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Abstract

Rural agriculture uses more than one-third of the earth's land and employs more than 40% of the population, a figure that approaches 75% in developing countries. As a result, rural demographic change is of vital importance. This paper monitors four driving factors in rural demographic change including the ratio of youth to the aged, the ratio of males to female, fertility levels and migration. Alongside conclusive findings, the authors bring to light the relevance of AIDS-related deaths, urbanisation, and city planning in demographic research.

Key Words: Rural population, rural development, urbanisation, Asia, Africa, feminisation, dependency.

JEL: Q1.

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Introduction

According to available estimates, during the period from 1950 to 2005 the rural population of less developed countries increased from 1.4 billion to 3 billion (UN (2008)), thus more than doubling in numbers. This demographic shift has had profound effects on rural development efforts and achievements. In some cases, rural population growth has played a positive role: it stimulated technological progress, allowed economies of scale in production and infrastructure, and thus opened the way to rural economic growth, which in turn has lead to declines of mortality and fertility levels in accordance with the familiar concept of demographic transition. But in some other instances, rural population growth has contributed to rural stagnation or even impoverishment by inducing declines in per-capita incomes, environmental degradation, distress out-migration of able-bodied adults to urban centers, and breakdown of traditional models of social and economic behaviour that had developed in the former demographic regime but proved to be unsuited to the new conditions.

Demographers, economists, development specialists and other experts have spent much time and effort studying how rural development is being shaped by demographic change – and, vice versa, how evolving rural demographic realities influence patterns of farming, trends in poverty and food security, and the success of rural development interventions. Much remains to be done to fully understand these interactions. Nonetheless, successful development policy cannot ignore the underlying demographic dynamics.

Despite the popular perception that our globalized modern world is predominantly urban, agriculture uses approximately one third of our planet's land surface and employs more than 40 per cent of the global workforce. In the less developed countries, the vast majority – often 75 per cent or more – of inhabitants continue to live in rural areas where agriculture is the main source of livelihoods. It follows that the task of monitoring, analysing and interpreting rural population change remains a highly relevant one. At present, 47 per cent of the global population are people living in rural areas of developing countries. These rural inhabitants

"matter", despite the increasing integration of local farming systems into global spheres of influence through migration and trade. Moreover, rural communities in developing countries are home to some of the most disadvantaged and marginalized people in today's world: the landless; the chronically poor; women who are heads of households; people affected by chronic diseases such as HIV/AIDS, tuberculosis or malaria; disadvantaged youth; the elderly; persons with disabilities. Thus, what happens demographically in rural settings in Latin America, Asia and Africa has far-reaching implications for initiatives aimed at reducing poverty, improving production and distribution of food and agricultural products, and achieving a better quality of life for all human beings.

This paper provides a broad-brush view of rural demographic trends within the main regions of the developing world, looking at the underlying driving forces as well as possible future scenarios. It pays particular attention to demographic dependency ratios; to the issue of "feminization" of rural populations; as well as to age-structural changes such as rural population ageing. Furthermore, the paper seeks to explore how population mobility from and to rural areas affects rural communities, agrarian outcomes, growth of urban areas, and international migration patterns.

The different characteristics of rural and urban populations

Rural populations do not follow the exact same dynamics as urban populations as usually the underlying demographic determinants are different between these population groups. The first big difference lies in fertility, which tends to be considerably higher in rural areas. The preferred indicator of fertility, the total fertility rate (TFR), rarely gets calculated separately for urban and rural populations. When it is, as in the case of Latin America, see ECLAC (2004), it has been shown that on average rural women have 2 more children during their lifetime fertility age 15-49 than urban women. Another indicator more readily available, like the crude birth rate, also shows that the number of births per 1,000 persons is higher in rural areas. Table 1 shows an indirect evidence of the higher fertility rates of rural areas: the proportion of children (0-15 years old) in total population is on average higher in the rural areas of every developing and developed region. Several causal factors explain these observed global differences. In some cases nuptiality at earlier ages in rural areas plays an important role, but more generally, access to health services, including reproductive health services are less accessible in rural areas; and education levels, which have consistently been found to be

negatively correlated with fertility (see Scholnik and Chackiel (2004) for example) tend to be lower in rural areas. Another important factor is the preference of rural families to have more children as a source of security in old age, and a source of own family labour.

