gave rise to these conditions and have been central to Africa's development crisis especially the stagnation and decline of national economies across the continent.

Economic Stagnation and Decline

There have been very many attempts by social scientists and historians to document and explain Africa's failure to significantly increase her level of

economic production and the level of welfare of the mass of her people after three and half decades of political independence. It is clear from reading some of this literature that there are both external and internal dimensions to the crisis, both of which have bearing on gender relations, population dynamics and environmental conditions. On the last aspect, some analysts have even described Africa's economic crisis as an environmental crisis (Reed 1992, Salau 1991). The present situation cannot however be understood without reference to the way in which African societies got incorporated into the world capitalist system (Lopes 1994, Zeleza 1993).

Africa's contact with Europe was from the outset based on unequal terms which, in the extreme, first took the form of slavery and was then succeeded by colonialism. These relations were structured to serve the capitalist accumulative interests of Europeans powers. Colonialism, in particular, reduced African countries to sources of cheap primary products for meeting the needs of capitalist production located in the metropolis. The socio-economic changes which accompanied colonialism basically commoditised land, labour and other productive resources; separated the economic and household spheres, and transformed the continent into a cash economy organically dependent on centres in Europe, but internally disarticulated (Zeleza 1993, Rodney 1982). One striking outcome of the transformation in productive relations was the disruption of long-established social relations of production which had in many places given women (and poor men) access to means of production especially land, and through this more autonomy than they now have in their relations with men (Palmer 1991, Boserup 1970).

As at independence therefore, most African economies were oriented towards the production of primary commodities which accounted for the bulk of their gross domestic product. Each country in terms of significant earnings, exported one or two commodities: cocoa in Ghana, Côte d'Ivoire and Cameroon, copper in Zambia, tea and coffee in Kenya, and so on (Adepoju 1993, World Bank 1989). With a few products accounting for sometimes up to 75% of their export earnings as determined by prices set in the capitalist centre, most African countries laid extremely vulnerable to external shocks or environmental vagaries or both.

Thus, despite achieving significant growth rates in their real gross domestic product between 1960 and the early 1970s, it mainly took two oil crises (1973-4 and 1974-80), falling commodity prices alongside higher external interest rates, and a few acutely adverse weather conditions (droughts during 1974-84) for many African economies to have drastically shrunk in size. Today, in terms of real value and output, they are smaller than they were around 1960 and many seem to have fallen into a seemingly unending slump.

Relatedly, since the late 1970s, many African governments have, partly due to mismanagement and corruption, been spending far more than they earn through external trade, and have therefore been doing a lot of domestic and external borrowing especially the latter. This has meant with the worsening terms of trade (that is, increasingly lower prices for Africa's exports and higher prices for Africa's imports) and rising interest rates, a massive build-up of foreign debts that now hang heavily over many countries' economies. In fact, the actual rate of gross domestic product growth for 1991 was 1.9%, well below 3.1% in population growth (Lopes 1994). Meanwhile, per capita food production declined for much of the last two and half decades in most countries and many have progressively become politically unstable (World Bank 1989).

As a response to the economic crisis and under pressure from the World Bank and the International Monetary Fund (IMF), the majority of African countries have embarked upon Structural Adjustment Programmes (SAPs). As implemented, these have meant massive reductions in public expenditures to release funds for private sector activities and external debt servicing; devaluation of national currencies to induce export-driven economic growth and attract foreign investment; and a general liberalisation of trade. But in spite of recent attempts to incorporate poverty alleviation measures into SAPs, most recent assessments[9] have come to the conclusion that these programmes have largely failed to achieve their stated objectives. Many countries' total GNPs are now less than their external debts and the region (excluding South Africa) now accounts for less than 2% of international trade, while experiencing a net outflow of capital.

More seriously, past gains in health and formal education are being reversed through cutbacks in public expenditure on social services (Adepoju 1993), with rising early childhood mortality during the mid-to-late 1980s now for instance, unambiguously documented for Ghana and Nigeria (Forte *et al.* 1993). Also, many countries may have been forced to further exploit their natural resources at unsustainable rates in order to earn enough foreign exchange to service their huge external debts (Reed 1992). Furthermore, recent feminist research (Afshar and Dennis 1992, Braidotti *et al.* 1994) has pointed to the tendency for SAPs, ostensibly for reasons of efficiency, to have adversely impacted upon women by reducing female participation in formal education, relatively shifting health care and welfare provision to the 'homefront', and by increasing the difficulty of organising household consumption via the collapse of real incomes.

