Development Economics and Public Policy

WORKING PAPER SERIES

Paper No. 16

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November 2005

ISBN: 1-904143-81-4, 978-1-904143-81-9

Further details: Institute for Development Policy and Management
Published by: University of Manchester,
Harold Hankins Building, Precinct Centre,
Oxford Road, Manchester M13 9QH, UK
Tel: +44-161 275 2798 Fax: +44-161 275 0808
Email: idpm@man.ac.uk Web: http://idpm.man.ac.uk

Gender and Growth in Sub Saharan Africa: Issues and Evidence

by

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November 2005

[1] We gratefully acknowledge constructive comments and suggestions from two anonymous referees; the editors of this edited volume and the comments of participants at the UNU-WIDER Jubilee Conference: The Future of Development Economics June 2005, where an earlier draft of this paper was presented.

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Abstract

The paper argues that gender inequality acts as a significant constraint to growth in Africa, and that removing gender-based barriers to growth will make a substantial contribution to realizing Africa's economic potential. Reducing gender inequality in access to and control of key productive resources necessary for growth is a concrete means of accelerating and diversifying growth, making it more sustainable, and ensuring that the poor both contribute to, and benefit from, that growth, i.e., that growth is "pro-poor." By identifying some of the key factors that determine the ways in which men and women contribute to, and benefit (or lose) from, growth in Africa, we argue that looking at such issues through a gender lens is an essential step in identifying how policy can be shaped in a way that is explicitly gender-inclusive and beneficial to growth and the poor. We also suggest that further research on the linkages between gender and growth is essential for both analytical and policy reasons.

1. INTRODUCTION

Since at least the mid-1970s, Sub Saharan Africa's growth performance has lagged behind all other developing regions, with large and rising income gaps compared with the rapidly growing economies in East and South Asia. This poor growth performance has translated into a similarly poor performance in terms of poverty reduction, with Africa having the highest poverty rates (incidence as well as depth using the international $1 a day poverty line) and showing no progress in meeting MDG1 since the early 1980s (Chen and Ravallion, 2004). Africa also suffers from a low poverty elasticity of growth, largely due to its high inequality, which by now is among the highest in the developing world (World Bank, 2005a).

The presumed sources of slow growth in African economies have been analyzed by many authors (e.g. Sachs and Warner, 1997; Collier and Gunning, 1997; Acemoglu et al. 2001; Easterly and Levine, 1997; Mkandawire and Soludo, 1998), and range from the institutional legacy of colonialism, geographic challenges, trade and debt-related issues, high ethnic diversity, high incidence of conflict, demographic issues, weak institutions, considerable inequality, as well as poor economic policy choices. While these factors are clearly important contributors to Africa's poor economic prospects, we show that there is by now considerable evidence that gender inequality in various dimensions play a significant role in accounting for the poor growth performance in Africa, and can help us further our understanding of growth determinants (e.g. Blackden and Bhanu, 1998; World Bank, 2001; Klasen, 1999). These issues range from inequalities in education and formal sector employment to gender gaps in access to and control over important economic assets and productive inputs, and issues of governance. As we show below, there is considerable evidence that these gaps not only disadvantage women but reduce the growth potential in the region, and thus are partly responsible for the poor progress in poverty reduction in Africa.

The paper lays out the case that gender inequality plays a significant role in accounting for Africa's poor growth and poverty reduction performance. It argues that removing these inequalities would be an important precondition for addressing Africa's growth problems. To do so, this paper focuses on the theoretical insights on gender and growth linkages and complements this with some recent empirical evidence. The next section of the paper discusses the theoretical insights on gender and growth, highlighting the particular difficulties associated with gender-based analysis in a situation where market and household productive activities are often intertwined at the household level, an interdependence that is not fully captured in standard economic analyses. Section three provides some current evidence that underpins limitations to economic growth in Africa – focusing on the main issues that are particularly important for growth, including gender and education, and inequalities in formal sector employment. We then conclude in section four with some policy-focused and research-oriented recommendations.

2. THEORETICAL LINKAGES BETWEEN GENDER AND GROWTH IN SUB-SAHARAN AFRICA

Growth theory suggests that economic growth depends on the accumulation of economic (including human) assets, and the return on these assets, which in turn depend on technological progress, the efficiency with which assets are being used, and the institutional frameworks of production. The different strands of the growth literature all agree on these factors but differ in the way these factors interact to generate sustainable growth. Gender issues will naturally come into play in all of these factors influencing economic growth. As discussed below, there may be gender differences in the way human assets are being generated and accumulated, and gender issues may also play a role in the way physical assets (including land but also other physical capital) are being maintained and augmented. In addition, gender issues may play a role in influencing technological progress as well as the efficiency with which assets are being used to produce incomes. Lastly, gender issues may influence institutions, both public and private, which can help or hinder the efficiency of resource use. The relevant literature in each of these factors will be discussed below.

Gender and Growth Linkages: Theory and Arguments

It is important to highlight a few particular difficulties relating to identifying these gender issues as they relate to economic growth. First, many gender differences relate to the way households decide on production and consumption matters.[2] As we discuss in the next section, the household plays a particularly important role as a producer of economic goods as well as human assets in Africa and thus a full understanding of the gender issues involved requires an analysis of household, and especially intra-household, issues. This is an area economics has historically shied away, and where our data are often quite patchy and the evidence circumstantial.

Second, the importance of gender issues may not be as directly visible as some other issues affecting growth, due to the fact that a considerable share of the economic contribution of women is not included in national income aggregates and income-based poverty measures (see UNDP, 1995; Blackden and Bhanu, 1999; Klasen 2004a; 2005a). This has two important implications. First, the economic contribution of women to well-being and poverty (in a wider multidimensional perspective) is underplayed in conventional national income and poverty statistics. Similarly, the economic constraints women face in their productive activities often do not receive enough attention. Researchers interested in uncovering the gender dynamics of growth issues will have to move beyond direct influences of gender inequality on growth and include complex indirect influences. As shown below, indirect linkages might include issues such as the 'quantity' and 'quality' of children, the importance of time constraints for women's productive activities, and the impact of intra-household relations and resource control issues on women's willingness to invest in the improvement of land or in technical progress. Lastly, there are some issues that are traditionally viewed as non-economic but can clearly have economic implications. Those include issues such as violence against women that affects their ability to produce, 'cultural'

[2] In addition, economic options and incentives are different – i.e., the choices people can make are going to be driven by non-economic control factors that are not uniform for men and women.

constraints on women's economic activities, and issues of control over resources within households that may heavily influence household decision-making about the allocation of resources for the accumulation of assets and/or the efficiency of asset use. These questions make it more difficult to identify clearly the role of gender issues in growth. But they make them no less important.