Table 1. Composition of Rural and Urban Populations

	Dependency Ratio		Share of Population (%) under 15		Share of Population (%) over 60	
Region	Rural	Urban	Rural	Urban	Rural	Urban
East Asia & Pacific	0.75	0.57	38.0	32.5	6.8	5.6
Europe & Central Asia	0.66	0.51	29.2	25.8	15.1	12.2
Latin America & Caribbean	0.84	0.64	39.2	33.3	8.6	8.3
Middle East & North Africa	0.99	0.77	45.2	39.7	6.4	5.7
South Asia	0.91	0.67	43.4	36.8	6.3	5.2
Sub-Saharan Africa	1.02	0.76	45.7	39.8	6.6	4.1
High income: nonOECD	0.65	0.56	31.9	28.9	10.3	9.8
High income: OECD	0.57	0.49	23.5	21.5	17.6	15.7
Unweighted Cross-Country Mean	0.79	0.62	36.5	31.9	10.1	8.6

Source: Authors' calculations using 217 national demographic censuses from 1980 onwards.

The other big difference between urban and rural populations is surprisingly the higher proportion of older people in the latter regions. As Table 1 shows, on average in all developing and developed regions the proportion of older people is lower for urban populations. We delve into the issue of aging further below, but we note that this is actually a surprising finding because we would expect lower life expectancy in rural areas. Data on the differences in life expectancy for rural and urban populations are generally not available, but we would expect lower life expectancies in rural areas due to lower access to health services, and in many cases more risky and physically demanding lifestyles[1].

As a result of both the higher shares of children and older adults in rural populations, these tend to have higher dependency ratios. The dependency ratio measures the number of dependent individuals (i.e. younger than 15 and older than 64) for every working age adult. It is a demographic indicator of great economic significance. In many economic studies it has

[1] Although estimates of life expectancy for urban and rural populations are rare, estimates of child mortality, an important component of life expectancy, by rural and urban areas abound. It is almost always the case that child mortality is higher in rural areas.

been shown that the dependency ratio is an important determinant of poverty[2]. That is, the demographic differences alone explain part of the observed disparities between urban and usually higher rural poverty. Conversely, it has been shown that a growing share of the working age population is correlated with faster economic growth (Bloom et al. (2007)). As countries move along the demographic transition they would first experience increasing dependency ratios, and later falling dependency ratio. Sub Saharan Africa, which is the region that lags in the demographic transition, as a whole is experiencing falling dependency ratios, which could promote economic development as they enter a phase of "demographic bonus" defined by a growing share of working age adults. In spite of this, rural populations, due mainly to the out-migration of working aged adults lag behind in the size of the "demographic bonus" as well.

Feminization

The gender composition of rural populations has been the focus of some concern, particularly from the point of view that a steep decline in the availability of male able-bodied adults could act as a hindrance to agricultural and rural development. This concern has increased in the wake of the AIDS pandemic, when anecdotal evidence highlights the household costs of losing the male head to the disease. In spite of these worries, there is no single trend with respects to the gender bias of rural populations. Table 2 shows that in Latin America, Central Asia, Europe and the developed world, urban femininity ratios (number of women for every 100 men) are higher, while in Africa, the Middle East and South Asia, rural femininity ratios are higher. We also observe that on average only in Sub Saharan Africa and Europe/Central Asia there are more females than males in rural areas.

A limitation of the femininity ratio is that it is not an age neutral indicator. Male mortality, throughout the lifespan is generally higher than female mortality, which is why we generally observe that there are more women than men in older cohorts. To minimize this age bias we look specifically at the prime age adult cohort (15 to 49 years). In the last column of Table 2 we observe that in rural Europe/Central Asia there are more males than female of prime age. This suggests that in this region the overall high femininity ratios were caused by the older population cohorts. There are barely more prime aged females than males in rural areas of

[2] See López and Váldes (2000) for example, and references contained within.

East Asia, South Asia, but proportionally many more females than males in rural areas of Sub Saharan Africa.

Table 2. Rural and Urban Femininity Ratios (cross-country averages)

Region	Femininity Ratios (Population)			Femininity Ratios (Age 15-49)		
	National	Urban	Rural	National	Urban	Rural
East Asia & Pacific	99.2	99	99	100.9	99.9	100.7
Europe & Central Asia	106.2	107.5	104.5	100.3	103.2	95.6
Latin America & Caribbean	102.3	107.2	92.6	103.6	109.2	91.4
Middle East & North Africa	95.7	94.7	96.4	96.4	93.4	99.3
South Asia	94.8	87.6	96.8	97.8	84.3	103.3
Sub-Saharan Africa	104.2	99.4	106	110.3	98.1	116.3
High income: non OECD	99.1	100.8	95	97.8	100.1	92
High income: OECD	103.1	105.6	97.3	98.2	100.7	92.2
Total	101.8	101.9	99	101.9	100.4	99.2

Source: Anríquez (2007), using data from demographic censuses.

