

A Profile of the Rural Poor

This was prepared as a Background Paper for Chapter 2 of the International Fund for Agricultural Development's 2009 Rural Poverty Report, and was developed under contract with IFAD.

<http://www.ifad.org/rural/rpr2008/background.htm>

**Alberto Valdés, William Foster, Gustavo Anríquez,
Carlo Azzarri, Katia Covarrubias, Benjamin Davis,
Stefania DiGiuseppe, Tim Essam, Tom Hertz,
Ana Paula de la O, Esteban Quiñones, Kostas Stamoulis,
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Corresponding author

Alberto Valdés

Pontificia Universidad Católica de Chile

e-mail: avaldese@puc.cl

***William Foster, Gustavo Anríquez, Carlo Azzarri, Katia Covarrubias, Benjamin Davis, Stefania DiGiuseppe, Tim Essam, Tom Hertz, Ana Paula de la O, Esteban Quiñones, Kostas Stamoulis, Paul Winters, Alberto Zezza**

Abstract

This paper has two main objectives. Firstly, it provides an overview of trends in the magnitude, location and nature of rural poverty, with emphasis on least developed countries. Secondly, it offers new evidence that advances our understanding of rural poverty, by presenting quantitative analyses of the determinants both of rural activities and of income from farm- and non-farm sources drawing on data from FAO's Rural Income Generating Activities (RIGA) data base of 15 countries, complemented by demographic, health, production and income data from other sources. In order to reduce rural poverty, policies should concentrate both on improving household activities already available – most prominently farming – and on expanding the range of potential activities of family members. The lesson from experience and much of the rural development literature is that the income generating potential – the ability to access and take advantage of activities – depends crucially on access to assets, such as education, land, and infrastructure.

Key Words: Rural poverty, assets, livelihoods.

JEL: Q12, O12, O15, I32.

* William Foster (Pontificia Universidad Católica de Chile), Gustavo Anríquez, (FAO), Carlo Azzarri (FAO), Katia Covarrubias (FAO), Benjamin Davis (UNICEF), Stefania DiGiuseppe (FAO), Tim Essam (University of Maryland, College Park, MD), Tom Hertz (FAO), Ana Paula de la O (FAO), Esteban Quiñones (IFPRI), Kostas Stamoulis (FAO), Paul Winters (American University), Alberto Zezza (FAO).

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Background Paper for Chapter 1: “Setting the Scene” IFAD Rural Poverty Report 2009

Alberto Valdés, William Foster, Gustavo Anríquez, Carlo Azzarri, Katia Covarrubias,
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A Profile of the Rural Poor

Background Paper for Chapter 1: “Setting the Scene” IFAD Rural Poverty Report 2009

1. Introduction

This background paper has two objectives. First, it provides an overview of trends in the magnitude, location and nature of rural poverty, with emphasis on least developed countries. There is a large body of recent work that describes the trends in rural poverty across the globe, and this paper selects and distils the most relevant findings linked to the overall mandate and interests of IFAD in agricultural development for poverty alleviation. A starting point is IFAD’s Rural Poverty Report 2001. A recent synthesis of relevant information is available in the World Development Report 2008, spotlighting the role of agriculture in development generally and poverty reduction in particular. In doing so, the World Development Report gave much attention to the rural poor and the potential pathways out of poverty for the three types of countries: primarily agricultural, in transition, and urbanized. IFPRI sponsored a major conference in Beijing in October 2007, “Taking Action for the World’s Poor and Hungry People,” where current issues, perceptions and evidence over a wide range of themes related to rural poverty were documented. And there have been some important recent studies coming both from academics as well as international agencies such as the FAO and other UN agencies.

The second objective of this background paper is to offer new evidence that advances our understanding of rural poverty. It presents various quantitative analyses of the determinants both of rural activities and of income from farm- and non-farm sources. The analysis confronts the diverse nature of the problem of rural poverty by making use of household survey data from FAO’s Rural Income Generating Activities (RIGA) data base of 15 countries, complemented by demographic, health, production and income data from other sources, such as numerous national censuses and the WHO. The nature of poverty differs depending on the level of development of a country, on whether poverty is predominantly urban or rural, on the economic activities available to families, and on the access that families have to a range of assets. For the rural poor specifically, the distinction between sources of income is important for the identification of possible avenues through which policy and donor assistance can support raising household incomes: What is the degree of household dependence on farming? What are the opportunities for off-farm work and migration? And the access of rural families to education, land, and various forms of infrastructure will determine what households do and what incomes they can earn. Which household characteristics and assets are associated with specific occupations? Farming or agricultural labour? Farm work or non-farm work? Which are associated with higher incomes? And how does the relationship between assets and economic activity, and between assets and income, vary across the spectrum of countries, regions and level of development?

The Section 2 of this background paper provides an overview of some broad, recent trends, issues and potential challenges related to the rural economy and the alleviation of rural poverty. The section discusses the world demographic changes and future of food demand and trade, the role biofuels in food price trends, where WTO agricultural trade negotiations stand, and recent thinking about the future of the small farm. Section

3 examines in more detail the evolution of rural poverty and food security indicators, using IFAD's RPR 2001 as a point of reference. It presents broad regional trends, development and urbanization, demographic considerations related to gender and changes in dependents per worker in households, and the relation between marginalized groups and poverty. Poverty correlates with family and personal characteristics, such as education levels, age and gender of household heads, the number of dependents within the family, and access to infrastructure important for sanitation and health. Trends in some key demographic variables describing the poor and rural populations are presented to give a sense of the environment in which appropriate pro-poor policies must contend in the future.

Section 4 looks at who are the rural poor and what do they do. Based on survey and other data sources, rural poverty profiles for several countries are presented, focusing on household characteristics and access to assets. The discussion then turns to linking principal activities and incomes of the rural poor to family characteristics and assets, specifically education, land and infrastructure. The section turns to emphasizing the relationship between family assets and the probability of being poor, and classifies households in a typology based on access to different bundles of assets. This information is relevant for the design of interventions – government, NGOs and private – determining the most efficient targeting and coverage. The section ends with a discussion of the role of rural labour markets and what we know about participation by workers in those markets in farm and non-farm employment.

Section 5 discusses the changing income sources of the rural poor as the rural economy evolves and countries develop. It presents an analysis of the share of household income deriving from agriculture as family income increases, and compares rural households across countries at different stages of development. Section 6 present some concluding remarks regarding the policy challenges to reducing rural poverty.

2. Broad issues and challenges for the developing world and rural poverty alleviation

Future of food demand: population and income growth in the developing world, growing intra-developing-country trade

One major factor driving future growth in food demand and potential absolute levels of poverty is demography. The world's population is expected to grow between 2010 and 2030 by about 20 percent, from 6.9 to 8.3 billion. And by 2050, the global population is projected to reach 9.2 billion. The bulk of this increase in population will be in developing countries. As shown in Table 1, the 50 least-developed countries are expected to grow in population by 50 percent by 2030 and double by 2050, reaching 1.7 billion people. The population of Sub-Saharan African countries – the majority of which are least developed – also is expecting to increase by 51 percent. The population of less developed countries (excluding the least developed) will increase nearly 20 percent, from 4.8 billions in 2010 to 5.7 billions in 2030. Among the less developed countries, China is expected to grow slightly less than 8 percent, while India to grow 23.4 percent. In fact, by 2030, the population of India would overtake that of China. In the developed world, growth rates are expected to be much more modest; the population of high

income countries is projected to grow by only 2 percent between 2010 and 2030, also the expected increase for Western Europe. Some rich countries – notably Japan – will have declines in population, and only the United States among presently rich countries will show population increases, approximately equal to that of the world's growth percentage. Notably, Russia is projected to show a population decline of 8.5 percent from 140 million in 2010 to 128 million in 2030, and a nearly 23 percent decline between 2010 and 2050.

Urbanization – and the associated changes in consumption patterns – will also drive food demand. The world's population growth will be clearly driven by developing countries, and urbanization will be particularly significant in the developing world. Urbanization rates in China, in less developed and in the world and are projected to reach 60 percent by 2030. In fact, urbanization rates in least developed countries will rise by about a third, from 29 percent to 41 percent.

The final impact on food demand due to population increases and urbanization will be significantly influenced by income growth and the associated increase in demand for higher-valued products. At low levels of income, there is still a large impact of income growth on food expenditures. Food expenditure shares fall with income – a stylized fact known to economists as Engel's Law, but at low levels of income, between \$2 and \$10 per day, the Engel coefficients remain high for higher-valued products, such as meats, dairy, edible oils.¹ With growth in incomes, food expenditures are moving from basic grains and other staple crops toward meats, dairy, vegetables, fruits and fish. And urbanization, income growth and openness to trade have exposed consumers in many developing countries to non-traditional foods, with a higher dependence on imports. Pingali (2006) notes that already in Asia there has been an increase in the consumption of wheat and wheat-based products, dairy products and temperate-zone fruits and vegetables, some imported. Further urbanization and income growth will reinforce these trends.

Food demand – and indeed food production – for most products will, between 2007 and 2016, increase faster in developing countries than in the OECD. Developing countries will increase both the production and consumption of beef, pork, milk and butter, sugar faster than developed countries. Only in the case of wheat are the trends in the production projected to be higher in OECD relative to non-OECD. Growth rates in the consumption and production of rice are similar. As developing countries grow in both population and income, increases in the imports of wheat are projected to be significant. The annual rate of growth in wheat production in non-OECD countries through 2016 is estimated at 0.5 percent; in contrast, the annual rate of consumption growth is estimated at 0.8 percent. But for all other major food categories, the growth rates of production in non-OECD countries are equal or greater than growth rates of consumption. Non-OECD countries taken together are likely – as a group – to be a net exporter of food products, but exports will come from a concentrated set of these non-OECD countries. There will be an increase in trade among non-OECD countries. In the case of wheat and dairy products, although some non-OECD countries will remain important exporters, major OECD exporters will remain dominant.

¹ Beyond \$10 dollars per day, consumers spend more on services attached to food, such as packaging, processing, and restaurants, and not on the raw materials.

Although land constraints may not pose an imminent threat from a global perspective, and despite the likelihood of technological improvements, in many densely populated countries available land will constrain farm production. Moreover, increased urbanization and industry will increasingly compete with agriculture over water resources. Because land and water resources are non-tradable and unevenly distributed among countries, international food trade will certainly increase over the next several decades – an increasingly larger share of world food production will move from producer to consumer through international trade. Given the foreseeable state of technology, some developing countries, such as in Latin America, will see food production outpace consumption. For many other countries, however, food imports as a share of consumption will likely increase. Increasing food import dependency becomes of concern for those least developed countries – not for middle-income countries – that are severely constrained as to their capacity to pay for these imports, but also that are sometimes facing severe internal infrastructure and distribution bottlenecks.