By now, there is a considerable theoretical literature that gender differences in asset accumulation and use can have significant growth effects. In particular, a number of theoretical and empirical studies find gender inequality in education and employment reduce economic growth. The main arguments from the literature, which are discussed in detail in Klasen (1999, 2002), are briefly summarized.

With respect to gender inequality in education, the theoretical literature suggests that such gender inequality reduces the average amount of human capital in a society and thus harms economic performance. It does so by artificially restricting the pool of talent from which to draw for education, thereby excluding highly qualified girls (and taking less qualified boys instead). Moreover, if there are declining marginal returns to education (and imperfect substitutability between males and females), restricting the education of girls to lower levels while educating boys at higher levels means that the *marginal* return to educating girls is higher than that of boys and thus would boost overall economic performance (Knowles et al., 2002; World Bank 2001).

A second argument relates to positive externalities of female education, i.e., positive effects that are not captured by the beneficiaries themselves (who, of course, also profit from higher education).[3] Promoting female education or earnings is known to reduce fertility levels, reduce child mortality levels, and promote the education of the next generation. Each factor in turn has a positive impact on economic growth. As shown in some models (e.g., Lagerlöf, 2003, Galor and Weil, 1996, World Bank, 2001), these effects can be large enough to ensure that some countries are trapped in a low-level equilibrium with large gender gaps in education or earnings, high fertility rates, low investment in each child, and consequently low levels of per capita incomes.[4] This would be particularly relevant for low-income countries that have not entered the demographic transition (this applies to a significant number of countries in sub-Saharan Africa) and which might be stuck in such a low-level poverty equilibrium, partly due to high gender inequality.

In addition, some authors have emphasized that low gender gaps in education will help initiate the demographic transition that will lead to a constellation of age cohorts in a population, known as the 'demographic gift', that imply a large share of working age people, compared to the declining cohorts of the young and not yet large cohorts of the elderly. This phase of the demographic gift can lead to higher savings, investment, and worker/capita ratios, all of which would boost per capita GDP (Bloom and Williamson, 1998).

[3] Note that in this paper we are primarily concerned with gender *gaps* in education, and thus do not focus on absolute education levels which would, as is well known, also contribute to pro-poor growth.

[4] Lagerlöf emphasizes gender gaps in education, while Galor and Weil (1996) concentrate on earnings gaps.

A fourth argument is that gender gaps in employment impose a similar distortion on the economy as do gender gaps in education. They artificially reduce the pool of talent from which employers can draw, thereby reducing the average ability of the workforce (Klasen and Lamanna, 2003). In a related model by Esteve-Volart (2004), gender gaps in access to managerial positions and employment more generally distort the allocation of talent and the production and productivity of human capital, all of which serve to reduce economic growth. Related to such inequalities, gender inequality in employment is argued to have particularly detrimental effects on many export-oriented growth strategies that have traditionally relied on an intensive use of female labour. In particular, many East Asian countries have been able to be competitive on world markets by also relying on female-intensive export-oriented manufacturing industries.[5]

A fifth argument relates to the importance of female employment for their bargaining power within families. There is a sizable literature that demonstrates female employment and earnings increase their bargaining power in the home (e.g. Klasen and Wink, 2002; World Bank, 2001; Sen, 1990). This not only benefits the women concerned, but their greater bargaining power has been shown to lead to greater investments in the health and education of their children, thus promoting human capital of the next generation and therefore improving the potential for economic growth (e.g. Thomas, 1997; World Bank, 2001).

A sixth argument relates to access to productive assets and inputs. In situations where women and men undertake different and/or separate productive activities (as is the case in agriculture in much of Africa but also in non-agricultural activities in many developing countries), differential access to productive assets and inputs constitutes a distortion in the sense that 'women's activities' are under-resourced and under-capitalized while 'male activities' are (comparatively) over-resourced and over-capitalized. Due to declining marginal returns and/or the loss associated with talented women being starved of economic resources, such a distortion reduces aggregate output (e.g. World Bank, 2001; 2005b; Udry, 1996). Such gender gaps might not only lead to static inefficiency but also reduce efficient investments in new technologies (Jones, 1986, Braun and Webb, 1989) and the maintenance and improvement of assets, including particularly land.

A seventh argument relates to time constraints women face due particularly to high burdens associated with household tasks and large families. These constraints sharply reduce the ability of women to engage in market production, and thus their assets are not being used in ways that is captured by income growth and income poverty statistics (UNDP, 1995; Blackden and Bhanu, 1999; Bardhan and Klasen, 1998; World Bank, 2005; UPPAP, 2002). This is partly a measurement issue where important well-being related production is taking place within households that is not being counted. It is also an issue of an indirect growth linkage, as the ability of households to produce output and maintain and enhance assets importantly depends on this invisible and uncounted labour. Lastly, it is an issue related to the efficiency of asset use. To the extent that this labour, due to poor technology and infrastructure, exhibits very poor productivity levels, it growth would be lower even if this

[5] A significant share of their high growth was based on the use of such export-oriented female-intensive manufacturing industries (although it is not clear how important this strategy was in explaining the overall growth experience of these countries).

labour were fully captured in income statistics. Thus, it is not only a measurement issue but also an issue directly related to the efficiency of asset use, particularly the human assets of women.