Unfortunately we do not know much about the role of AIDS in this observed gender bias in the composition of rural population in Sub Saharan Africa. Given the still inadequate vital registration systems in the region, and more pronouncedly so in rural areas, we do not know if AIDS mortality is hitting harder males or females. The scattered evidence using indirect methods (mostly by comparing *ex-post* and *ex-ante* enumerations) suggests that as the epidemic progresses the gap between male and female mortality is reduced; i.e. female mortality levels increase proportionally more (Ngom and Clark (2003)). Similarly, if the experience of the USA, where the changes in HIV-related mortality patterns have been properly documented, can be extrapolated, at initial stages of the epidemic male mortality increases more, while later it is female mortality that shows a greater spike. In conclusion, the preliminary and incomplete evidence suggests that AIDS is contributing to reduce the gender bias in rural areas of Sub Saharan Africa, not to increase it.

Thus, most probably, the main cause for the gender bias of rural Sub Saharan populations is the predominance of men among out-migrants from rural areas. In Latin America, which lies at the opposite extreme, with the lowest rural prime adult femininity ratio, the fact that most rural out-migrants are and were females, leaving the males behind to tend the agricultural operations has been amply documented (See for example, ECLAC (2004), p. 148).

Rural population ageing

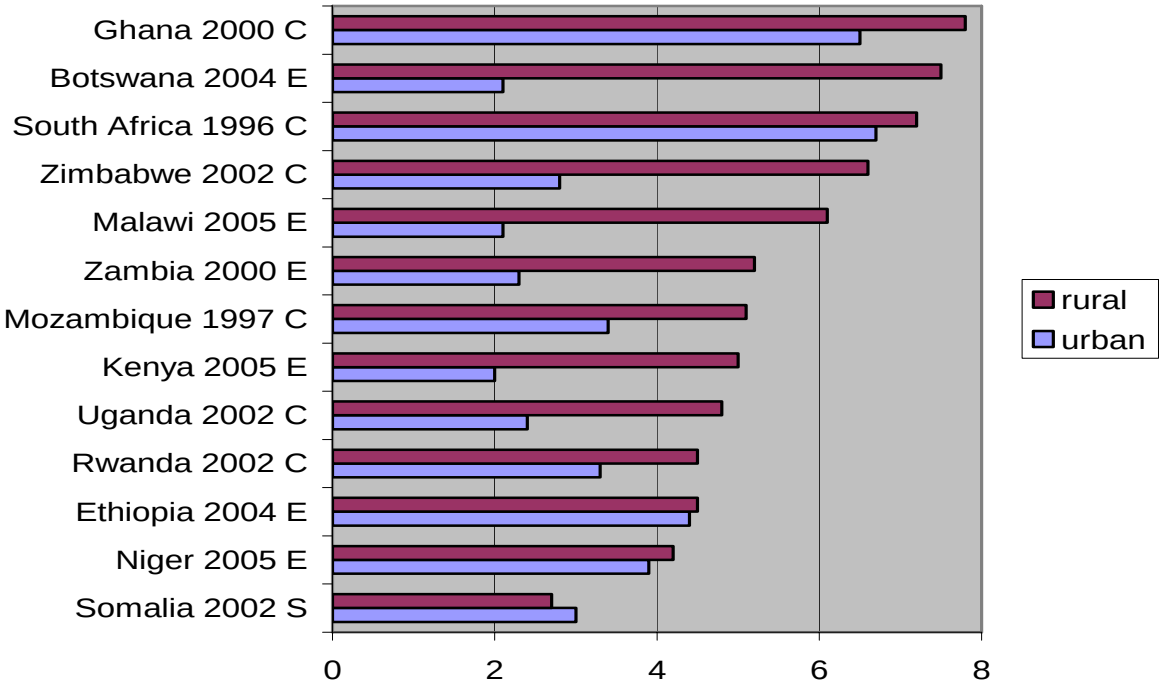
Population ageing – the increase in the proportion of "older people", conventionally defined as those aged 60 years and over – is happening across the globe. Although the process of ageing is advancing at a faster pace in developed countries, it is in developing countries where we find the most striking differences between urban and rural ageing. The ageing process is the outcome of several factors, including declining fertility levels and advances in medicine, nutrition and technology. It represents a major societal achievement, but also a challenge which will affect all aspects of the 21st century society.