---

9 *See* Lopes 1994, for a summary.

Thus, the general picture for Africa whether viewed statistically or dynamically, is one of a multi-dimensional crisis of economic production, social development and environmental stability.

Gender Considerations Common to the Highlighted Aspects of Africa's Development Crisis

A common underlying factor to the three aspects of Africa's development crisis dwelt upon in the foregoing sections seems to be the subordinate status of women in relation to men. This is reflected in the invisibilisation of women's role in the productive sphere, the undervaluation of their reproductive roles, and their disproportionate shouldering of the effects of economic and environmental crises. These facts of gender bias and inequality have been brought out clearly in recent gender-sensitive investigations of the roots of the sustainable development crisis in developing countries especially as regards the unshrinking or, in some cases, widening gap between agricultural production and population growth in Africa (Meena 1992, Jacobson 1992, Palmer 1991, and Braidotti *et al.* 1994).

In broad terms, men in Africa have fewer responsibilities than women in the production of food and other goods meant for household consumption except in some rural communities where men do all the farming while women remain secluded. There is some evidence from farming communities in West Africa that women work an average of six hours a day on the fields (Palmer 1991, Jacobson 1992), which alongside their household tasks translates into working for at least about 10 hours a week longer than men. In fact, Jacobson (1992:21) cites data from a survey by the Food and Agricultural Organisation of the United Nations (FAO) which clearly indicate that in much of rural Africa, women's share of total labour hours worked in farming households exceeds that of men especially in weeding, harvesting, food transportation, marketing and processing, and feeding of the family.

This skewed workload structure derives from the socially constituted gender differentiation in obligations and duties. Men normally do the land clearing tasks, grow export crops and commercial staples, and generally retain their income from the sale of agricultural products despite having partly relied on their wives for some of the weeding and land preparation tasks. Women, by contrast, tend to use their land primarily for family staple foods because they bear more of the responsibility for feeding their families or households.

Given this pattern of responsibilities, African women are inevitably active in the management of forest resources since forests provide a wide range of products to the household, including being the major source of fuelwood. In many parts of rural Africa, between 60 and 80% of all domestic fuel supplies are amassed through gathering from forest by women

and young girls (Jacobson 1992:8). It therefore goes without saying that women's increased access to alternative energy sources would not only reduce their work burden but also quicken the elimination of one of the sources of deforestation in Africa.

As things are, rural African women are only able to optimally meet up their multiple responsibilities in two infrequently occurring situations. First, where they have relatively free access to land as with communally owned ones. Second, when they are centrally involved in the management and control of agricultural and environmental recovery projects that meet local needs and create income for them through the sale of products yielded by such programmes (Braidotti *et al.* 1994). The reality, however, is that the development strategies pursued since the colonial era have through the promotion of export crops, which are generally male-controlled, marginalised women and thus, contributed to rapid/uneven population growth and environmental degradaton via a number of ways.

First, large amounts of land, once communally owned and accessible to women, have been acquired by male-dominated governments and private landowners, mostly men, in a context of growing shortage of arable land associated with rapid population growth. One index of this trend is the glaring gender inequality in the spread of registration of land as private property. This is evidenced by the sample survey data on 135 Kenyan households referred to by Palmer (1991:20), out of which only eight cases of land were registered in a woman's name only. Moreover, in some countries like Zambia, women continue to be discriminated against in land allocations by government since they still require their husbands' consent to receive land even when in formal legal terms they have equal access to land as men (Jacobson 1992:26).

One significant consequence of the continuing relative landlessness of women especially in largely own-account or small-scale farming, patrilineal settings has been women's lack of security. To minimise the risk of divorce and enhance their old age security, women in such situations tend to have many children in order to have at least one son through whom some access to family wealth is assured (Cain 1984). The health and social demands of such reproductive behaviour have been shown to prevent women from more productive participation in economic and environmental sustenance activities (Meena 1992, Jacobson 1992).