An eighth argument relates to governance. There is a growing literature that has suggested that women are less prone to corruption and nepotism than men (World Bank 2001). Improving access to women to the workforce and decision-making bodies is therefore likely to improve governance in business and government. Similarly, there is a literature arguing that policies to achieve greater female political participation (such as quotas as in the case of India) can lead to the prioritization of investments of particular importance to women such as time-saving infrastructure and human capital which in turn can promote economic growth (Duflo and Chatthopadhyay, 2003; World Bank, 2001).

Importantly, all of these factors present a consistent and convergent picture of gender-based differentials in asset accumulation and use acting as a constraint to growth and poverty reduction in SSA. In addition, one may wonder whether gender issues could also systematically affect income distribution and thus have a further effect on poverty reduction through this channel of affecting the distribution.[6] As shown in Klasen (2005), it is not a priori clear in which way gender gaps will affect the income distribution of a country. This is due to the fact that women and men interact in rich and poor households and the effects on inequality will largely depend on the size and form of gender gaps in rich versus poor households. This will largely depend on country conditions where sometimes gender gaps are largest among the poor, while in other contexts they are more sizable among the non-poor. Thus, it is not easy to generalize in a way it was possible for the growth effects.[7]

Gender and Growth Linkages: Empirical Substantiation

On the empirical side, there is now a considerable body of cross-country evidence that has shown gender inequality in education to reduce economic growth (e.g. Dollar and Gatti, 1999; Knowles, et al. 2002; Klasen, 2002). As can be seen in the next section, the effects are large enough that countries unable to meet the education target for the MDG for gender equality will suffer considerable consequences, in terms of forgone economic growth (Abu-Ghaida and Klasen, 2004). There is also some evidence (although less robust at this stage) that gender inequality in employment, both in terms of access to employment as well as type of employment (i.e., position in hierarchy and sectors) similarly reduces economic growth (e.g. Klasen, 1999; Klasen and Lamanna 2003, Besley, Burgess, and Esteve-Volart, 2004,). There is also a wealth of micro evidence that points out that gender inequalities in access to productive assets (such as land, fertilizer, seeds, credit, etc.) reduce the productivity of female producers and most often by more than the same inequality increases the productivity of male producers.[8]

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[6] For papers that investigate the linkages between growth, inequality, and poverty reduction, see for example, Bourguignon (2003) and Klasen (2004c).

[7] For details, refer to Klasen (2005a).

[8] For surveys of this literature, see Blackden and Bhanu (1999), World Bank (2001), Bamberger, et al. (2001), and World Bank (2002).

In addition, there is overwhelming cross-country and micro evidence that gender inequality in education leads to higher fertility, higher child mortality, higher undernutrition, and lower educational investments (e.g. Schultz, 1997; Klasen, 1999; Smith and Haddad, 1999; World Bank, 2001, Abu-Ghaida and Klasen, 2004) with the effects often quite large. As shown by Abu-Ghaida and Klasen (2004), if countries were able to eliminate gender inequality in educational enrolments by 2005, they would reap considerable benefits in terms of these indicators. To the extent that these factors in turn influence economic growth, they are part of the reason why gender inequality in education reduces economic growth and thus increases poverty. Since these indicators are also development goals in their own right, promoting gender equality in education would reduce 'education-poverty', 'health-poverty', and 'nutrition-poverty'. It would also be worthwhile to investigate to what extent the effects of gender inequality in education on these development outcomes are larger (or smaller) among the poor. But given the empirical findings that gender gaps in education are larger among the poor than the non-poor, it is clear that policies to boost enrolments would particularly help poor women, which would, through the effects described above, have particularly beneficial effects on poor households.

Furthermore, there is a lot of evidence showing that women's bargaining power has a significantly positive impact on investments in children's education, health, and nutrition (e.g. Thomas, 1997; World Bank, 2001; Lundberg, Pollak and Wales, 1997; Murthi, et al. 1995). Women's bargaining power is, in turn, heavily influenced by their employment status, their education, and their access to unearned incomes (e.g. inheritances, remittances, state transfers; World Bank, 2001, Sen, 1990; Murthi et al. 1995, Klasen and Wink 2002; 2003). Improving the bargaining power of poor women would therefore lead not only to beneficial effects on the women themselves, but one would be able to reap considerable externalities in terms of improved outcomes for their families.

Finally, there is some evidence that women's empowerment is associated with improved governance and reduced corruption, as women tend to have a lower propensity to engage in such behaviours (e.g. World Bank, 2001). This may be one of the reasons why gender gaps in education and employment are associated with lower growth (e.g. Klasen and Lamanna 2003; Sauer, 2001). There is also some evidence that greater female participation in political decision-making at local levels can improve investments in priorities of women policy-makers, which in turn are likely to improve the contribution of women to economic growth (Duflo and Chattophadyay, 2003).

With respect to the impact of gender inequality on income distribution, there have been fewer empirical investigations. There is some evidence of a linkage between gender gaps and fertility among poor households. Given that the poor are the ones burdened the most with large families, it has been found by Eastwood and Lipton (2001), Kremer and Chen (2002), Klasen (2004b) and Bourguignon (2001) that income distribution has been influenced significantly by the differences between fertility decline among rich and poor households which in turn is related to large gender gaps (or simply low absolute achievements) in female education and female bargaining power (see also Klasen 2004c).

Thus, the literature powerfully demonstrates that improving gender equality in education, employment, access to productive assets, and greater female bargaining power improves

growth and other valuable development outcomes. There is also some evidence suggesting that where there are particularly large gender differentials among poor households, they are serving to magnify overall income inequality through the fertility and bargaining power effects described above. Similarly, the linkage between gender equity and overall inequality reduction (in income and non-income dimensions) has, however, not been investigated sufficiently. More theoretical and empirical work in this area (using micro and macro approaches) would certainly be worthwhile. We now assess the relevance of, and evidence for, these linkages for growth and poverty reduction in Africa, through an analysis of the most important and most consequential gender gaps in Africa.