Population ageing is usually measured by country indicators. However, it is often the case that population ageing proceeds at a markedly unequal pace in different parts of a country. Consequently, ageing-related issues are more urgent in some areas – and socio-economic categories – than in others. Due to historical and socio-economic differences between urban and rural settings, rural/urban differentials in population ageing are often significant. Both fertility and mortality tend to be lower in urban areas, as the demographic transition – i.e. the shift from high to low levels of these two variables – usually starts sooner in urban settings. In the absence of other influences on the age structure, therefore, ageing would be generally more advanced in urban areas. In reality, however, urban populations are not necessarily more aged than rural ones. The reason lies in another factor, namely rural-to-urban migration. That migration usually is age-selective and comprises mostly young adults who migrate to cities to seek urban employment (and often to escape rural poverty, too). As a result, the populations left behind in the countryside have usually higher proportions of older people and their age structures can be much skewed towards an "aged" pattern.

The fact that rural areas tend to have older populations than urban settings can be illustrated by data from population censuses taken in 1985-1996 (Stloukal (2001)). Of the 67 developing countries for which appropriate data (i.e. specified by age and urban/rural residence) are readily available, in 53 cases the proportion of elderly in rural areas was greater than the corresponding figure for cities, and in 10 countries (mostly in sub-Saharan Africa) the proportion of elderly in rural areas was at least twice as high as that in urban areas. In other words, although a situation of higher levels of ageing in the rural sector is not universal, it nevertheless typifies a vast majority of developing countries, including some of the most

populous ones. A similar picture emerges from more recent data for African countries, as shown in Figure 1.

Figure 1. ***Percentage of population aged 60+ by rural/urban residence: selected African countries***



Notes: C=census, E=estimate, S=sample survey
Source: UN (2007)

What do we know about the implications of rural population ageing for agriculture and rural development? The short answer is: not much, because little research has been done so far to assess the consequences of ageing in the context of agriculture. Nevertheless, studies and projects conducted by the FAO in various rural settings reveal that rural ageing places an enormous burden on scarce household resources and community services. Older persons in rural areas are often in poor health after a life of hard physical labour and frequently suffer from high levels of stress and uncertainty about their future. Older rural residents are particularly vulnerable to poverty and malnutrition as they are often incapable of making independent use of productive resources such as land and water. They tend to be dependent on their families and/or neighbours, particularly when they have no savings, income, pension, or access to remittances. In many countries, the emigration of young adults and the high rates of AIDS-related mortality among younger adults have altered the demographic structure of rural households and communities. Growing numbers of older persons are acting as heads of

households, farm managers, and guardians of young children – all during a stage of their lives when they need to be receiving care themselves.

In rural communities short of young workers, older residents must look after crops and livestock. In many cases, they are unable to farm effectively on their own, and have no possibility of hiring labour or using animal power or mechanized equipment. Older persons often have relatively little formal education and are frequently discriminated against in terms of access to rural credit facilities, agricultural extension services, and supplies such as modern farm implements and improved seeds and fertilizers. Older women and ageing widows are often denied access to agricultural land, with negative consequences for their economic and social well-being. Factors such as these can reduce the agricultural productivity of an area, leading to higher overall levels of poverty and malnutrition.

The ageing of rural populations creates new challenges, but also numerous opportunities for innovative adaptations. For instance, many older rural residents have extensive knowledge and experience and can serve as invaluable sources of information on traditional agricultural practices, indigenous approaches to healing and health maintenance, and coping with various challenges in food production and resource conservation. Their intergenerational role is crucially important, particularly when they are charged with caring for and guiding young people whose parents have moved to cities or have died prematurely. Since rural population ageing – and the aspects and effects of this process – will continue in most developing in the foreseeable future, agricultural and rural development will be increasingly dependent on the contributions made by older persons. Policy-makers must find ways to ensure that older rural women and men live free from economic hardship and able to lead healthy, productive lives.