OECD-FAO projections (OECD-FAO, 2007) show that beyond 2010 recent increases in commodity prices will stabilize after a slight decline. But world prices for wheat, rice and other cereals, oil seeds and vegetable oils, and sugar will remain considerably higher than at the turn of the century. Nevertheless, prices for cheese and poultry and pork are projected to increase and remain higher after stabilizing. Other milk products will likely be stable beyond 2008. In summary, world food prices in the near and medium future will likely remain higher than they were before 2006. The reader should note that these price projections are in US dollars. With the fall in the dollar relative to other currencies, nominal prices could continue increasing although not necessarily as rapidly in real terms. One can expect that the continued volatility of the dollar will have consequences for volatility in both dollar-denominated energy and food price fluctuations. In the past five years, dollar-denominated price variations in oil seeds, wheat and maize have doubled compared to previous decades, due in part to the growth of biofuels, a topic to which we now turn.

The role of biofuels in food price trends

During the last five years, an increasingly close connection has developed between the prices of energy and cereals crops. Certainly there have been recent concurrent increases in oil, wheat and corn prices, which have implications for raising food prices in developing countries. The extent of transmission of world prices to domestic prices in individual countries depends on specific trade and domestic policies, but there has definitely been an increase in the correlation of world energy and food prices, increasing the volatility of domestic consumer prices for food. This is particularly worrisome in the case of poor consumers. Von Braun notes that price variability in oilseeds, wheat and maize has doubled relative to previous decades.²

Energy – and fertilizer – costs affect both the production and transport costs of agricultural goods, but also the growing demand for cereals in the production of biofuels means that oil prices will increasingly affect the opportunity costs of using grains for food, either directly as in the case of wheat or indirectly as in the case of feed grains. As

² Von Braun, J. 2007. “The world food situation: New Driving forces and required actions, IFPRI’s Biannual Overview of the World Food Situation,” presented at the CGIAR Annual General Meeting, Beijing, December 4, 2007.

the use of cereals for energy grows the connection between petroleum and food prices grows stronger. Recently feed prices have been pushing up meat prices, which have nearly doubled since year 2000; and milk product prices have nearly tripled. The enhanced demand for feed grains for energy production is projected by the OECD-FAO to grow significantly over the next ten years, as seen in Table 2. Projections for maize devoted to ethanol production in the US alone see an anticipated 36 percent increase between 2007 and 2016. Although the US is by far the largest user of maize for ethanol, both Canada and the EU are also rapidly expanding their maize production for biofuels.

Table 2 indicates that not only will maize demand shift outward due to increased biofuel production, but wheat and oilseeds in Canada and EU also will be increasingly diverted to direct energy production. For wheat in the EU, the projected increase in wheat devoted to biofuels between 2007 and 2016 is over 500 percent, and approximately 100 percent for maize and oilseeds. Brazil's use of sugar in ethanol production is already currently significant and expected to nearly double between 2007 and 2016. The relationship between sugar cane used in ethanol and food prices is less direct than in the case of grains, but sugar cane production does divert resources from the production of other crops.

Biofuel production, especially the large related increase in the demand for maize in the US has contributed – along with other factors such as weather-related production declines – to a recent short-term increase in cereal prices. Further, the shift of maize production toward ethanol has impacted area planted to oilseeds, namely soybeans, increasing the price of this crop as well. Food prices have shifted upwards also in part due to a reduction in export subsidies (mainly in the EU), and in part due to increasing consumer demand related to population growth and incomes. In the medium term, until 2016, OECD-FAO considers likely that the prices of grains, oilseed and sugar will moderate compared to their recent highs, but are unlikely to return to the secular declines seen over the past decades. Meat and dairy prices will likely remain at their recent high levels, due both to higher costs related to higher feed grain prices, but also importantly due to their higher sensitivity to income growth (compared to direct cereal products).

From the point of view of possible impacts on food prices, of greater concern are the projections of IFPRI, based on its updated IMPACT model. IFPRI projects an increase of 26 percent in the price of maize and 18 percent in the price of oilseeds under a scenario based on currently-declared planned biofuel expansions. Under a scenario of a doubling of biofuel production relative to currently planned expansion, maize prices would rise by 72 percent and oilseeds by 44 percent. IFPRI further projects that under both of these scenarios food-calorie intakes will decrease (compared to baseline levels) across all regions in the developing world, with Sub-Saharan Africa suffering the most. OECD (2008) simulated projections for commodity price increases linked to hypothetical biofuel scenarios are more modest. Increases for sugar and maize are the largest, reaching 7 percent in the year 2020 for sugar under its “worst” scenario (no biofuel subsidies to other crops), and 12 percent for maize under its worst scenario (subsidies).³ But to what extent would these projections be modified – in terms of even

³ Under the subsidy scenario – where biofuel crops are given a 50% subsidy to stimulate crop production – sugar prices in 2020 are projected to rise by only 1.4% (due to an increase in the production of alternative sources of ethanol). Under a non-subsidy scenario maize prices are projected to rise by 5%. See OECD (2008), *Environmental Outlook to 2030*.

higher prices – under more liberalized trade policies if the WTO Doha Round were to succeed?

Where do multilateral agricultural trade policy negotiations stand?

Reforms of agricultural trade and subsidy policies would result in higher world prices for most commodities, yielding significant gains to developing countries from a farmer's perspective (WDR 2008). But many developing countries are net importers of agricultural and food products, and their consumers, especially poor consumers, could face higher food costs. Although agricultural trade liberalization has been in some cases a unilateral decision of specific countries, most rich countries and several developing countries have been unwilling to embrace reforms outside the context of multilateral negotiations. Yet the future of international trade policy changes under WTO negotiations is uncertain, and negotiations are currently moving at a slow pace. But there has been some progress. As of February 2008, the draft agreement proposals for market access for agricultural and non-agricultural products represented advances on technical issues, although important high-profile questions remain unresolved. While agricultural trade reforms would be most relevant to the developing world's farmers and consumers, agricultural negotiations are part of a "horizontal" process. Negotiations on issues related to trade in industrial goods still provoke deep divisions, delaying further progress on agriculture. It remains uncertain whether or not agreements can be attained in 2008, especially given the debate over revisiting past trade liberalizations now taking place in the U.S. presidential election campaign.

During the last decades a trend has emerged, which continues to some degree, towards more bilateral agreements. This trend was and could continue being reinforced by a lack of progress in multilateral negotiations. These bilateral agreements, while indeed contributing to further integration of developing countries into the global economy, could nevertheless cement current trade patterns. On the positive side, they also open unanticipated trade channels that might not have otherwise occurred without these agreements.

Despite the lack of progress in the WTO process and the slow pace of reforms in OECD countries, there have been important policy changes. There is a trend to separating (decoupling) producer supports from production incentives in the US and EU countries, reducing price distortion, mainly in grains. Also in many developing countries there has been a reduction in the anti-trade bias that once severely prejudiced agriculture. In general terms, developing countries are taxing their agricultural sectors less now than compared to the 1980s, although taxation remains on exportables and sometimes importables remain protected. Net intervention, however, has declined. For example, in Sub-Saharan Africa during the last twenty years the net taxation of agriculture declined from 28 percent to 10 percent (WDR 2008, p. 98). And over the last thirty years both China and India have reduced much of the anti-agriculture bias in trade and domestic price policies (WDR 2008, p. 102).

The future of small farms and recent thinking about policies addressing rural poverty.

Agricultural production remains an important source of income for most of those living in rural areas and its growth will continue to be a mainstay of poverty alleviation. But most farms are small – indeed Anríquez and Bonomi (2007) estimate that roughly 9 of 10 farms in the developing world are smaller than 2 hectares. In Latin America farms smaller than 2 hectares represent 27 percent of the total number of farms, and in China small farms make up 98 percent of the total. The average amount of a country's farmland held by small farms ranges from 1 percent in Latin America to 56 percent in Sub-Saharan Africa. In South Asia small farms hold on average 47 percent, and worldwide they hold about 15 percent of total farmland area.⁴ Over time some countries have seen a notable increase in the share of total land held by small operations, especially in densely populated areas such as in India, Thailand, Pakistan and Bangladesh. In major part this is due to the increasing number of farms and their declining size given a fix supply of available land. Other countries with lower population densities and higher ratios of potential farmland to workers have seen a decline in this share, such as in Botswana, Brazil and Chile (see Figure 1). In Chile average size of small farms has declined with the decrease in the share of land held by small farms. In Botswana, on the other hand, while the share held has declined, average small farm size has increased, implying an expansion of total farmland area.

We need to be cautious, however, about making these simple cross country comparisons given the problems of defining a common threshold for small farms. For example, a threshold of 2 hectares used in the Anríquez and Bonomi study is not very revealing in the case of most areas of Brazil and Chile, where such “farms” would be surveyed as production units, and perhaps indistinguishable from garden plots. But 2 hectares in Bangladesh could represent an economically viable operation, providing a reasonable livelihood in a low-income country. Areas with high population densities, such as in South and East Asia, naturally tend to have many smaller farms. And the fragmentation of farming places a limit on the total income available to small farm families, even threatening their economic viability. Even if these relatively small farming units can survive – although at subsistence levels – the total income potential is so limited, regardless of productivity, that unless households have access to off-farm income or remittances they will be unable to exit poverty.

There will remain millions of small farmers for years to come. Especially in low-incomes countries with agricultural based economies, a major challenge will be to enhance the productivity of these small operations. If an economy can rapidly generate non-farm activities, either rural or urban, then the pressure to aid small farms is much less; but realistically, most least-developed countries will not have this luxury in the near future. Moreover, the world is constantly changing, and the environment in which small farms must compete is likely to become more difficult.

Are the prospects for improving the welfare of small farmers becoming worse? The globalization of markets, the concentration of marketing chains, the focus on quality control, and new technologies requiring large up-front investments all tend to give an advantage to larger enterprises. The so-called supermarket revolution, for example, has introduced more stringent requirements of producers for scale and timely delivery,

⁴ The reader should note that there is a large variation in the productive capacity per hectare of farmland, and farmland includes land devoted to field crops, plantations and pastures, irrigated and non-irrigated. So land distribution estimates unadjusted by productive capacity would likely overstate the concentration of land in larger operations.

standardized products, and the traceability along the marketing chain. As the marketing chain evolves in developing countries and the buyers of farm produce become more sensitive to changes in consumer demands, small farming operations will find that accessing commercial markets entails activities subject to steep scale economies. Certification, record keeping, the flexibility to respond to changing buyer requests all require fixed investments, the costs of which are only fully recuperated by spreading them over sufficiently large production volumes. As Boslie, Henson and Weatherspoon (2003) and Reardon and Timmer (2007) have noted, small farming operations have as a general rule not adapted well to these conditions, but there are some promising exceptions. Cooperatives and producer associations could be an institutional response to facilitate the incorporation of small farms into these marketing innovations. For example, the Indian Dairy Cooperatives Network has 12 million members and produces 22 percent of India's milk. Of the cooperatives membership, 60 percent are very small holders, many of whom are women, and many of whom are landless. Another example is that of the Colombian National Federation of Coffee Growers, with a membership of over 300 thousand with mostly small plantations of under 2 hectares. This association not only assists in marketing services, but also provides production assistance, finances research and development, and even invests in rural roads and electrification in coffee-growing communities.