3. Gender Gaps in Education, Employment, Access to Productive Resources and Agriculture in Africa

The World Bank Study '*Can Africa Claim the 21st Century?*' made the argument that Africa has enormous unexploited potential. African has hidden growth reserves in its people, but especially the potential of women, who now provide more than half the region's labor but lack equal access to education and factors of production (World Bank 2000). The study concludes that gender equality can be a potent force for accelerated poverty reduction in Africa. To assess how important the various gender issues are in the African context, it is useful to briefly review the evidence and most important gender gaps as they relate to education, employment, and other issues such as agriculture and access to resources.

Gender and Education

Table 1 below shows that Sub Saharan Africa is, along with South Asia, a region with the largest gender gap in education, both at the level of enrolment as well as at the level of attainment. The initial gaps are an inheritance from the colonial period where overall levels of education were low and gender gaps were considerable, although smaller than in South Asia (Klasen, 2002).

More worryingly, absolute growth in education has been slower than in other regions so that the absolute levels of female attainment (or enrolments) in Sub Saharan Africa are now below those of South Asia, which had not been the case previously. Thus, we are faced with a generalized education crisis in Africa. As women have had the most to gain from an expansion of education, the failure to accelerate the expansion of schooling has led to the low female attainments as well as large persistent gaps (see Abu-Ghaida and Klasen, 2004). Important exceptions to this generally bleak picture include many countries of Southern Africa (with the exception of Zimbabwe) as well as Uganda, where education has expanded considerably and gender gaps have fallen rapidly. Such expansion of education was typically accompanied by specific measures to reduce the costs of schooling (including, for example, free primary education in Uganda, Lesotho, and Tanzania) and significant investments in the expansion of schooling infrastructure and teachers.

Table 1: Enrolment Rates and Attainment by Gender

	Primary Gross Enrolment Rate				Secondary Gross Enrolment Rate				Average Years of Attainment [b]			
	1975		1999		1975		1999		1970		1995	
Region	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males
East Asia & Pacific	108	121	106	105	35	49	60	65	3.06	4.54	5.85	6.84
Europe & Central Asia	..	..	93	95	..	..	80	81	8.09	8.93	9.67	9.20
Latin America & Caribbean	97	100	130	133	34	35	87	80	3.52	4.14	5.58	5.91
Middle East & North Africa	64	99	91	99	24	44	67	72	1.39	2.75	4.21	5.74
South Asia	58	91	91	110	15	33	41	57	1.08	2.95	2.94	5.31
Sub-Saharan Africa [a]	45	66	73	85	6	13	23	28	1.56	2.60	2.82	3.98

[a] Latest available data on primary GERs are from 1998 and on secondary GERs from 1996.

[b] Attainment data include schooling beyond secondary. Since data are from Barro and Lee (2000), the regional classification includes some countries with per capita incomes too high to be included in the World Bank's database (the one used for the GERs).

Source: World Development Indicators central database and Barro and Lee (2000).

Combining the insights from the cross-country literature about the effects of gender gaps in education with the evidence on gender gaps in Africa, it is possible to estimate the amount of growth 'loss' associated with both the large initial gender gaps in education and the slow pace of reduction in these gaps. Comparing Africa with East Asia and the Pacific, Klasen (2002) finds that some 0.6 percentage points in annual growth differences (of a total of 3.5 percentage points) between the two regions in 1960-1992 can be accounted for by the higher gender gaps in Africa and the slower pace of reducing them. This is quite apart from the growth differences that arise from differences in initial education and the much slower growth in educational attainments.

Within Africa, growth differences can partly be attributed to considerable differences in levels and changes of gender gaps in education. We focus on Uganda here as a case study (see Klasen, 2004b). Table 2 shows that fully 1.3 percentage points of the growth differences between Uganda and Botswana can be accounted for by the much larger initial gender gaps in education in Uganda as well as the much slower pace of closing these gaps.

Since the mid-1980s, Uganda has been able to expand its education much faster than previously and also reduced the gender gaps considerably. The female-male ratio of the expansion of schooling in the 1990s stood at 1.03, meaning that females expanded their schooling slightly faster than males. We also show how gender inequality since 1990 has affected growth based on the same growth regressions. Predictably, the effect is much smaller now, accounting for about 0.65 percentage points in the growth difference with Botswana, and 0.34 percentage points in the growth difference with East Asia. Interestingly, the effect of the female-male ratio of the growth of education is now negative, suggesting that, compared with Botswana and East Asia, Uganda was closing its gender gap in education more quickly. But since Uganda had a much larger initial gender gap in 1990, the overall effect of gender inequality on growth held down growth, certainly compared with Botswana and East Asia.

Table 2: Estimating the Effect of Gender Inequality in Education on Growth Differences between Uganda and Botswana and East Asia

	1960-2000		1990-2000	
	Direct	Total	Direct	Total
Botswana				
Effect of Gender Inequality in 1960	0.45	1.14	0.29	0.73
Ratio of Gender Inequality in Growth of Education	0.13	0.18	-0.06	-0.08
Total	058	1.32	0.23	0.65
East Asia				
Effect of Gender Inequality in 1960	0.18	0.46	0.14	0.36
Ratio of Gender Inequality in Growth of Education	0.28	0.37	-0.02	-0.02
Total	0.46	0.84	0.12	0.34

Source: Authors own calculations based on Klasen and Lamanna (2003).

Since Uganda's introduction of Universal Primary Education (UPE) in 1997, educational enrolments have risen and gender gaps have closed, both at increasing rates. However, Uganda was still expected to miss the 2005 MDG on gender equity in education (due to remaining gaps at secondary level). Using results from Klasen (2002) and Knowles et al. (2002) and comparing the projected path of educational enrolments with a path that would allow Uganda to meet the MDG, Abu-Ghaida and Klasen (2004) estimated that failing to meet the MDG would lead to lower growth of 0.1-0.2 percentage points per year between 1995 and 2005, and less than 0.1 percentage points after 2005 (see Klasen, 2004b). This shows that sizeable growth costs can result from persistent gender gaps in education. [9]

As shown by Abu-Ghaida and Klasen (2004) and Klasen (2005b), many other African countries have not been nearly as successful in reducing gender gaps in enrolments as stipulated in the education-focused target of MDG3. In fact, of the 36 or so countries (with at least a population of 500,000) that are currently projected to fail in reaching this MDG3 target (gender equality in primary and secondary enrolment rates in 2005), the majority (24) are from Sub-Saharan Africa. As estimated by Abu-Ghaida and Klasen, the growth costs of missing this MDG3 target are considerable. For example, countries such as Togo are projected to suffer from 0.3% lower growth between 1995 and 2005, and 0.5% per year slower growth between 2005 and 2015 as a result of failing to reach the MDG3 target. Thus failing to reach this target entails significant growth costs, but also delays progress in attaining other important MDGs. For example, as a result of failing to reach the target, Mozambique is projected to have 0.3 children per women more and Mali is projected to suffer from a 26/1000 higher under five mortality rate in 2015.