Second, the emphasis on export crop agriculture has been accompanied by the distribution of fertilisers, pesticides, irrigation facilities and high-yield seeds mostly to men due partly to gender bias in the agricultural extension and credit services (Jacobson 1992). For instance, data referring to 46 African countries during the 1980s suggest that less than 4% of extension agents who advise women are themselves women (Sontheimer 1991:14). Moreover, male extension service workers almost always focus on male

household heads. In addition, credit to small farmholders is usually channelled through farmers' co-operatives which in Burkina Faso for example, were mainly made up of male heads of households (Palmer 1991:31).

Relatedly, agricultural mechanisation has more often than not reduced or replaced the work hitherto done by men, but increased that done by women (through for example, enlarging the expanse of land they have to weed) unaccompanied by increased incomes.

In fact, there are many references in the literature to instances in which agricultural operations or processes controlled by women once mechanised become taken over by men, while women (especially the rural poor) continue to use crude or rudimentary tools. For example, when hybrid maize was introduced in Kenya and improved rice farming in the Gambia, the processes quickly turned into male hands (Palmer 1991:23). A similar pattern is described by Trupp and Estes (1994) of the southern Nigeria situation where the labour-demanding operation of hand-grating cassava was traditionally carried out by women. But when mechanised graters were introduced in the 1960s, the majority of women could not afford to acquire them and the sector thereafter fell into men's hands as about 75% of them owned and personally managed the machines. The feminisation of poverty thereby induced continues, of course, to be positively related to high fertility desires and the use of fragile or marginal lands.

Lastly, due to the increased levels of underemployment often associated with the mechanisation of agriculture and the limited availability of arable land for individual holdings, an increasing proportion of male workers are migrating into urban-based industries or services and cash crop plantation employment. The women consequently left behind in the rural areas often end up having to face increased burdens of household sustenance and agricultural production. Thus, in Kenya and in areas further south, as more men have moved from the rural areas, their traditional tasks of land clearing and animal husbandry have tended to be added to women's other tasks in agricultural production, food processing and household maintenance (Palmer 1991). One result of this trend has been that some women have been forced to abandon the cultivation of some of the plots of land previously devoted to food production.

In more parts of the continent however, especially for the poor groups of women in the Sahel, the increased inaccessibility of arable land, as the rural population and its need for crop land has grown rapidly, has had the effect of gradually pushing them into farming on land ill-suited to continuous cultivation. This in turn, furthers environmental degradation and reduces women's ability to produce food for their households (Jacobson 1992, Rodda 1991). These facts also partly explain why the majority of women in farming households now engage in other commercial activities such as

trading, beer brewing and craftwork to supplement their incomes from farming.

A point significant enough to also note here is that in the context of rapid population growth, continued state preference for industrial or export agriculture and the commoditisation of land have by further squeezing women on to marginal agricultural land, increased the workload of women involved in food production without any commensurate increase in productivity (Palmer 1991, Rodda 1991). Yet, they continue to lack the necessary ownership of such lands and the control over the revenue from its products required for making the investments that would enhance the quality of the lands or halt their deterioration.

It may be postulated from the foregoing therefore, that whatever steps that are taken to de-marginalise women's activities, enhance their economic productivity and autonomy and to reduce their drudgery and poverty would as a positive side effect, at the very least, lower their fertility desires/performance and generally discourage agricultural activities and practices that harm the environment and agricultural productivity. The question only then becomes the extent to which these changes would be significant to Africa's quest for sustainable development given the other large economic and political constraints at play.

Conclusion: Towards an Enhanced Prospect for Sustainable Development in Africa

In considering the implications of the analysis thus far for Africa's prospect for achieving sustainable development, it should be noted that our goal has not been to specifically recommend solutions. Rather, it was to direct attention to some considerations which ought not to be ignored if the perceived need is for realisable options. Given that many of the problems observed today in Africa can be significantly traced to its historically constituted disadvantaged location in the world economy and polity, the first inference likely to be drawn is that the nature of Africa's relationship with the North must be renegotiated or changed. This is more so in a context in which the North's population, which constitutes less than 25% of the world's total, consumes almost 80% of the world's raw materials and energy and is thus, largely to be blamed for the alarming rate of environmental degradation in the South (Braidotti *et al.* 1994, Green 1992, UNCED 1987).