While the spread of supermarkets – and the de-linking of domestic consumption from domestic supply – are beneficial to consumers, small-scale farming is likely to become less competitive. In a more flexible economy, the human and capital resources in uncompetitive firms would flow to more profitable enterprises, but in many developing countries resources – especially human resources above a certain age – are likely to remain on ever-less-profitable small farms. The younger are more mobile, but their mobility depends on the human capital they can carry with them – that is, education.

The policy response to emerging trends

Commodity prices are likely to remain high for at least a few years. While this new price environment benefits many small farms, one question is whether or not they benefit more than larger operations. The answer is not obvious: small farmer operators are constrained to a greater extent in their access to credit, services and markets. The ability to take advantage of higher world prices through the expansion of production is therefore limited. Small farms could overcome these restrictions through market arrangements, such as contract farming, but such an outcome is likely only in the case of certain products. From a longer term perspective the response of small farms to trade opportunities will depend on each country's policy environment.

Over time, a list of basic challenges for rural development policy aimed at the alleviation of rural poverty has been distilled from experience and emphasized by IFAD:

- Access to key natural resources for agriculture: land, water.
- Access to technologies, services and institution to improve productivity: technical assistance, extension services, R&D, credit, insurance.
- Access to input, output, land, credit markets
- Access to a variety of income sources in the farm and non-farm economy: labour, non-farm self-employment, migration and remittances.

- Better policy and governance.

The first three are oriented toward agricultural production, still the most important economic activity in poor rural areas. The fourth – and perhaps most important in the longer run – is oriented to household income-earning activities beyond the farm, either as part of a portfolio of income sources or as a means of non-farm specialization. The fifth is overarching, a political economic challenge applicable to all rural activities and key to economic growth more generally.

To confront the challenges related to agricultural production and to enhance governance, the World Development Report 2008 (Chapter 6) identifies some key institutional innovations:

- The improvement of the security of property rights and the facilitation of land transfers. The latter would help rural families “adjust their livelihood strategies” – both in terms of rural activities as well as out-migration.
- The enhancement of credit and savings opportunities and the ability to make money transfers.
- The promotion of greater efficiency in input markets, particularly seeds and fertilizers.
- The encouragement of farmer organizations, including cooperatives, that might better be able to take advantage of scale economies, both in input purchases and in accessing markets.

Useful as they are, translating these general guidelines into practical applications in a country and even within regions of a country requires some judgement of the efficacy of particular instruments, which in turn requires ex post evaluations. Unfortunately rigorous evaluations at the level of individual countries are scarce. Such evaluations are important, however, given the heterogeneity of small farms throughout the world in terms of poverty levels, productivity, soil fertility, and access to infrastructure and markets.

This heterogeneity stems in part from the natural resource base and geography, but also in part from the approach governments take to expenditures on public goods. The infrastructure of a country, such as telecommunications and transport, and the support network of finance, research and extension determine the ability of small farmers to take advantage of opportunities in both domestic and international markets. The role of government in providing public goods is well established, but the performance of governments is often disheartening.

Two notable examples well illustrate the importance of the efficiency of government spending in rural areas. Fan, Hazell and Thorat (1999) find in India that investment in roads has had the greatest impact on poverty reduction and has enhanced agricultural productivity, while research and extension spending has had the largest impact on productivity and only indirectly significant positive effects on poverty. Irrigation spending, on the other hand, has had a large effect on productivity, but an insignificant effect for poverty reduction. Fan Zhang and Zhang (2002) show that for China infrastructure development was a key to reducing rural poverty. For Western China the most effective incremental expenditures were on agricultural R&D, education, roads, and electricity. In the case of both India and China, the growth of rural non-farm

employment, which depends on infrastructure services, was also an important source of poverty reduction. These results are in line with the famous Ravallion and Datt (1999) household study for India showing that the growth in non-farm activities was important to lifting families out of poverty, once one accounted for literacy, availability of infrastructure, and initial poverty levels.

There has been a growing awareness of the role of complementarities between policy instruments in helping reduce poverty. Escobal and Torero (2004), for example, look at the complementarities of infrastructure services in Peru, finding that rural households have greater income potential and a lower chance of being poor if they have access to rural water, electricity, telephone, and road infrastructure. With telephones and roads, households increase their work time significantly as well as diversify income sources. Families without access to any infrastructure spent on average 85 percent of their time on farming, but with access to at least two services their farm work time fell to an average of 55 percent of their time. There is, however, low infrastructure coverage in rural Peru: only 5 percent of rural families have access to all four services, and 74 percent have access to only one or none. Synergies exist between types of infrastructures; introducing both services together increases income by more than each separately. Making all infrastructure services available to the 30% currently without access to any service could contribute to moving a half a million Peruvians out of poverty. (World Bank, 2005, *Beyond the City*, p. 195).

A policy of providing better infrastructure would also influence the accumulation of human capital, improving both schooling and health. Araujo (2003) finds poverty levels were reduced in semi-urban and rural Mexico due to public investments in education and road infrastructure that promote the growth of non-farm labour demand. These investments reduce poverty in semi-urban areas via encouraging manufacturing employment growth. And such investments have poverty alleviation effects via service employment growth in both rural and urban areas, but especially in rural areas.

As a general proposition, improved road networks, and the consequent improvement in local transportation and safety, leads to improved school attendance. The wider accessibility of electricity in rural areas produces a range of benefits, but one in particular – more time for school study – improves school performance. Better education and health care facilities lead to greater opportunities for employment, which leads ultimately to higher rural household incomes. Deolalikar (2001) shows that investments in road infrastructure in poor areas in Vietnam have improved access to – and use of – public health facilities, and increased secondary school enrolments. Certainly, as Leipziger, et al. (2003) for example document in a cross-country study, investments in water and sanitation reduce infant, child, and maternal mortality. They also increase schooling attainment. Differences in health outcomes between the rich and the poor are linked to infrastructure coverage. About 25 percent of the difference in infant mortality rates – and 37 percent of the difference in child mortality rates – of the poorest and richest quintiles is explained simply by access to water.⁵

The bottom line for the challenges facing rural poverty reduction is that policies should concentrate both on improving household activities already available – most

⁵ For more on the complementarities in public investments for improving poor household welfare between infrastructure services, education, and rural non-farm employment see Reardon et al. (2000) and Chong and Hentschel (1999).

prominently farming – via enhancing productivity and access to markets, and on expanding the range of potential activities of family members. The lesson from experience and much of the rural development literature is that the income generating potential – the ability to access and take advantage of activities – depends crucially on access to assets, such as education, land, and infrastructure. In order to better understand from this perspective the situation of rural households today, the next section turns first to the discussion of the extent of rural poverty and then to some detailed analysis of household surveys. These data allow an assessment of the income-earning activities of rural poor families and permit an analysis of the relationship between the participation in different activities, the corresponding potential incomes, and the access to the assets that allow households to take advantage of available opportunities.

3. Rural poverty in the developing world: numbers and trends

Broad regional trends

The population of developing countries is estimated at approximately 5.2 billion, about 20 percent of which – 977 million in 2004 – are estimated to be living on less than \$1 a day; over 51 percent, or 2.6 billion people, are living on less than \$2 a day (Chen and Ravallion, 2007).⁶ Approximately 3 billion people in the developing world live in rural areas, about 30 percent of which are living on less than \$1 a day. In contrast, the urban poverty rate is around 13 percent. But while the urban poverty rate in developing countries has remained fairly constant over the last decade, the rural poverty rate has fallen from 37 percent (from slightly more than a billion people in 1993) to approximately 30 percent (890 million in 2002). Using the \$2-a-day line, the rural poverty rate fell from 78 percent to 70 percent (note that by excluding China the incidence of poverty decreases in 1993 and increases in 2002.)

There are some notable regional differences in the evolution of poverty during the last two decades, as can be seen in Figure 2. The fall in the number of world's poor is in large part due to economic growth in East Asia, especially in China; while poverty rates in South Asia and Sub-Saharan Africa continue high and fairly stable, with the absolute number of the poor increasing in these regions. Figure 3 emphasizes regional differences in trends in the number of persons in poverty.⁷ Most importantly for the decline in the total number of poor in the world, the number of East Asia's – China's – poor declined strongly during the 1990s. During the mid-1980s (using the \$1-a-day standard) China's number of poor accounted for approximately a third of all poor and the region's share of the world total was over two-fifths. In 2004, China accounted for 13 percent and the region for 17 percent. In Latin America the number of poor rose slightly until the year 2000, and with a decline since; the population share of the poor has been stable if not declining.

South Asia's number of poor, by contrast, remained fairly stable, with effectively no change in the count using the \$1-a-day line, and a slight rise using \$2-a-day. Rising overall populations of course led to a decline in the share of this region's population living in poverty. But the region's share of the world total living on less than \$1 a day

⁶ See also Chen and Ravallion, (2004).

⁷ See S. Chen and M. Ravallion, "Absolute Poverty Measures for the Developing World, 1981–2004," Policy Research Working Paper 4211 (Washington, DC: World Bank, 2007).

grew from slightly over a third during the mid-1980s to 46 percent in 2004. Less encouragingly, in Sub-Saharan African countries the numbers of poor increased, although less rapidly in the case of the \$1-a-day count compared to the \$2-a-day count. Nevertheless, there was progress in terms of reducing poverty rates using both standards, especially using the \$1-a-day line. But the region is falling behind other developing countries taken together; its share of the world total increased from 16 percent to 31 percent between 1984 and 2004, and this share will certainly continue to grow during the coming decade.

Historically in the developing world poverty has been concentrated in rural areas, and as Figure 4 shows rural areas continue to hold the greatest share of the poor in all regions except for the Latin America and the Caribbean region. And across all regions the incidence of poverty is greater in rural areas than in urban, strikingly so in East Asia and the Mid East and North Africa, as seen in Figure 5.

Box

Poverty dynamics

Earlier on we described changes in poverty over time. However, trends over time tell us little about the determinants of poverty dynamics at either the macro or micro level; that is what economic and policy factors are driving changes in poverty, and what is happening at the household level.