[9] The 2002/3 Ugandan National Household Survey (UNHS) suggests that Uganda is also closing the gender gap in secondary education, faster than anticipated, although gaps still remain and the 2nd generation economic reforms need this higher skilled labour.

Gender and Employment

In contrast to some other regions, a distinguishing characteristic of Sub-Saharan African economies is that women have particularly high labor force participation rates, largely related to their high activity rates in agriculture. Female activity rates (% women aged 15-64 that are economically active) as measured by the ILO are estimated to be around 67% in Africa, far higher than in most other regions (except Eastern Europe and Central Asia). In contrast to other regions, however, these activity rates have fallen slightly over the past 40 years while they have risen strongly elsewhere (Klasen and Lamanna, 2003).

One method of capturing the dynamics associated with the different economic contributions of men and women is through the 'gender intensity of production' in different sectors (Elson and Evers 1997). [10] Adopting this methodology, and using ILO labor force data**,** Gueye (2002) has estimated the gender intensity of production for each country in SSA (Appendix Table 1).[11] Although highly aggregated, and based on 1990 data comparable across countries, the estimates provide some indication of the respective contributions of men and women in African economies, and suggest a high degree of variability across countries and sectors. For example, men contribute 2/3, and women 1/3, to African GDP, with women's contribution ranging from a low of 26% to a high of 52%.[12] Bearing in mind that these estimates are based on national income accounting, and thus are likely not to fully capture (due to measurement issues) women's non-market production, these shares are very large, certainly when compared with other regions.

Issues relating to gender gaps in African employment are quite different from most other developing regions. The large contribution of women (see Appendix Table A1) to measured GDP in Africa is largely driven by the substantial and often disproportionate role they play in the agricultural sector. In some parts of agricultural production, women perform most of the tasks.[13] This important role of female labor in agricultural production implies that access to assets and inputs for their productive activities can have significant growth effects. This is particularly the case when women and men work on separate plots or separate tasks, where gender differences in access to inputs, technology, and assets will affect the overall productivity of agriculture (see below).

In the industrial sector, women tend to play a much smaller role with some notable exceptions such as the textile and garment industries in a few African states (e.g. Lesotho, Mauritius, and Madagascar). In the service sector, the shares vary greatly and represent a rather heterogeneous

[10] The gender intensity of production relates the sex-specific employment shares with the overall structure of the economy to provide an assessment of what share of output is produced by males and females respectively. For details, see Elson and Evers (1997).

[11] Aissatou Gueye ,Economist at UNECA, while on secondment at the World Bank in 2002.

[12] It is probable that these estimates understate women's contribution to their economies, although they also do not take account of gender differences in productivity.

[13]Data compiled by IFPRI indicate that African women perform about 90 percent of the work of processing food crops, hoeing and weeding, 80 percent of the work of food storage and transport from farm to village, and 60 percent of the work of harvesting and marketing (Quisumbing et al. 1995). Time allocation data throughout SSA confirm women's predominant role in agricultural activities. In Zambia, for example, the preponderance of women's labor in agriculture is illustrated by time allocation studies which show women's greater labor contribution to crop production including, significantly, export crop production.

mix of public services, community and health services, as well as many services provided in the informal sector.

This important distinction between formal and informal sectors cannot be deduced from the data and other studies have to be considered, which show that the informal sector is particularly large in Africa, and uses a great deal of female labour (ILO 2002; Blunch et al. 2001). Excluding South Africa, the share of informal employment in non-agricultural employment is 78%, rising to 83% if agriculture is included. Self employment represents 70% of informal employment in SSA and 53% of total non-agricultural employment. Outside agriculture, more than 60% of women are in informal employment. In SSA, more than 84% of women non-agricultural workers are informally employed compared with 63% of men. Although women's participation rates are lower compared with men, they are important in street vending (90%), home-based workers (80%) and as home workers (80%).[14]

Considering the overall economic contribution of the informal sector, we estimate the share of the informal sector in non-agricultural GDP in SSA to be 41%. This compares with 29% in LAC, and 41% in Asia. Country data suggest that the informal sector contributes 58% to GDP in Ghana and 13% in Mexico. In Tanzania, the informal sector contribution is estimated at 43%. In Burkina Faso, of a 36% overall GDP contribution, 29% comes from women while 7% is from men. In Kenya, out of the total 25%, 11% comes from women and 14% from men, and in Mali 26% from women and 14% from men (Charmes 1998).

Given the overall figures, the high participation of females in informal activities suggests that their representation in formal sector employment is, conversely, low. Data from the ILO suggest that formal sector employment rates in Sub Saharan Africa are not any higher than in South Asia or the Middle East, and are much lower than in East Asia, Latin America, or ECA (Klasen and Lamanna, 2003).

As far as economic impacts of this crowding of women in informal activities is concerned and their low share in formal sector employment is concerned, Klasen and Lamanna (2003) find significant growth costs when examining gender gaps in education and formal sector employment simultaneously in a panel framework. In fact, the estimates suggest even larger growth costs for gender gaps in formal sector employment than in education. This is also corroborated by findings from South Asia where gender gaps in employment are also particularly large (Esteve-Volart, 2004).