The difficulty with recommendations such as this is that they say very little about the actions that may be taken to actualise the needed transformation in the world order. It sometimes seems the appeal is to the morality of the western powers in the belief that such change is only possible if it is initiated by these powerful countries (Kiggundu 1992). Other variants of this recommendation seem to ascribe too much to the agency of African states in the reordering of international economic and political relations.

There is, however, little in the historical record to lead one to be optimistic about the likelihood of a fundamentally changed world politico-economic order, an order which, sometimes, appears to be increasingly regionally and racially hierarchised. For instance, in spite of Africa's worsening terms of trade, there has been no serious international action to really help Africa cope with the devastating effects of low commodity prices or price fluctuations (Bush and Sezefel 1991). Also, the powerful western countries remain opposed to real widespread debt cancellation and would likely find it quite easy to successfully sabotage any collective efforts by debtor countries in Africa to renegotiate or renege on the terms for repayment. A further example is the United States' refusal at the 1992 Rio Earth Summit to support treaties requiring massive transfer of resources from her and other rich countries to fund environmental recovery projects in the poor South (Braidotti *et al.* 1994).

It may also be noted here that the emergence of economic blocs in Western Europe, North and Central America, and East Asia further increases the scope for the marginalisation of Africa's interests by the rich nations (Kiggundu 1992, Braidotti *et al.* 1994), who may likely maintain or set-up further market restrictions to imports (especially secondary products) from Africa.

It seems, then, that in terms of genuine options or feasibility, what countries in Africa need to do is not to give up entirely the struggle for fairer terms of relating to the North. But they should devote more attention and seriousness to strengthening themselves internally. One key mechanism for this, going by the foregoing analysis, is gender-equitable human capital investment. Another, is accessible and efficient modern reproductive health services.

A frequently drawn lesson from the recent histories of Sri Lanka, Cuba, Costa Rica, China and Southeast Asia is that even in the context of limited financial and material resources, with reprioritisation, women's access to formal education beyond the primary level, to better reproductive health services and to more income-creating opportunities can be massively expanded within less than a generation. These induced social changes tend to produce significant women's status-elevating and fertility-depressing (and thus, population growth-moderating) effects (Caldwell 1986, Halstead *et al.* 1985). Enhanced capacities for sustaining increase in the levels of living and welfare of the majority of these countries' populations have inevitably accompanied or paralleled the socio-demographic transformations.

In particular, women's education has been repeatedly shown to be not only the primary determinant of child and family health and a consistent predictor of lower fertility, but also of enhanced women's and thus, national economic productivity. Similarly, the case for well funded, women-controlled modern reproductive health services is hard to fault in a

continent in which half of all women and two thirds of pregnant women are anaemic; and where well over half of those of reproductive age in most countries now express a wish for long birth spacing and family size limitation. Yet, less than a fifth have access to modern reproductive health services (Trupp and Estes 1994, Forte *et al.* 1993).

Thus, apart from the intrinsic benefits and sound morality in pursuing gender-equitable and participatory development as an end in itself, its salutary side-effects for demographic levels and environmental recovery are a further justification. It may be strongly expected that the internal strengthening that would thereby result would enhance Africa's capacity for effectively pursuing a fairer ordering of the world economy and thus, further brighten her prospects for attaining sustainable development.

References

Adepoju, A., and C. Oppong, eds., 1994, *Gender, Work and Population in sub-Saharan Africa*, London, James Currey and Portsmouth, Heinemann (for the ILO).

Adepoju, A., ed., 1993, *The Impact of Structural Adjustment on the Population of Africa: Implications for Education, Health and Employment*, Portsmouth, Heinemann and London, James Currey (for the UNFPA).

Afshar, H. and C. Dennis, eds., 1992, *Women and Adjustment Policies in the Third World*, London, Macmillan Publishers Ltd.

Aina, T. and A.T. Salau, eds., 1992, *The Challenge of Sustainable Development in Nigeria*, Ibadan, NEST.

Ayiemba, E.A. and J.O. Oucho, 1994, *The State of Population in Eastern and Southern Africa*, African Population Paper No.1, Nairobi, African Population and Environment Institute.

Boserup, E., 1965, *Conditions of Agricultural Growth*, London, Allen and Unwin.

Boserup, E., 1970, *Woman's Role in Economic Development*, New York, St. Martins Press.

Boserup, E., 1981, *Population and Technological Change: A Study of Long-term Trends*, Chicago, University of Chicago Press.