Emigration from Rural Areas

As shown above, one of the main driving forces of rural population dynamics is the emigration of working age adults. Headlines in the developing world are usually captured by international migrants, and their perceived threat for the developed world social welfare, and or, as a promise as agents of development in their homelands. However, international migrants represent a miniscule fraction of the migratory movements in the developing world. The bulk of rural migrants in the developing world, instead, are moving into urban areas. Take for example Mexico, the country with one of the largest documented international

emigration; between 1995 and 2000 only 5 to 9% of the total migrants were international migrants[3]. It follows that for most countries in the developing world international migration represents 1% or less of total migration in each country.

Most of these domestic migrants are rural to urban migrants. The speed at which this movement is happening varies considerably by developing region. In Latin America, where most urbanization rates lie between 70 and 90%, the massive process of rural to urban migration was named the "rural exodus" and occurred in most of the region, depending on the country, during the 1940 to 1990s. In China and India, the evidence indicates that this process is happening now, even though in China immigration to towns is controlled by the state. In most of Sub Saharan Africa, the process in the scales previously described has yet to take place, and in some countries, notably Zambia, a reverse urban to rural migration has been documented, following a steep economic downturn. Bezemer and Hazell (2007) provide rough estimates of the dimension of the rural urban migration phenomenon by looking at the projected shares of employment in agriculture by developing region. In their projections to 2015 they find that in China alone 50 to 70 million jobs will migrate to the cities between 2000 and 2015. Most of the migration away from agriculture would occur in Asia, while in Sub Saharan Africa agriculture is still expected to provide 6 out of every 10 jobs in 2015.

We can learn some lessons from the experience of countries that are going through or have experienced the "rural exodus." In China, after the reforms of 1978 some of the restrictions on population mobility were relaxed to accommodate the growing demand for unskilled labour in booming towns and cities. What followed was an accelerated rural-urban migration and massive growth of urban areas. Since the 1970s millions have moved into China's cities, providing labour to fuel the country's fast industrial growth. The rural population declined from 73% in 1990; to 64% in2000; and to 58% in 2007 (UN (2008)). In recent years, there has also been a wave of non-permanent rural-urban migrations, the so-called "floating population" – a result of China's strict household registration system (under which most rural migrants are not allowed to be registered as urban dweller), but also an outcome of migrant household strategies (Zhu (2003)). The Chinese experience provides a telling example that even under a political regime that tries to maintain restrictions on spatial mobility, rural out-migration and city growth cannot be stopped.

[3] INEGI (2002), p 25. The estimates depends on what is considered a domestic migrant, the first number counts those who changed municipality, while the second only those who changed state.

Latin America provides a different example. In most countries of the region the “rural exodus” had only one major city as destination. This process caused massive displacement of poverty into city slums; chaotic expansion of cities; and to having 1/3 or more of national populations living in one major city (high urban primacy as geographers call it). This process was the result of how countries developed during colonial times, but also the result of the lack of vision of the governments of this urban centres that concentrated public investments in the major city, leaving the regions and rural areas behind. This stylized representation of the urbanization process in Latin America highlights the importance of promoting the development of secondary cities and medium-sized towns.

Conclusions

The demographic processes described in this article highlight some of the challenges and opportunities that will manifest themselves in the coming decades. Most of Asia will have to deal with massive internal population movements as many rural inhabitants leave their homes in search of urban jobs and life styles. The question is whether this will lead to increased megalopolisation and higher levels of urban primacy, or to more balanced geographic distribution of human resources. The outcome is likely to depend on policies that promote incentives and create economic opportunities for migrants, rather than impose constraints on spatial mobility.

Sub Saharan Africa will enter a period of demographic bonus, as it moves through the second stage and later into the third stage of its demographic transition. This offers the sub-continent an important window of opportunity for development as the share of working age adults will be increasing . However, in contrast to the historical experiences of Europe and Latin America, Sub-Saharan Africa undergoes its demographic transition with substantially lower levels of capital, poorer infrastructure and overall lower levels of human capital accumulation. The challenge for Africa will be to provide its growing working age population with adequate social services and economic opportunities.

Population ageing will certainly be a major demographic trend in the developed world; however, even in the developing regions ageing will present important opportunities and challenges, particularly in Latin America which has the oldest population among developing

regions. Unfortunately, very few developing countries have adequate institutional capacity and policies to deal with ageing-related issues effectively. While population ageing needs to be addressed at multiple levels, in many countries the situation of rural elderly is particularly urgent. Therefore, policies that eliminate discrimination against the elderly and promote their inclusion as productive members of the society can be of great consequence for the well-being of rural populations in developing countries.

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