To illustrate one example, based on the cross-country regressions mentioned above and 1992 census data on employment for Uganda from 1992, the growth difference accounted for by gender inequality in education and employment between East Asia and Uganda could amount to 0.6-0.7% per year in the 1990s. If gender inequalities in non-agricultural and particularly formal sector employment persist, the costs of these gaps could mount

[14] Home-based workers refers to those who carry out market work at home or adjacent premises, while home work refers to those who carry out work on a piece rate basis for businesses from home.

considerably in future as the country will have to rely increasingly on non-agricultural employment.[15]

Related to this is evidence on the impact of the under-utilized potential of women in non-farm employment more generally. Using household data, for both Ghana and Uganda, Canagarajah et al. (2001) showed non-farm employment to be an important area of growth in Sub Saharan Africa. In particular, they found that women's labor force participation had increased substantially within a period of 5-6 years in the 1990s, leading to lower poverty rates. Using poverty decompositions for both countries, they show that the contribution of growth to poverty reduction from this increased female employment in the non-farm sector is larger than the contribution from redistribution, findings consistent with many other countries (Barret, Reardon and Webb 2001; Cleaver and Donovan 1995).[16]

It therefore appears that women are an under-utilized resource in non-farm formal sector employment. This is also related to the type of growth strategies that have been adopted by African countries. Evidence from East Asia as well as selected African countries (including Tunisia, Morocco, Lesotho, and Mauritius) show that growth strategies that are based on export-oriented and labour-intensive light manufacturing is highly dependent on using female labour. In the countries that have adopted such a strategy, gender gaps in formal sector employment have become smaller and overall growth has been higher (Seguino, 2000; World Bank, 2003; Klasen, 2005a).[17]

Gender Inequalities in Agriculture

Given women's important role as agricultural producers, the conditions of production are of particular importance for both growth and poverty reduction in Africa. It is quite difficult to generate quantitative evidence on the efficiency effects of gender inequalities in access to land, inputs, and control over resources. This is due to the fact that in many African countries (particularly in Eastern and Southern Africa) women and men collaborate on agricultural production by each providing certain inputs and thus it is very difficult to determine the efficiency of these inputs quantitatively. Or they produce different products where once again it is not easy to estimate the efficiency of production and thus the growth effects of existing gender gaps, although there is some evidence of the consequences of such gaps. For example, comparative evidence from Kenya suggests that men's gross value of output per hectare is 8 percent higher than women's. However, if women had the same human capital endowments and used the same quantities of factor inputs as men, the value

[15] This receives further confirmation by estimates of returns to education. As shown by Mpuga (2003), employed women have higher returns to education than employed men Female returns to education appear to have been rising more than male returns in recent years suggesting great demand for higher female employment (Klasen, 2004b).

[16] Given that non-agricultural employment does not play such a quantitatively large role in Uganda at present (as a share of GDP or the labour force), the impact of gender inequalities in access to such employment is likely to be smaller than in regions with larger shares of non-agricultural employment (e.g. such as the Middle East and North Africa, see Klasen and Lamanna, 2003).

[17] Given the importance of trade for Africa's growth and poverty reduction prospects the different economic roles of men and women in SSA are especially significant in the area of trade expansion.

of their output would increase by 22 percent. Hence, women's productivity appears well below its potential. Capturing this potential productivity gain by improving the circumstances of women farmers would substantially increase food production in SSA, thereby significantly reducing the level of food insecurity in the region. If these results from Kenya were to hold in SSA as a whole, simply raising the productivity of women to the same level as men could increase total production by 10 to 15 percent (Saito et al. 1994).[18]

In places where women and men produced the same products on different plots, it is easier to see whether gender gaps affect efficiency. There is some evidence that gender gaps in input use significantly reduce overall efficiency of agricultural production. For example, studies by Udry (1996) and Udry et al. (1995) from Burkina Faso show that plots operated by women receive much less fertilizer and other inputs than those of men and if these inputs were equalized, aggregate output would rise by 10-15%. Similar findings have been reported for other countries such as Zambia (Blackden and Bhanu 1999) and Ghana (Goldstein and Udry, 2002).

In addition to these static inefficiencies, there is considerable evidence about gender gaps in the adoption of new technologies. Such gender gaps have been visible for some time and it was usually assumed that they relate to gender gaps in education, as well as gender bias in agricultural extension services. For example, Blumberg (1992) has demonstrated that where women are targeted for extension services they produce higher yields. However, while such factors are important, more recent evidence suggest that additional constraints relate particularly to women's time burdens and competing responsibilities as well as the critical question of who controls the proceeds of such investments in new technologies, including export-oriented cash crop production.[19]

Linkages with Non-Market Work and the Time Burden

The different structural roles of men and women in the market economy (notably agriculture and the informal sector) are coupled with their equally different, and unbalanced, roles in the household economy. A further distinguishing characteristic of African economies is that the boundary between economic and household activity is less well drawn in Africa than in other Regions (Gelb 2001). Women bear the brunt of domestic tasks: processing food crops, providing water and firewood, and caring for the elderly and the sick (especially important in the context of HIV/AIDS). In particular, the impact of HIV/AIDS is not limited to the 'visible' market economy, but has an equally, if not more, significant impact on the 'invisible' economy, yet this productive work is unrecorded and not included in the System of National

[18] See also World Bank (2003) and (World Bank 1989, Horenstein 1989) on further evidence about consequences of gender gaps in Kenya on aggregate performance.

[19] For example, Demery et al. (1993) show that time constraints reduce women's ability to invest in tea-growing in Kenya. Jones (1986) shows that women in Senegal are reluctant to invest in rice as they do not control the proceeds from this production and are insufficiently compensated for their inputs (see also Brown and Webb, 1989). Lastly, Kesente et al (2000) and Booth et al. (2003) suggest that women are reluctant to invest in export-oriented cash crop production as they would not control the proceeds and such investments would generate a particularly large and unaffordable time burden for them.

Accounts (SNA). It is estimated that 66 percent of female activities in developing countries are not captured by the SNA, compared with only 24 percent of male activities (Elson and Evers 1997).