Drivers of poverty reduction at the country level

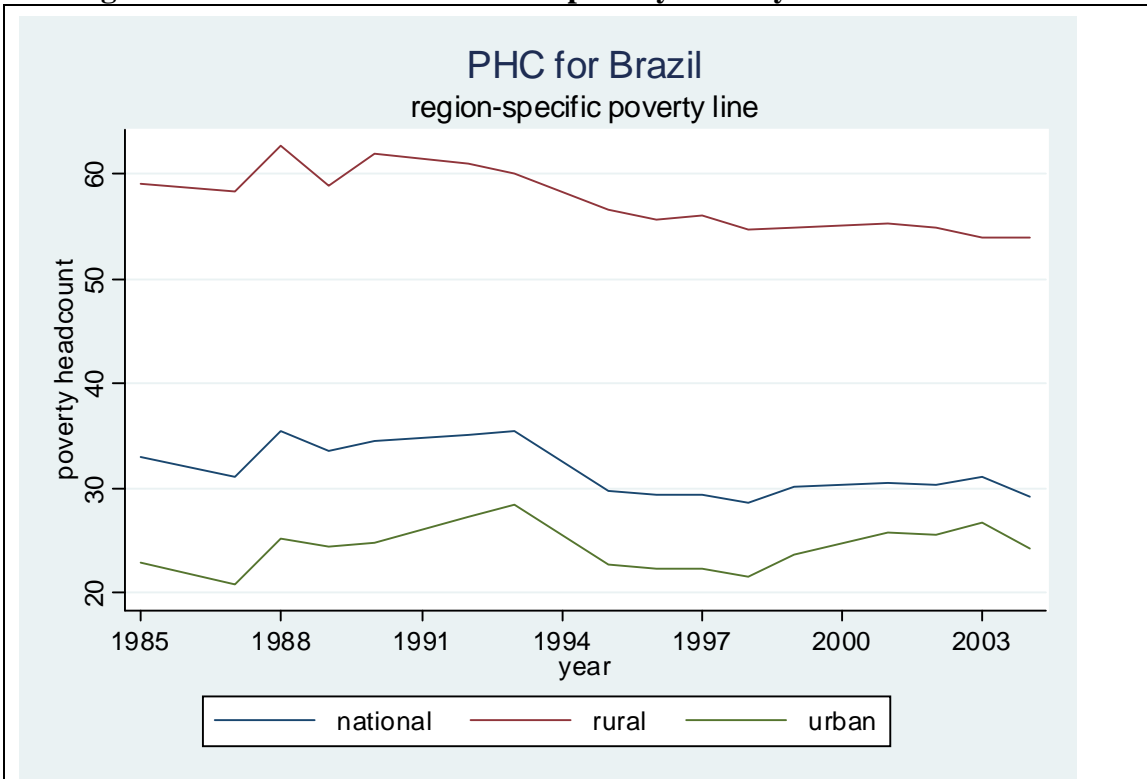
At the macro level, recent research has focused on the links between economic growth, inequality and poverty reduction, and the role of policy in maximizing the impact of economic growth on poverty reduction. Here we look at the recent experience of three countries: Brazil, China and Mexico.

Brazil has experienced little reduction in poverty rates over the last 20 years. From 1985 to 2004, the headcount index fell only four percentage points, from 33 to 29 percent (Box Figure 1). All of this reduction was located in rural areas; the poverty headcount index in urban areas remained unchanged. This disappointing record was due not only to low growth rates over this period (average annual growth in per capita GDP of less than .5 percent), but a low growth elasticity of poverty reduction, which is consistent with Brazil's high level of inequality. The sectoral and geographic pattern of growth, and the limited ability of the poor to benefit from this growth, contributed to the slow pace of poverty reduction (Ferreira, et al, 2007).

Recent research has focused on why this elasticity is so low. The sectoral composition of growth is relevant; prior to 1994, growth in the services sector was more poverty-reducing than agriculture or industry. Further, growth was more pro-poor in states with lower levels of infant mortality and higher levels of worker unionization. Critically, policy is important in three ways: by affecting the sectoral composition of growth, by affecting the sensitivity of poverty to growth in each sector, and by affecting macroeconomic policy and wealth redistribution. Policy reform in the mid 1990s stopped hyperinflation and liberalized trade—increasing the poverty reducing role of growth in the agricultural and industrial sectors (Ferreira, et al, 2007). Improved

targeting and increased spending on social pension and assistance programs helped reduce poverty as well as inequality (Neri, 2005 and 2006; Soares, 2006; and Kakwani, et al, 2006).

Box Figure 1. The evolution of Brazilian poverty rates by head count.



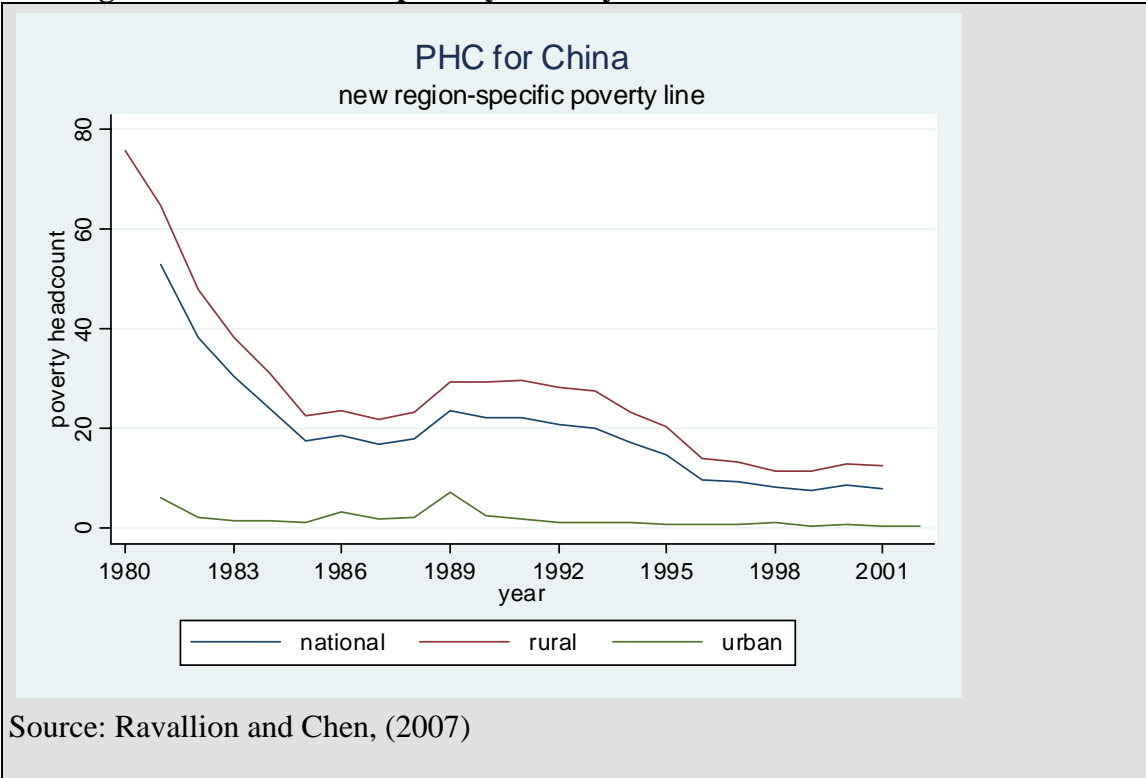
Source: Ferreira, et al (2007) calculation using IpeaData time series and PNAD.

China has made extraordinary progress in reducing poverty over the last 20 years; the incidence of poverty in the world's largest country has dropped from over 50 percent in 1981 to 8 percent in 2001 (Box Figure 2). Poverty reduction has been particularly spectacular in rural areas, dropping from over 76 to 13 percent. While migration to urban areas has helped reduce the national incidence of poverty, most poverty reduction has occurred in rural areas. Not surprisingly, while overall economic growth has played a key role in the long term reduction of poverty, the sectoral composition of growth also matters: growth in agriculture had a much stronger poverty reducing impact than the manufacturing or service sectors. Policy reform spurred this growth; most importantly, agrarian reform and lower taxes on farmers were key to agricultural growth and poverty reduction in rural areas. Controlling inflation and increased public spending also played an important role. However, rapid economic growth has led to rising inequality, and this inequality may hinder further reductions in poverty. China may not be able to maintain its past success unless it deals with the problem of rising inequality (Ravallion and Chen, 2007).

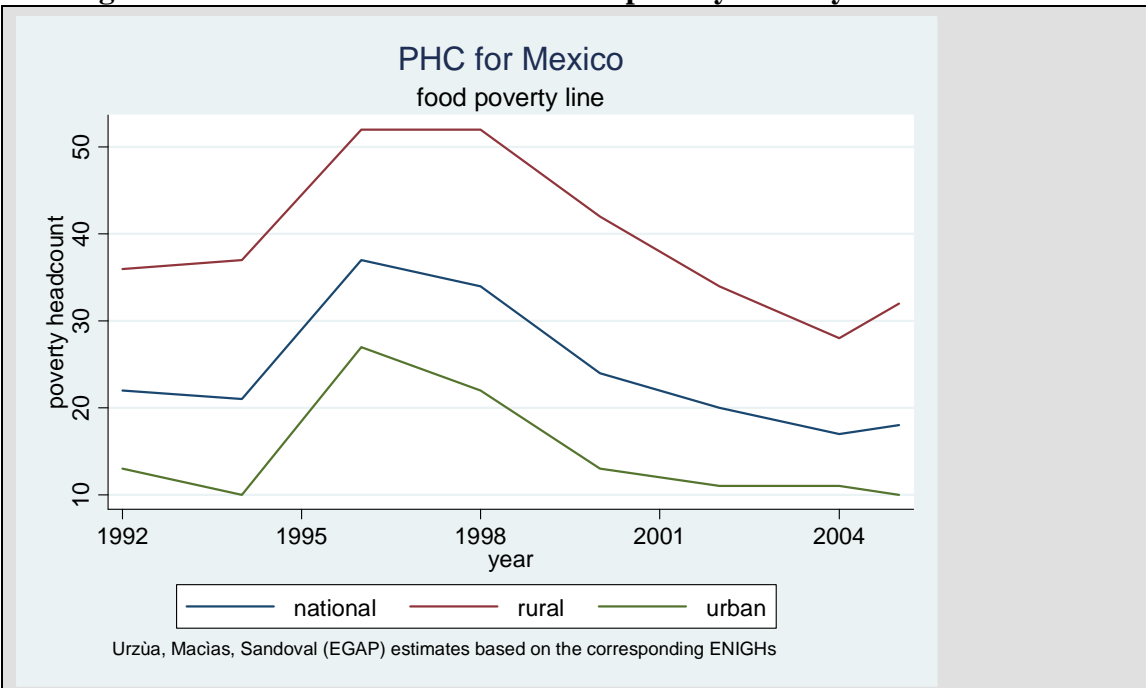
Poverty trends in Mexico show the debilitating impact of economic crisis (Box Figure 3). The poverty headcount had decreased during the late 1980s and early 1990s, but skyrocketed in both urban and rural areas following the 1995 economic crisis and devaluation. The effect was devastating; it took approximately 6 years for the incidence of poverty to return to pre-crisis levels. The relatively high levels of poverty in rural

areas up to 2005 are due primarily to low productivity in agriculture and stagnant rural wages, and high levels of inequality has limited further poverty reduction. These phenomena were to some extent offset by the increase in transfers, public and private, improved targeting of public expenditure in rural areas, and the expansion in rural non-farm activities.

Box Figure 2. The evolution poverty rates by head count in China.



Box Figure 3. The evolution of Mexican food poverty rates by head count.