Braidotti, R., E. Charkiewicz, S. Hausler and S. Wieringa, 1994, *Women, the Environment and Sustainable Development; Towards a Theoretical Synthesis*, London, Zed Books (for INSTRAW).

Brass, W., A. Coale, P. Demeny, O. Heisel, F. Lorimer, A. Romaniuk and E. van de Walle eds., 1968, *The Demography of Tropical Africa*, Princeton, Princeton University Press.

Bush, R. and M. Szeftel, 1991, 'The Struggle for Resources in Africa', *Review of African Political Economy*, No.51, pp.3-8.

Cain, M., 1984, 'Women's Status and Fertility in Developing Countries: Son Preference and Economic Security', *World Bank Staff Working Papers*, No.682.

Caldwell, J.C., 1986, 'Routes to Low Mortality in Poor Countries', *Population and Development Review* 12(2), pp.171-120.

Caldwell, J.C., 1994, 'Fertility in sub-Saharan Africa: Status and Prospects', *Population and Development Review*, 20(1), pp.179-187.

Davis, K., 1991, 'Population and Resources: Facts and Interpretation', in: K. Davis and M.S. Bernstam eds., *Resources, Environment and Population: Present Knowledge, Future Options*, New York, The Population Council and Oxford University Press, pp.1-21.

Dei, G.T., 1993, 'Sustainable Development in the African Context: Revisiting Some Theoretical and Methodological Issues', *Africa Development*, 18(2), pp.97-110.

Environmental Development Action - ENDA - (1981): *Environment and Development in Africa*, Oxford, Pergamon Press (for UNEP).

Ezeh, A.C., 1993, 'The Influence of Spouses Over Each Other's Contraceptive Attitudes in Ghana', *Studies in Family Planning*, 24(3), pp.163-174.

Forte, K., K.H. Hill and L. Martin eds., 1993, *Demographic Change in Sub-Saharan Africa*, Washington, D.C., National Academy Press.

Green, C.P., 1992, 'The Environment and Population Growth: Decade for Action', *Population Reports*, Series M., No.10, Baltimore, John Hopkins University Population Information Program.

Halstead, S., J. Walsh and K. Warren eds., 1985, *Good Health at Low Cost*, New York, Rockefeller Foundation.

Hance, W.A., 1975, 'Population and Resources' in: Caldwell, J.C., ed., 1975, *Population Growth and Socio-economic Change in West Africa*, New York, Columbia University Press, pp.119-135.

Hardoy, J.E., D. Mitlin and D. Satterthwaite, 1992, *Environmental Problems in Third World Cities*, London, Earthscan Publications.

Himmelstrand, U., Kinyanjui, K., and Mburugu, E. eds., 1994, *African Perspectives On Development*, London, James Currey, pp.61-73.

Isiugo-Abanihe, U.C., 1994, 'Demographic Transition in the Context of Africa's Development', in: Himmelstrand *et al.*

Jackson, C., 1993, 'Environmentalism and Gender Interests in the Third World', *Development and Change*, 24(4), pp.649-677.

Jacob, M., 1994, 'Toward a Methodological Critique of Sustainable Development', *The Journal of Developing Areas*, 28(2), pp.237-252.

Jacobson, J.L., 1992, *Gender Bias: Roadblock to Sustainable Development*, Worldwatch Paper 110, Washington D.C., The Worldwatch Institute.

Kiggundu, S., 1992, 'Strategies for Sustainable Development', in: United Nations Economic Commission for Africa, ed., *Third African Population Conference*, 3(2), pp.31-49.

Kols, A. and D. Lewison, 1983, 'Migration, Population Growth and Development', *Population Reports*, Series M., No.7, Baltimore, John Hopkins University Population Information Program.

Lele, S. M., 1991, 'Sustainable Development: A Critical Review', *World Development*, 19(6), pp.607-621.

Lipton, M., 1990, 'Responses to Rural Population Growth: Malthus and the Moderns', in: McNicoll, G., and M. Cain eds., *Rural Development and Population: Institutions and Policy*, New York, The Population Council and Oxford University Press, pp.215-242.

Lloyd, C.B., 1993, 'Family and Gender Issues for Population Policy', *The Population Council Working Papers* No.48, New York, The Population council.