Considering African examples of time allocation statistics, for Cameroon, in the Center province, men's total weekly labor averages 32 hours, whilst for women it is more than 64 hours. Even though much of this disparity results from differences in domestic labor hours (31 hours a week for women and 4 for men) a significant difference was also observed in agricultural labor hours: 26 a week for women and 12 for men (Henn 1988). Village transport surveys in Tanzania and Zambia also show that women spend nearly three times as much time in transport activities compared with men, and they transport about four times as much in volume (Malmberg-Calvo 1994, Barwell 1996). Moreover, fertility rates in Africa continue to be extremely high and have been reduced quite slowly in recent years, even in countries that have had considerable growth such as Uganda.These inequalities in time burden are therefore exacerbated by very high fertility rates that continue to pose a disproportionate burden on women.

Overall, therefore, the African situation appears to be high gender gaps in education and low overall female educational achievements, considerable gender gaps in formal sector employment, and a predominance of women in the informal and agricultural sectors, where they face considerable gender-based differences in access to and control of land, modern inputs, and other productive assets and resources.

4. CONCLUSIONS and POLICY IMPLICATIONS

Notwithstanding extensive analysis and research, many of the conventionally accepted factors which determine growth and poverty reduction outcomes do not fully explain Africa's poor growth and poverty reduction performance. In this paper, we outline the emerging findings about the importance of gender inequality and its relationship to growth in Africa. We have found that gender gaps in education and formal sector employment reduce growth, that inequalities in access to land and productive inputs reduce agricultural productivity, investment, and modernization, and that inequalities in time burdens, alongside the high demographic burden, all contribute to reducing women's ability to participate effectively in, and benefit equally from, growth and poverty reduction in Africa.

Some of the policy implications have been well recognized. There are efforts underway to improve female education and reduce gender gaps in many African countries, with some recent notable successes in some countries,. Key to overcoming the education stagnation and the gender gaps have been significant investments in education sector, lifting of user fees for primary education, and special programs to target female education. Africa's high population growth and the disproportionate burden it places on women is also generally recognized, although there is much scope for improvement in ensuring better access to reproductive health and family planning services, and more could be done to promote smaller family sizes.

Unfortunately, there is much less progress on efforts to improve women's access to formal sector employment. As Africa will need to shift slowly its workforce from agriculture to the non-agricultural sector, improving employment opportunities for women will be critical. Indeed, women could play a key role in developing and implementing export-oriented growth strategies. Similarly, much remains to be done to improve equity in resource access and control in agriculture. In this area, there has been little progress and a gender-informed growth agenda would have to address improving women's greater land ownership and security of tenure and more equal access to modern inputs. Some of these changes might be supported by legislation and changes in agricultural policies. Others will depend on changes in intra-household relations, which are less amenable to government intervention although targeted support to female producers could play an important role here.

Lastly, it is critical that there be concurrent investment in areas which reduce women's excessive time burden. Here, time- and labor-saving infrastructure could play a role, especially in rural areas, including giving greater priority to water supply and sanitation, energy for household needs, acesss to appropriate means of transport commensurate with men's and women's different transport burdens, and investment in labor-saving technology in the area of food product transformation and processing. In addition, an acceleration of demographic change,would contribute markedly to alleviating women's time burdens, as well as making MDG targets more attainable.

Apart from summarizing the main findings and its policy implications, it is important to to lay out a forward-look research agenda. While the evidence on the effects of gender gaps on growth is now quite substantial and robust, the impact of gender gaps in employment should receive much greater attention. Moreover, estimation of the efficiency costs of gender gaps in agriculture still relies on small-scale micro studies in specific settings, including often just purely qualitative results. It is necessary to investigate thoroughly the impact of gender gaps in access to land, modern inputs, and technologies using advanced quantitative and econometric techniques to better understand these processes and design appropriate solutions.

We hope to have shown that gender is a critical economic issue for Africa, directly linked to growth and poverty reduction outcomes, and not a marginal social or women's issue concerned with equity. While much more remains to be done to show the particular ways gender gaps undermine Africa's growth potential, as well as policy measures needed to address them, what is already clear is that the linkages between gender inequality and growth in SSA deserve considerably more analysis and more policy attention. Because gender inequality acts as a powerful constraint to growth in Africa, removing gender-based barriers to growth will make a substantial contribution to realizing Africa's growth potential. Reducing gender-inequality in access to and control of key productive resources necessary for growth is a concrete means of accelerating and diversifying growth, making growth more sustainable, and ensuring that the poor both contribute to, and benefit from, that growth, thereby making growth "pro-poor."