Source: Urzua, et al (2007)

Poverty dynamics and the micro level

There are two important dimensions to poverty dynamics at the micro level. First, recent research has shown gradual poverty trends often mask significant movements in and out of poverty at the household or individual level, implying that both transient and chronic poverty are present. Second, and related to these poverty movements, is how one distinguishes between transient and chronic poverty. How do we determine whether a household's poverty status reflects a temporary drop in income due to some idiosyncratic shock, or whether it reflects a longer term inability to maintain a sufficient standard of living?

This distinction is important as these two types of poverty reflect different situations and require different policies (see Jalan and Ravallion, 1998, 2000; McCulloch and Baulch, 2000; Hume and Shepard, 2003; Barrett, 2005). Transient poverty (also referred to in the literature as the temporary or stochastic poor) is occasional in nature and may be tackled by safety nets, income-smoothing programs or insurance which help households to transfer resources from good to bad periods of the lifecycle and survive and/or avoid temporary shocks in terms of jobs, health or weather. As such the transient poor may represent a diverse group, even with the same country or region. Chronic poverty requires structural intervention focused on growth and in particular on development of human capital, infrastructure and business-related assets, as well as the socio-economic and institutional context in which these are used. The particular nature of both transient and chronic poverty varies by country and context, as well as by available data and definition used.

This was described in the 2001 Rural Poverty Report, along with an annex that reviewed the then most recent literature in terms of poverty dynamics. Developments in the study of poverty dynamics since then have focused primarily in two directions. First, work has continued regarding the documentation of poverty dynamics and the relevance of transient and chronic poverty, for the most part confirming earlier hypotheses. Second, and more importantly in policy terms, conceptual and empirical work has advanced in the study of threshold effects and poverty traps, which has given new understanding to the policy challenges faced when dealing with chronic poverty.

Identifying these poverty dynamics and differentiating between transitory and chronic poverty is difficult due to data limitations. Analysis of poverty dynamics requires panel data (visiting the same household or individual) for at least three years, although limited analysis can be carried out with a two year panel dataset. Much of the empirical analysis of long term poverty dynamics has been carried out in developed countries, since these kinds of data sets are relatively rare in developing countries.

Two standard approaches are used for discerning between transient and chronic poverty in panel data. The spells approach identifies, often through the use of hazard models, the chronic poor based on the number and/or length of poverty spells.⁸ The component approach distinguishes “permanent” household income from its transitory variations,

⁸ See Bane and Ellwood (1986) and Stevens (1994, 1999) for early applications in developed countries, and McCullough (1999) and Denisova (2007) for more recent applications in developing and transition countries.

typically using multivariate regression techniques.⁹ A more recent third approach is the Stages-of-Progress methodology, which combines participatory techniques with sample surveys (see Krishna, 2004).

In terms of recent research from the few multiple year panel datasets that do exist, as well as a larger number of two-year panels, recent research on poverty dynamics in developing countries has demonstrated the following consistent empirical findings:

- Gradual trends in poverty mask a lot of movement in and out of poverty. While some of this apparent movement may be due to measurement error (see discussion in Barrett, 2005), it reflects the reality that poverty is not a static phenomenon and that there are different types of poverty, with the most important difference being between transient and chronic poverty (Deininger and Okidi, 2002; McCulloch and Calandrino, 2003; Haddad and Ahmed, 2003; Krishna, 2007; Barrett, et al, 2006).
- Escaping and entering poverty are not symmetric in terms of determinants. Shocks (health, funeral, weather, employment, etc) are key determinants in terms of falling into poverty (Bigsten, et al, 2003; Krishna, 2007; Barrett, et al, 2006).
- Rural non-farm activities are a key route out of poverty, but many of the rural poor that exit remain rural and in agriculture (McCulloch, et al, 2007; Gonzalez-Vega et al 2004; Davis, et al, 2007).
- Chronic poverty reflects low levels of assets, or persistent low returns to assets. Particularly, and consistently important, are low levels of education (including illiteracy), large household size (and presence of small children), location (rural, and particularly remote rural areas) and physical assets (see review in McKay and Lawson, 2003; Denisova, 2007).
- Threshold effects and poverty traps are an important dimension of chronic poverty (Barrett, et al, 2006; Barrett, 2005).

Rural poverty, economic development and urbanization

The recent World Development Report 2008 characterizes countries according to the degree to which their economies have moved from both a high dependence on agriculture for growth and a concentration of poverty in rural areas to a much lower dependence on agriculture and a concentration of poverty in urban areas. Agriculture-based countries – having an average rural poverty rate of 51 percent - are very poor in per capita terms. They are mainly located in Sub-Saharan Africa, and contribute slightly more than 14 percent to the developing world's rural population and to 22 percent of its rural poor. Developing, urbanized economies – with an average rural poverty rate of 13 percent – have a per capita income that is on average nearly ten times that of agriculture-based economies. They are located in Europe, Central Asia, and Latin America and the Caribbean, and contribute almost 9 percent to the developing world's rural population and to only 4 percent of its rural poor.

By far the most important group of countries in terms of number of inhabitants are transforming economies, not yet urbanized but less dependent on agriculture. Transforming countries – having a rural poverty rate of 28 percent - have on average

⁹ See, for example, Jalan and Ravallion (1998) and the review in Stampini and Davis (2006).

more than twice the per capita income of agriculture-based countries, but slightly less than a third of the per capita income of urbanized developing countries. They are mainly located in Asia – China and India being the largest – and contribute 77 percent to the developing world’s rural population and to 74 percent of its rural poor. As these transforming economies become more urbanized, due in part to rural-urban migration, concentrations of poverty will shift from rural to urban areas. With development and increasing economic complexity, populations and poverty will move toward urban areas. Within 25 years, urban residents will make up three-fifths of the population in developing countries, almost 40 percent of the very poor, and slightly more than half of the \$2-a-day poor.

Presently, however, as discussed above, in most developing countries poverty is both more prevalent and deeper in rural areas than in urban areas. The rate of the urbanization of poverty has slowed since the late 1990s, and while the poor based on the \$1-a-day poverty line might be urbanizing slightly faster than the overall population, the poor based on the \$2-a-day line are not (Ravallion et al, 2007). Given the most recent trends in urbanization and forecasted trends in urban populations, rural areas will remain yet for several decades where the majority of the developing world’s poor reside. Table 3 shows the breakdown of poverty in terms of absolute number and the percent of rural and urban populations for various regions and the years 1993 to 2002.¹⁰ Certainly rural incomes have historically been lower than urban incomes across all regions, although there has been a tendency for some convergence (Table 4). Yet rural poverty has declined, and not merely due to a shift of populations from rural to urban areas. Rising incomes of rural residents (including remittances) have contributed to the bulk of poverty decline. As Ravallion et al (2007) note, 75 percent of the reduction in developing world \$1-a-day poverty – or 4.2 percentage points of a 5.5 point total decline – is due to declines in rural poverty, with 20 percent due to increasing urban areas’ share of the population.

Demographic considerations

This slow trend toward the urbanization of poverty has been and will continue to be driven by demographic changes within rural and urban populations. Age distributions – the number of young, working age, and elderly persons – and the proportions of women and men will influence the income potential of rural populations. An aging rural population with a relatively low proportion of working-age males, for example, could slow the growth of labour-intensive agriculture, slowing rural economic development and maintaining high rates of rural poverty. Although each affects the other in a complicated dynamic, certainly at national levels there is a high correlation between economic development and the population shares of both the elderly and the young. More than 50 percent of the variability across countries of the proportions of those older than 64 years and younger than 15 is explained by differences in development levels (Anríquez, 2007).

Rural populations tend to have higher rates of fertility than urban populations, but the rural population’s share of the young also tends to fall faster with development. Across countries rural populations also tend to have a slightly larger proportion of the elderly.

¹⁰ And for reference, urban/rural poverty rates by country for selected time periods, based on country-specific poverty lines, are found in Table A1 in the Data Appendix.

The young and the old make up the economically dependent share of a country's population, and this share is larger in rural areas.

Improvements in sanitation and medicine – largely available today to all countries regardless of development level and due to previous economic growth in the developed world – has led to a fall in child mortality rates and an increase in life-spans in most of the developing world. This also led to a historically-rapid increase in the number of the economically dependent relative to the number of those of working age in the developing world. But with a country's development and improved income opportunities for households, a variety of incentives leads to the decline in fertility rates, putting downward pressure on the dependency ratio of the non-working-age population to the working-age population – by reducing the flow of the young into the population. As the effect of this shift in fertility rates works its way through ever older age cohorts, however, the dependency ratio begins to slow its decline and eventually to increase. One important question is whether a country can become rich before it becomes old.

Rural dependency ratios are higher than urban dependency ratios across all regions, as seen in Table 5, and highest in the least developed regions. Sub-Saharan Africa has the highest national rural dependency ratios of all regions. The Middle East and North African region also has high overall and rural dependency ratios. High dependency ratios at the household level are correlated with poverty, and rural and urban population demographic differences correlate well with the higher incidence of poverty in rural areas than in urban. While the dependency ratio is falling in every region, urban ratios are declining faster in urban areas in some regions (East and South Asia and Sub-Saharan Africa) and rural ratios are declining faster in others (Latin America and the Middle East and North Africa).

Mapping the shares of rural populations over 60 years of age across countries shows that these shares correlate well with income levels, although older cohorts represent a relatively smaller share of national populations in Sub-Saharan Africa. (See map in Figure 6) Changes in the older-age cohort are also positively correlated with income: wealthier countries are older and age faster. Looking at a selected group of countries for which detailed household survey data are available reveals that the age of the household head in rural areas is not correlated with the expenditure quintile in which the household falls¹¹.

Another important demographic characteristic of rural populations is the balance between males and females. Household income studies give mixed results with respect to cross-country generalizations of the role of female household heads in determining income and the likelihood of poverty. Nevertheless, for specific countries several studies do indeed find that, all things being equal, female-headed households are more likely to be poor. Regardless of the *ceteris paribus* connection between poverty measured in dollars and female-headed households, these households tend to have higher dependency ratios, women often have lower education levels, and women household heads often take on employment (usually with lower remuneration) that accommodates at-home time constraints.

¹¹ See Anríquez (2007)

What do we know about the proportion of females in the rural population? The ratio of females to males – the femininity ratio – in rural areas is high in East Europe and Central Asia and in Sub-Saharan Africa, and femininity ratios are higher in rural areas in South Asia, the Middle East and North Africa, and Sub-Saharan Africa. The greatest difference between urban and rural ratios is in Latin America (107 to 93). To account for differing mortality rates between older males and females, an adjusted femininity ratio using persons between ages 15 to 49 years is perhaps more revealing. This adjusted ratio is even greater in Sub-Saharan Africa; the gap between urban and rural grew larger in Latin America, South Asia and Sub Saharan Africa, the latter two with higher ratios in rural areas (See Table 6 and the map in Figure 7).

But are some rural populations increasing their shares of working age females? As Figure 8 demonstrates, in most cases where the initial rural femininity ratio is greater than one the ratio tends to decline over time, and where it is initially less than one, it tends to increase or slightly decrease over time. In some countries, however, such as Mexico and Zimbabwe, the rural femininity ratio has shown an increase from an initial value greater than one. Thus overall, with some exceptions, where initially there is an imbalance in the number of working-age females to males in rural areas, rural populations tend to adjust over time toward balance.