Lockwood, M., 1991, 'Food Security and Environmental Degradation In Northern Nigeria: Demographic Perspectives', *IDS Bulletin*, 22(3), pp.12-21.

Lopes, C., 1994, 'Enough is Enough!: For An Alternative Diagnosis of the African Crisis', *Nordiska Afrikainstitutet Discussion Paper* No. 5.

M'Backe, C., 1994, 'Family Planning Programs and Fertility Transition in sub-Saharan Africa', *Population and Development Review*, 20(1), pp.188-193.

Mason, K.O. and A.M. Taj, 1987, 'Differences between Women's and Men's Reproductive Goals in Developing Countries', *Population and Development Review*, 13(4), pp.611-638.

Meena, R., 1992, 'Women and Sustainable Development', *Southern Africa Political and Economic Monthly*, 5(10), pp.38-41.

Mhloyi, M., 1992, 'Changing Factors Affecting Fertility Decisions in Africa', in: UNECA ed., pp.207-215.

Monimart, M., 1991, 'Women in the Fight Against Desertification', in: S. Sontheimer ed., *Women and the Environment: A Reader - Crisis and Development in the Third World*, London, Earthscan Publications, pp.32-64.

Nigeria, National Population Commission, 1992, *Federal Republic of Nigeria, 1991 Population Census (Provisional Results)*, Lagos, NPC.

Olusanya, P.O., 1969, 'Nigeria: Cultural Barriers to Family Planning Among the Yorubas', *Studies In Family Planning* 37, pp.13-16.

Osirike, A.B., 1992, 'Population Growth, Agricultural Activities and Deforestation in Southern Nigeria: As analysis of Causal Factors', Paper Submitted to an International Seminar on *Population and Deforestation in Developing Countries* (Philadelphia).

Oucho, J.O. and W.T. Gould, 1993, 'Internal Migration, Urbanisation and Population Distribution' in: K. Forte *et al.* eds., pp.256-296.

Palmer, I., 1991, *Gender and Population in the Adjustment of African Economies: Planning for Change*, Geneva, International Labour Organisation.

Pingali, P.L., 1990, 'Institutional and Environmental Constraints to Agricultural Intensification', in: G. McNicoll and M. Cain eds., pp.243-260.

Reed, D. ed., 1992, *Structural Adjustment and the Environment*, Boulder, Westview Press.

Richards, P., 1983, 'Ecological Change and the Politics of African Land Use', *African Studies Review*, 26(2), pp.1-71.

Rodda, A., 1991, *Women and the Environment*, London and New Jersey, Zed Books.

Rodney, W., 1982, *How Europe Underdeveloped Africa*, Washington, Howard University Press.

Salau, A.T., 1991, 'Environment and Gender: Ecological Crisis, Women and the Quest for Sustainable Development in Africa', Paper Presented at the *CODESRIA Workshop on Gender Analysis and African Social Science*, Dakar, Senegal, September, pp.16-21.

Tienda, M., and K., Booth, 1991, 'Gender, Migration and Social Change', *International Sociology*, 6(1), pp.51-72.

Toure, M. and T.O. Fadayomi eds., 1992, *Migrations, Development and Urbanisation Policies in sub-Saharan Africa*, Dakar, CODESRIA Books Series.

Tripp, A. and D. Estes, 1994, 'Women and Sustainable Development', in: World Resources Institute ed., *World Resources 1994-95*, New York and Oxford, Oxford University Press, pp.43-60.

van de Walle, E. and A.D. Foster, 1990, 'Fertility Decline in Africa: Assessment and Prospects', *World Bank Technical Paper* No. 125.

World Bank, 1989, *Sub-Saharan Africa: From Crisis to Sustainable Growth - A Long Term Perspective Study*, Washington D.C., The World Bank.

World Commission on Environment and Development, 1987, *Our Common Future*, Oxford, Oxford University Press.

Yao, J., K. Yao, J. Ako, O. Angoran and London Environmental and Economics Centre, 1992, 'Case Study for Côte d'Ivoire', in: D. Reed, ed., pp.49-76.

Zeleza, P.T., 1993, *A Modern Economic History of Africa, Vol. 1: The Nineteenth Century*, Dakar, CODESRIA Books Series.

---

* Department of Sociology, University of Lagos, Lagos, Nigeria.