Table A1: Estimates of the Gender Intensity of Production by Country and Sector

	2000	1990 GDP	1990 Structure of Economy (%)			Agriculture (shares M/F)		Industry (shares M/F)		Services (shares M/F)		Shares of GDP (%)	
Country	Pop.(m)	US$m	Agr.	Ind.	Serv.	M	W	M	W	M	W	M	W
ANGOLA	12.7	10,260.3	18	41	41	46.3	53.7	88.8	11.2	64.6	35.4	**71.2**	**28.8**
BENIN	6.3	1,845.0	36	13	51	50.8	49.2	76.5	23.5	49.4	50.6	**53.4**	**46.6**
BOTSWANA	1.6	3,765.8	5	56	39	69.3	30.7	73.3	26.7	43.9	56.1	**61.7**	**38.3**
BURKINA FASO	11.3	2,764.6	33	22	45	52.2	47.8	53.0	47.0	61.2	38.8	**56.4**	**43.6**
BURUNDI	6.8	1,132.1	56	19	25	47.7	52.3	80.6	19.4	91.2	8.8	**64.9**	**35.1**
CAMEROON	15.1	11,151.7	25	29	46	56.0	44.0	87.2	12.8	76.0	24.0	**74.2**	**25.8**
CAPE VERDE	0.4	338.7	14	21	65	58.7	41.3	78.8	21.2	50.3	49.7	**57.5**	**42.5**
CAR	3.6	1,487.5	48	20	33	..	..	..	..	..	..	**..**	**..**
CHAD	7.7	1,738.6	29	18	53	51.9	48.2	89.9	10.1	71.8	28.2	**69.3**	**30.7**
COMOROS	0.6	250.0	41	9	50	50.0	50.0	77.5	22.5	84.1	15.9	**69.6**	**30.4**
CONGO, DEM. REP.	51.4	9,347.7	30	28	42	47.7	52.3	83.6	16.4	67.7	32.4	**66.1**	**33.9**
CONGO, REP	2.9	2,798.7	13	41	46	38.8	61.2	88.4	11.6	68.4	31.6	**72.7**	**27.3**
COTE D'IVOIRE	16.0	10,796.0	33	23	44	61.5	38.6	81.0	19.1	76.7	23.3	**72.6**	**27.4**
EQUAT. GUINEA	0.5	132.1	61	11	28	56.3	43.7	86.2	13.9	85.7	14.3	**67.8**	**32.2**
ERITREA	4.1	..	..	..	..	49.5	50.5	81.3	18.8	57.1	42.9	**..**	**..**
ETHIOPIA	64.3	6,841.7	49	13	38	59.0	41.0	59.0	41.0	56.9	43.1	**58.2**	**41.8**
GABON	1.2	5,952.3	7	43	50	49.8	50.2	72.8	27.2	56.8	43.2	**63.2**	**36.8**
GAMBIA, THE	1.3	316.9	29	13	58	49.6	50.4	88.0	12.0	74.0	26.0	**68.8**	**31.2**
GHANA	19.2	5,886.0	45	17	38	52.8	47.2	45.2	54.8	43.7	56.3	**48.0**	**52.0**
GUINEA	7.4	2,818.0	24	33	43	49.4	50.6	76.5	23.5	69.9	30.1	**67.2**	**32.8**
GUINEA-BISSAU	1.2	244.0	61	18	21	54.9	45.1	81.8	18.2	90.5	9.5	**67.2**	**32.8**
KENYA	30.1	8,533.2	29	19	52	51.5	48.5	73.0	27.0	49.7	50.3	**54.6**	**45.4**
LESOTHO	2.2	622.2	23	34	43	45.6	54.4	93.3	6.7	58.7	41.3	**67.4**	**32.6**
LIBERIA	3.1	..	..	..	..	54.8	45.2	93.4	6.6	71.8	28.2	**..**	**..**
MADAGASCAR	15.5	3,081.3	33	14	53	49.3	50.7	80.3	19.7	73.1	26.9	**66.2**	**33.8**
MALAWI	11.0	1,802.9	45	29	26	44.8	55.2	90.0	10.0	81.3	18.8	**67.4**	**32.6**
MALI	10.8	2,421.2	46	16	38	51.3	48.7	53.0	47.0	65.3	34.7	**56.9**	**43.1**
MAURITANIA	2.7	1,019.6	30	29	41	49.8	50.3	83.6	16.4	56.7	43.3	**62.4**	**37.6**
MAURITIUS	1.2	2,642.5	12	32	56	77.8	22.2	53.9	46.2	82.4	17.7	**72.7**	**27.3**
MOZAMBIQUE	17.6	2,512.1	37	18	45	44.1	55.9	94.2	5.8	84.4	15.6	**71.3**	**28.7**
NAMIBIA	1.7	2,529.6	11	35	54	50.7	49.3	72.4	27.6	70.2	29.8	**68.8**	**31.2**
NIGER	10.8	2,480.7	35	16	49	51.6	48.4	78.1	21.9	58.1	41.9	**59.0**	**41.0**
NIGERIA	126.9	28,472.5	33	41	26	64.5	35.5	84.8	15.2	63.2	36.8	**72.5**	**27.5**
RWANDA	8.5	2,584.4	33	25	42	47.7	52.3	86.2	13.8	80.6	19.4	**71.2**	**28.8**
SAO TOME PR.	0.1	57.6	28	18	55	..	..	..	..	..	..	**..**	**..**
SENEGAL	9.5	5,698.4	20	19	61	52.9	47.1	77.5	22.5	71.5	28.5	**68.9**	**31.1**
SEYCHELLES	0.1	368.6	5	16	79	..	..	..	..	..	..	**..**	**..**
SIERRA LEONE	5.0	896.8	47	20	33	56.8	43.2	90.7	9.3	66.7	33.3	**66.9**	**33.1**
SOMALIA	9.7	917.0	65	..	..	50.1	49.9	89.6	10.4	71.7	28.3	**..**	**..**
SOUTH AFRICA	42.8	111,997.0	5	40	55	73.2	26.9	82.7	17.3	48.5	51.5	**63.4**	**36.6**
SUDAN	29.7	1,316.7	..	..	..	67.3	32.7	24.4	15.6	82.5	13.5	**..**	**..**
SWAZILAND	1.0	859.9	14	43	43	..	..	..	..	..	..	**..**	**..**
TANZANIA	33.7	4,258.7	46	18	36	46.2	53.9	80.0	20.0	66.7	33.3	**59.6**	**40.4**
	2000	**1990 GDP**	**1990 Structure of Economy**			**Agriculture**		**Industry**		**Services**		**Shares of GDP**	

Country	Pop.(m)	US$m	Agr.	Ind.	Serv.	Men	Wmn	Men	Wmn	Men	Wmn	Men	Wmn
TOGO	4.7	1,628.4	34	23	43	60.4	39.6	72.0	28.0	53.2	46.8	**60.0**	**40.0**
UGANDA	22.1	4,304.5	57	11	32	49.9	50.1	79.1	20.9	56.5	43.5	**55.3**	**44.7**
ZAMBIA	10.1	3,288.4	21	49	30	49.0	51.0	83.6	16.4	61.4	38.6	**69.7**	**30.3**
ZIMBABWE	12.1	8,783.9	16	34	50	44.4	55.6	83.6	16.4	50.7	49.3	**60.9**	**39.1**
TOTAL/AVG	**658.3**	**282,945.9**	**19.9**	**33.7**	**46.9**	**61.9**	**38.1**	**80.3**	**19.7**	**57.8**	**42.2**	**65.0**	**35.0**

Source: Calculations made by Aissatou Gueye (UNECA), while on secondment with the World Bank, May 2002. The principal data source is GenderStats on the World Bank's website, accessible at http://genderstats.worldbank.org/ .

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