How is migration influencing rural populations? A recent study by Anriquez (2007), examining net migration across administrative units in six countries (four in Latin American and two in East Africa), produces several interesting results. In Brazil, Ecuador, Mexico, and Panama out-migration tends to be associated with poorer communities, community wealth being measured in terms of the assets of education levels and housing quality. These poorer areas also tend to be the most rural. The poorest might not be leaving these communities, but those who have the opportunities and incentives to migrate come from poorer, rural areas. In these poorer, more-rural communities female-to-male ratios are lower. Moreover, indigenous populations tend to make up a larger share of these poorer administrative units, but indigenous populations are growing more rapidly in wealthier communities. Interestingly, average education levels and housing quality – two measures of household assets – are improving faster in marginal communities. This last result is likely due to lagging communities catching-up to national averages, but also due to a sorting effect – those who migrate perhaps are, while not the poorest, nevertheless below communities means in these asset indicators. Taken together these results suggest that population movements are contributing to a convergence of wealthier and marginal communities in Latin America.

Turning to East Africa, in Kenya the wealthiest administrative units in terms of education and housing quality are receiving immigration from less well-off units, but out-migration is less from the poorest units than from those not so poor. Education levels and housing quality are improving faster in these middle-wealth units than in the poorest, suggesting that population movements are contributing to a divergence of wealthier and marginal communities. Out-migration in Kenya is also more female. In the case of Uganda, where internal displacement of populations has followed war and a “protected villages” program, population movements between 1991 and 2002 show a return migration from urban to rural and poorer regions. These poor regions also saw the most rapid improvement in welfare indicators. In both countries one important conclusion of the Anriquez study is that education is the key asset that determines out-migration. In Kenya, low level of education is an underlying factor that reduces out-

migration in the poorest areas, leading to these communities lagging further behind wealthier communities.

Box

The Demographic Challenge of Sub Saharan Africa

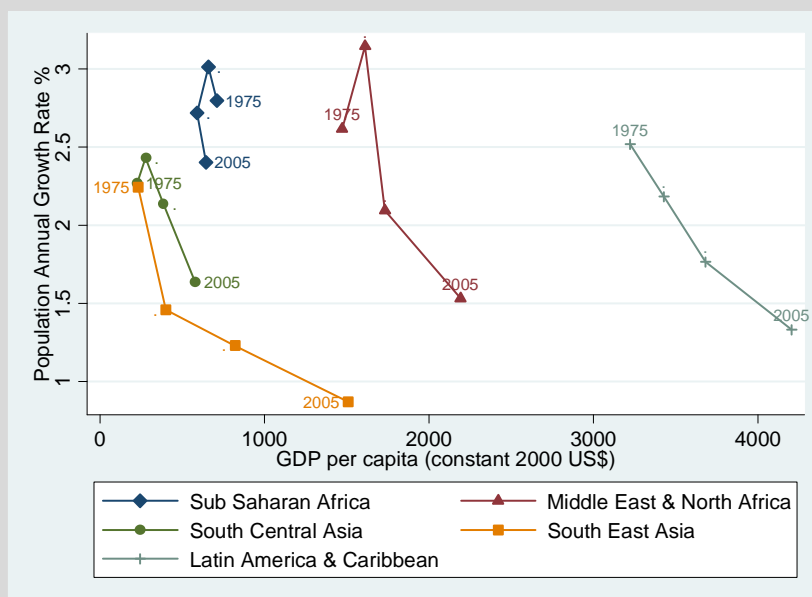
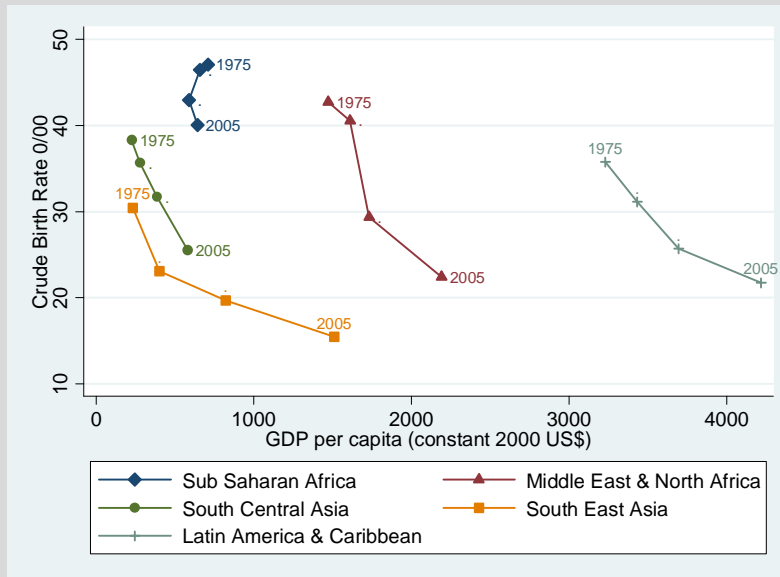
The *demographic transition* is the process by which population dynamics change from high to low levels of fertility and mortality as countries experience economic development. During the first stage countries have both high fertility and mortality and therefore populations grow very slowly if at all. During the second stage mortality falls while fertility is still high which causes population to grow very fast. During the third stage births also start to fall, which begins to reduce the rate of growth of population. Finally, as both fertility and mortality become low during stage four, populations stabilize again.

The second stage of the transition, which is characterized by falling mortality but still high fertility rates, is sometimes referred to as the *demographic trap* since populations grow exponentially. Many worry that the demographic trap in Sub Saharan Africa (SSA) is more severe than that experienced by other countries that had developed earlier, since progress in medical and public health technologies has caused steeper falls in mortality, particularly child mortality. These translate into even higher rates of population growth for SSA. The demographic trap can translate into an economic *poverty trap* if the economy is unable to feed and employ this growing population.

Box Figure 4 shows the demographic position of SSA relative to other developing regions. We reproduce the population growth and birth rates,¹² because the data on fertility and mortality are much spottier, particularly in SSA. The first panel shows that during the last 30 years real income in the region has not grown while the crude birth rate has started to fall, but at a much slower pace as compared to other regions. The second panel shows SSA has the highest rate of population growth than any other region. Also, like South East Asia and the Middle East and North Africa region, the population growth rate has begun to fall since the mid 1980's, however in the SSA region this fall has been more moderate.

¹² The fall in the birth rate does not necessarily imply a reduction in fertility because the former rate does not take into account the age composition of the population.

Box Figure 4. Evolution of the birth and population growth rates by developing region (1975-2005).



Source: Authors' calculations using UNSTATS.

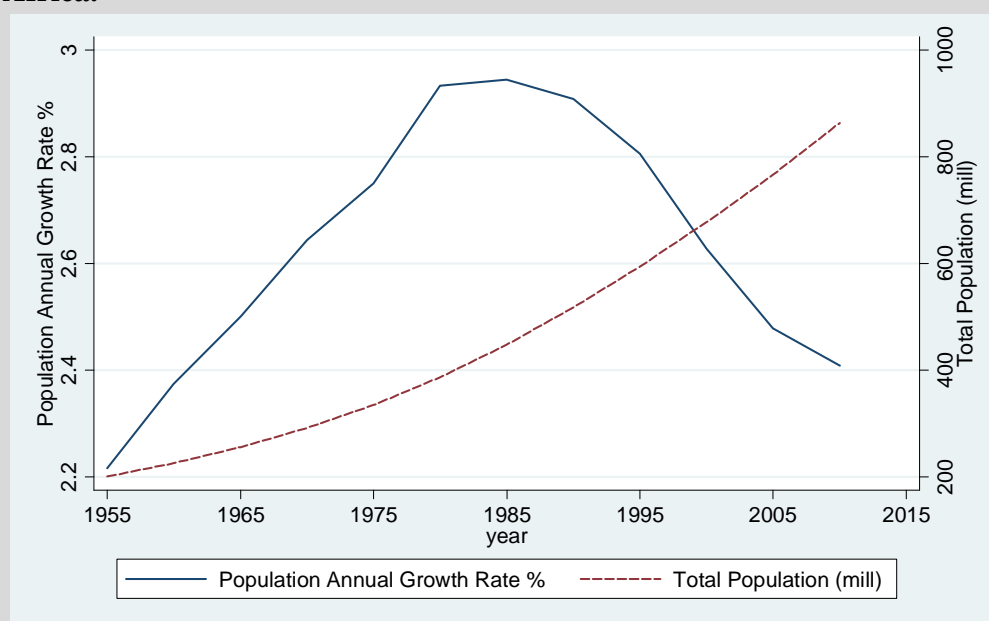
The growth of population and its age composition has important implications for development. When population grows at an increasing rate it means that every year a growing number of young individuals enter the labour force. These large inflows of potential workers can represent both a possible threat to the economy if it can not generate employment fast enough, or a possible blessing as an abundance of inexpensive labour on which industrialization can thrive, as Lewis (1954) suggested. On the other hand if the rapid expansion of labour force is accompanied by a structural transformation (i.e. the relative shrinking of agriculture and industrialization) new jobs in the urban/industrial sector have to accommodate both the growing labour force and the jobs shed by the agricultural sector. Given the slow pace of industrialization in SSA, many worry that the secondary and tertiary sectors are not ready to handle these demographic pressures. A

recent cross-country study by Bezemer and Hazell (2007), however, showed that for the next decade no change is expected in the share of employment in agriculture in SSA (58 percent), which together with the fast growth of population means that roughly 9 million jobs will be created in agriculture between 2000 and 2015. This employment context contrasts starkly with the reality of China where 5 to 7 million agricultural jobs will be lost each year during the same period.

The age composition of the population is also important from the development perspective. SSA is the youngest developing region, with 44% of the population under 15 years (Ashford, 2007). During the next decade the majority of these children will enter the labour force; and together with a falling rate of population growth this means that the demographic dependency ratio (the number of nonworking age persons to working age population) will fall drastically in SSA over the next few decades. This encouraging scenario has sometimes been called the *demographic dividend* or *bonus*, because with a lower proportion of the population economically dependent, economies can accumulate savings and make investments, which improve the prospects of economic growth. These positive demographic conditions will translate into national development if accompanied by a favourable social and economic environment.

In conclusion, although the population of SSA will continue to grow as far as demographic projections can see, the region seems to have turned the corner in terms of population growth, as shown in the long term view provided by Box Figure 5, and the region as a whole is slowly entering the third stage in the demographic transition of falling fertility and population growth rate. Still, the region carries a fast population growth inertia which translates into a rapidly growing labour force in the region. It is predicted that 3 out of 5 new jobs during the next decade will be farm jobs. Thus the fast rate of growth of the labour force is both a threat and an opportunity for development depending on the ability to increase the productivity of labour. In the case of SSA agricultural productivity will be the key as most of these new jobs will reside in this sector.

Box Figure 5. Evolution of population growth and total population in Sub Saharan Africa.



Source: UNSTATS

4. A profile of the rural poor

This section looks at the characteristics of the rural poor, their activities and the connection between household assets and poverty. The discussion makes use of previous analyses based on household surveys for 15 (sometimes 16) countries in FAO and World Bank's RIGA database.¹³ The surveys are comparable in terms of the structure of household income and household characteristics and permit geographic coverage across Africa (Ghana, Madagascar, Malawi, and Nigeria), Asia (Bangladesh, Indonesia, Nepal, Pakistan and Vietnam), Eastern Europe and Central Asia (Albania, Bulgaria and in some cases Tajikistan) and Latin America and the Caribbean (Ecuador, Guatemala, Nicaragua and Panama). Although unrepresentative of the entire developing world, the surveys provide insight into the activities, incomes and characteristics of rural households and the rural poor. The discussion here links principal activities and incomes of the rural poor to family characteristics and assets, specifically education, land and infrastructure. It emphasizes the relationship between family assets and the probability of being poor.

The income aggregates constructed for the RIGA countries contain seven principal income sources (crop; livestock; agricultural wages; non-agricultural wages; non-farm enterprises; transfers; other non-labour activities) which are grouped into the following basic categories: *on-farm* activities (self-employed farming, income being the sum of crop and livestock production); *agricultural wage* activities; *non-farm* activities (the sum of non-agricultural wage employment and non-farm enterprises); and

¹³ See Carletto, Covarrubias and Krausova (2007). A description of these data can be found at http://www.fao.org/es/ESA/riga/index_en.htm

transfers/other (containing public and private transfer income and other non-labour sources). One can further aggregate income into *off-farm* activities (the sum of *agricultural wages*, *non-farm* income and *transfers/other*); *non-agricultural* activities (the sum of the *non-farm* and *transfers/other* category); and *agricultural* activities (the sum of *on-farm* and *agricultural wages*).

Household characteristics of the rural poor

Who are the rural poor? What characteristics distinguish the poor from the non-poor? A profile of poor households in each of the 15 surveys in the RIGA database yields a similar picture across countries, and reflects, for the most part, commonly held perceptions of the characteristics of the poor. A comparison of household demographic characteristics, assets and composition of income between poor and non-poor households can be found in Table 13, as well as across expenditure quintiles, in Table A2 in Data Appendix.¹⁴

The patterns observed from Table 13a through Table 13d fall in line, for the most part, with the general expectations of household characteristics when comparing poor and non-poor households. Poor households have more members, a greater share of dependents (non-working age), less education, less land, and less access to running water and electricity. Poor households also generally own fewer livestock and limited access to primary schools and health clinics. There are exceptions. For example, in the case of livestock the poor have on average slightly more livestock than the non-poor in Ghana, Nepal, Vietnam, and Albania, although the average livestock holdings are very small for both groups. Exceptions underline that regional and country-level factors are important.

In terms of demographic characteristics, in all countries poor households have on average significantly larger households, and in all countries except for one, poor households have a higher share of dependents, and a greater number of working age adults (15-60 years). As discussed in more detail in the box on gender and poverty, in nine countries poor households have a significantly lower share of female-headed households; in only one country do poor households have a higher share of female-headed households. However, no clear patterns are discernable regarding the age of the household head. In four countries, poor households have on average older household heads than non-poor households, while in seven countries the reverse is true.

Poor households have significantly lower access to assets across the board. The poor own on average significantly smaller plots of land than rich households, and with the exception of three countries (Ghana, Nigeria and Vietnam), they also own less livestock, as measured in tropical livestock units (TLU).¹⁵ For all countries in the RIGA dataset, poor households have significantly fewer years of education whether one looks at the household-level average or at the years of schooling of household heads. Further, again for all countries, poor households have significantly, and often dramatically, lower levels of access to running water and electricity. In terms of the

¹⁴ In order for poverty comparisons to be comparable across countries, we used as poverty lines the local currency equivalent of 2.16 PPP international dollars of 2000. These lines were inflated or deflated for other years using the national consumer price indices.

¹⁵ Tropical livestock units aggregate livestock into one index using region-specific weights. Cattle, for example, have a value of around 0.7 compared to sheep and goats at 0.1 and chickens at 0.01.

relative distance to health clinics and primary schools among poor and non poor households the results are more ambiguous; while in five countries poor households are significantly farther away from health clinics, only in three countries is the same true for schools, and in two cases schools are closer, on average, for the poor.

With respect to income portfolios, which is discussed in more detail in the following sections, participation in, and shares of income from, on-farm activities, and in particular agricultural wage employment, are in almost all countries significantly greater among poor households. Similarly, non poor households have a higher share of participation in, and share of income from, off-farm activities, including transfers. Important exceptions from these patterns include Bangladesh, Pakistan, Bulgaria, and to a lesser extent, Nepal. In Pakistan in particular, the non poor have a greater share of agricultural sources of income, and a significantly smaller share of income from non-farm sources of employment. This might be due to the particularly strong unequal land access in Pakistan, and in particular the large number of landless among the poor, with the landless resorting to low return wage employment, both agricultural and non-agricultural.

Box

Marginalized populations

A household's ability to earn income is related to its assets, especially human capital, and the activities that those assets permit. For some, however, the access to assets and the ability to earn income is not merely a question of initial endowments and the choice among jobs within the reach of one's abilities. Some families are poor because they suffer various forms of exclusion; they belong to a group for which the rest of society has different rules of the game. Exclusion or marginalization¹⁶ manifests itself in various ways: in the form of higher barriers to educational opportunities than those faced by households in more favoured groups, in the form of job discrimination, or, as members of a minority group, by being isolated in terms of social and economic interactions with others.

Identifying those who are marginalized – and the different forms that marginalization takes – is an important component in the design of specific targeted poverty reduction programmes. For instance in many Latin American countries indigenous people still face major obstacles to effective recognition of their land rights, while their territorial security is threatened by political interests. In Asia discrimination includes lack of legal titles over traditional lands, militarization of the territories that curtails the freedom of movement, imposition of livelihood systems and land-use patterns that are specific to dominant ethnic groups. In Africa the position of hunter-gatherers and pastoralists is

¹⁶ The concept of economic marginalization is based on a relational statement between X, the “marginalized group”, and Y, the “rest of society”. Following Kanbur (2007), economic marginalization can be seen as outcome and as process. On outcomes, marginalization is taken to mean statically, “X is worse off relative to Y”, or dynamically “X has got less of the increase in the pie than Y”. As a process, the concept relates to economic structures, and in particular to the structure of markets and their integration: “To the extent that the markets that some individuals or groups engage in are segmented from the economy in general, these individuals can be said to be marginalized from the rest of the economy [...] Segmentation and exclusion may, however, have non-economic and non-financial origins, for example in discrimination by gender, caste or ethnicity.”

subordinated to the dominant groups' and the governments' attitudes towards agricultural production.

Poverty and Indigenous People

There are about 350 million indigenous and tribal peoples around the globe – about 5 percent of the world's population – representing over 5,000 ethnic groups. According to World Bank (2003), they are disproportionately poor, making up over 15 percent of all living in poverty. Moreover, in most regions and countries, indigenous and tribal peoples are over-represented among the poor, having group-specific poverty rates greater than the national rates – even in cases where they are majority of the population. Definitions of indigenous and tribal people differ from country to country, reflecting the diversity of the socio-economic, political and historical circumstances.¹⁷

About 70 percent of the world's indigenous and tribal peoples live in Asia and the Pacific, the majority of them coming from China and India.¹⁸ Some distinguishing features of these groups are a strong emphasis on clan structures and ethnicity bonds, a strong sense of identity, and a generally higher status for women. *Scheduled Tribes* or *Adivasi* in India constitute about 32 percent of the rural population but account for more than 42 percent of the rural poor and 85 percent of Adivasi live below the official poverty line as compared to 40 percent of the total population.¹⁹ According to Plant (2002), in the Philippines, while nationwide poverty incidence among families declined from 40 per cent to almost 32 per cent between 1988 and 1997, the decline was much less pronounced in prevalently indigenous areas (*Cultural Communities*) and in two of these regions the incidence of poverty actually grew. A report published in 2000 by the World Bank and the United Nations Development Programme finds that *minority nationalities* make up less than 9 percent of the total population of China but account for an estimated 40 percent of the country's absolute poor. In Vietnam between 1993 and 1998 the poverty rate in the whole country decreased by 19 points but the reduction was lower in rural mountains regions of Northern and Central Highlands, where there is a high proportion of *ethnic minorities* in the population.²⁰ These results are confirmed by Van de Walle and Gunewardena (2001), who found that the incidence of poverty is 60 percent for the Kinh and Chinese groups and 80 percent for the minorities.

Latin America's 50 million indigenous people make up 10 percent of the region's population. Psacharopoulos and Patrinos (1994) and Hall and Patrinos (2005) examine the evolution of social conditions in Bolivia, Ecuador, Guatemala, Mexico and Peru, countries with the largest indigenous populations in the region. The indigenous in Latin America are not always the minority, and in countries like Bolivia they represent more than half the population. In Bolivia, Ecuador and Peru language is the defining

¹⁷ Despite the heterogeneity of these groups, a benchmark for their identification is represented by the ILO Convention # 169. Tribal peoples are described as those "whose social, cultural, and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulation." Indigenous peoples are described as those "who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural, and political institutions."

¹⁸ IFAD (2002a).

¹⁹ IFAD (2001b).

²⁰ See Plant (2002).

characteristic. For Guatemala, self-identification or self-perception is the key variable, whereas in Mexico, language and geographic concentration are usually used to define indigenous people.

Indigenous people represent a majority of Bolivia's population at 62 percent (about 3.9 million people). In rural areas, 72 percent of the population speaks indigenous languages, compared to 36 percent in urban areas. While the plains are 17 percent indigenous and 83 percent non-indigenous, the highlands and valleys are 67 and 60 percent indigenous, respectively. In Ecuador it is estimated that in 2001, 9.2 percent of the population belonged to a household in which either at least one member of the family self-identified as indigenous or speaks an indigenous language. About 39 percent of Guatemalans identify themselves as indigenous. Between 1989 and 2000, Guatemala's indigenous population became older and more likely to live in urban areas. About 11 percent of Mexican households are indigenous, and the indigenous population is predominantly rural and lives in communities with less than 15,000 inhabitants. While only 35 percent of the non-indigenous population lives in rural areas, over 72 percent of the indigenous population lives in rural communities.

Between 25 and 48 percent of Peruvian households can be considered indigenous. The lower limit corresponds to households in which the household head and/or spouse uses an indigenous language (Quechua, Aymara or a native tongue of the Amazon region) more frequently than Spanish. The upper limit identifies all the Peruvian households in which the household head and/or the head's spouse have parents or grandfathers that had an indigenous mother tongue.

Hall and Patrinos found out that few gains were made in income poverty reduction among indigenous populations in Latin America and that the indigenous poverty gap is deeper. As can be seen in Table 7, they show that the majority – and often the vast majority – of indigenous households in Bolivia, Ecuador, Peru, Guatemala and Mexico are poor. Finally, being indigenous increases an individual's probability of being poor and this relationship was about the same at the beginning and at the close of the decade.

In Africa the concept of indigenous and tribal people differs from those commonly used in Asia and the Pacific and the Americas. According to Ohenjo, et al. (2006) more than 14.2 million self-identifying indigenous people live in Africa. In this region, the term indigenous population does not mean first inhabitants, in reference to aboriginality, as opposed to non-African communities or those having come from elsewhere. In fact most Africans belong to a specific tribal or ethnic group, all of whom are indigenous to Africa. This is why in the African context, the African Commission on Human and People's right suggests that the term "indigenous" should be used to describe and address the structurally subordinate position of hunter gatherers and pastoralists to the dominant groups and the state.²¹ These peoples can be loosely categorized in three groups: hunter-gatherers, exemplified by the Pygmy peoples of Central Africa, Hadzabe in Tanzania, San in Botswana and the San of Southern Africa; fisher people; and pastoralists who range from the Maasai and Samburu of Kenya and Tanzania, to the Tuareg in west and northern Africa. Nomadic pastoralists far exceed in population the hunter gatherers; they are estimated at 7-8 million in Ethiopia, 6 million in Kenya, and 3.7 million in Tanzania. The largest groups correspond to the Berbers of North Africa,

²¹ See African Commission on Humans and Peoples' Rights (2003).

the Tuareg (1.2 million) of southern, eastern, and Western Sahara, and cattle herding Nilotic tribes of Sudan, Uganda, Kenya, and Tanzania.²² Some of these marginalized groups have been losing their lands steadily over the years, as their lands were considered to be *terra nullius*, that is, land belonging to no one.

It is difficult, however, to get quantitative estimations of their level of marginalization. Due to their nomadic and even cross-national nature, most of these groups are not usually covered by traditional household survey instruments. Thus the literature does not provide clear estimates on how these groups fare in terms of poverty relative to the rest of the society. Nonetheless, the difficult living conditions of these groups have been amply documented in case studies. For general studies see for example, Anderson and Broch-Due (1999) and de Bruijn and van Dijk (1999). For more people specific studies see Bernus (1990) on the Tuareg, Homewood et al. (2005) on the Maasai, White (1997) on the Fulani, and references contained therein.

In the transition countries of Europe, a unique minority is represented by the Roma people, commonly known as “gypsies”. Unlike other groups, Roma have no historical homeland and estimates suggest that between 7 and 9 million Roma live throughout the continent. Information on their living conditions and the characteristics of their poverty is scarce, primarily for reasons connected to measurement problems.²³ Revenga et al. (2002) analyze data from a cross-country household survey which addresses the ethnic dimension of poverty across countries and allows for a quantitative assessment of the living conditions of Roma in the region. The main focus is on Bulgaria, Romania and Hungary, where approximately 3.5 millions Roma live, which represent around 40 to 50 percent of the total Roma population in Europe. As it is possible to see in Table 8, the highest level of absolute poverty among Roma households is found in Bulgaria, followed closely by Romania. Although absolute poverty among Roma households is lower in Hungary, the difference between the situation of Roma and non-Roma households is equally stark. Further, the authors examine the determinants of poverty by running regressions of log adult equivalent expenditures on household characteristics and find that non urban Roma are poorer than urban Roma.

High rates of poverty can be found among ethnic minorities even in developed countries. In Australia, Hunter (1999) showed that poverty among indigenous households is always greater than poverty of overall Australian households, independently of the percentage of median income used and after controlling for household composition (see Table 9). In the United States, the overall poverty rate for American Indian/Alaska Native individuals, including children, is generally higher than that for the total US population, particularly among families living in reservations (see for instance DeNavas-Walt et al., 2005).

Poverty and gender

In the development debate many argue that women are increasingly over-represented among the poor and following a process of “feminization of poverty”. There are many reasons why women and households headed by women may be over-represented among

²² Tomei (2005).

²³ For instance undersampling in censuses and household surveys; privacy legislation in many countries which prohibits gathering of data by ethnicity; the reluctance of many Roma to identify as Roma; and the diversity of Roma groups and sub-groups.

the poor. Female headed households generally have higher dependency ratios and lower average earnings for the “bread earner,” who often takes lower paying jobs to accommodate time constraints generated by household duties. These factors contribute to higher poverty rates (Buvinic and Gupta, 1997). Furthermore, their wellbeing is likely to suffer due to the sacrifice in leisure time traded for an equivalent income (Lipton and Ravallion, 1995). In addition, just being a woman itself can raise the likelihood of poverty: in many countries due to cultural reasons women face obstacles to the ownership and accumulation of assets, such as agricultural land (Deere and Leon, 2003). And in many countries women face labour discrimination in the form of lower remuneration for similar work or exclusion from better paying jobs.

The empirical literature, however, gives a more nuanced picture. Females are not always overrepresented among the poor. Visaria (1980a, 1980b), using household survey data from India (Gujarat and Maharashtra states), Nepal, Peninsular Malaysia, Sri Lanka, and Taiwan, examined the percentage of females in households distributed across deciles of a variety of income measures. The author concludes that in terms of their living standards, females do not seem to be heavily overrepresented among the poor. These results differ with a study in Ghana (Haddad 1991), which calculated poverty indices for groups of individuals classified by number of adult males and females in the household. While the poverty share of each group was close to that of the entire sample, the largest discrepancies occurred for individuals from households with more adult females than males. While these households accounted for 39 percent of the sample, their share of overall poverty was approximately 46 percent. Further evidence of no over-representation of women among the poor appears as well in Drèze (1990) for India, Svedberg (1991) for Africa, Lloyd and Brandon (1991) for Ghana, and Louat et al. (1993) for Jamaica. The main limitation of these studies, besides being somewhat outdated, is the lack of data on the intra-household distribution of wealth and/or well-being.

Comparisons of the income and poverty levels of female- and male-headed households are more numerous. Buvinic and Gupta (1997) report that in 38 of 61 studies reviewed, female headed households were over-represented among the poor. However, because the case studies of gender and poverty employ a wide range of conceptual and measurement techniques, cross-study comparisons are very difficult.²⁴ Quisumbing et al. (2001) present cross-country evidence on the proportion of women in poverty in ten developing countries. They compare poverty measures for males and females and male- and female-headed households and investigate the sensitivity of these measures to the use of per-capita and per-adult equivalent units and different definitions of the poverty line. The authors used household survey data from Sub-Saharan Africa (Botswana, Côte d’Ivoire, Ethiopia, Ghana, Madagascar, Rwanda), Asia (Bangladesh, Indonesia, Nepal), and Central America (Honduras).²⁵ As can be seen from Table 10, poverty measures

²⁴ These conceptual issues include: (1) the accurate measurement of the non-leisure time of men and women; (2) the different sizes of households headed by males or females; (3) the different composition of households headed by males or females; and (4) the definition of headship.

²⁵ The Ghana and Côte d’Ivoire datasets are nationally representative, while other data are from rural surveys that were not designed to be nationally representative. Most of the surveys were conducted by the International Food Policy Research Institute (IFPRI) and its collaborators (such as the International Center for Research on Women) with the exception of the Ghana and Côte d’Ivoire datasets, which were gathered as part of the Living Standards Measurement Study of the World Bank. Some surveys focused on a specific region (e.g., the Rwanda dataset), while others aimed for representativeness across agroclimatic settings, ethnic groups, and infrastructure and market access.

are higher for female-headed households and for females. The differences, however, are significant in only three of the ten datasets considered. In a recent study, Medeiros and Costa (2008) examine the hypothesis that poverty is increasing among females and female headed households using household surveys of the 1990's from 8 Latin American countries that represent the majority of the population of the region. The authors show that in general both female and female headed households are not increasing their relative participation among the poor.²⁶

Using the RIGA data base and data on other countries and following a similar approach to that of Quisumbing et al. (2001), we examined poverty rates both by the gender of the head of household and the gender of the individual for the rural areas of 18 countries using 33 nationally representative household surveys. The results are given in Table 11 and show a heterogeneous picture. In this sample of countries it is far more common in rural areas for male-headed households to have higher poverty rates than female-headed household (16 versus 7 surveys). On the other hand, when poverty is compared by gender of the individual, we find that it is more common to have statistical equivalence between rates; however, if there is inequality, females are most likely to overrepresented among the poor (14 against 3 surveys).

Poverty here is measured in money terms. In the cases where women have the same poverty rates as men, they still might have lower welfare, and more likely to be “poor” using a broader definition of the concept. Income and consumption poverty measures assume a gender neutral distribution of welfare.²⁷ There is no guarantee, however, that female and male children have the same access to scarce food, for example, or that they receive the same access to education or medical care. In any event, at the individual level, females are more likely to be poor than males in 14 surveys.

Although female-headed households might not be over-represented in income and consumption poverty rates, they could be disadvantaged in terms of asset ownership. This is the message of Table 12. With respect to human capital, rural female heads have significantly fewer years of education than rural male heads in 14 out 15 countries of the RIGA sample. Additionally, in terms of agricultural assets, in all countries considered female headed households own significantly less land and less livestock.

Principal activities and incomes of the rural poor

The alleviation of rural poverty depends on improving incomes deriving from three broad categories of activities: farming, off-farm labour both in agriculture and in non-agricultural enterprises, and migration. Rural households have various degrees of diversification of their income sources. A diversified rural economy does not necessarily imply diversified households – that is, households that participate in and obtain income from a range of economic activities. It may be the case that households tend to specialize in certain activities although the rural economy as a whole is

²⁶ The exception to this conclusion is Argentina and Mexico where female-headed households have increased their share among the poor.

²⁷ In the case of adult equivalent measures it is usually assumed that the female requires less caloric intake than the male, and in addition it is assumed that the distribution of consumption and income within the household is gender-unbiased. This is because in most household surveys some income, and particularly consumption, data are usually not available at the individual level.

economically diverse. Examining the 15 RIGA countries in Table 14, off-farm sources of income account for at least 50 percent of total income in the countries of Eastern Europe, Latin America and Asia (with the exception of Vietnam). On-farm sources of income tend to be more important for the African countries included in the dataset, where the share ranges from 55 to 77 percent of total income. Joining together income from agricultural wage labour with crop and livestock production, about half (8 of 15) of the RIGA countries had a majority of income from agricultural sources. Overall, as would be expected with increasing levels of GDP per capita, the share of rural *on*-farm income falls, the share of rural *non*-agricultural income increases (Figure 9).

Although non-farm activities are important, the vast majority of rural households among the 15 RIGA countries have farming income. Table 15 shows participation rates among rural households in different income generating activities. In all countries about two-thirds or more of rural households participate in farm activities, either growing crops or raising livestock. In 11 of the countries participation rates in farming percentage are above 80 percent. Of course, some of these households might only raise a few small animals or grow crops in very small plots, but the broader point is that agriculture continues to play a fundamental role in rural household economic portfolios across countries. By contrast, across countries there is a greater range of participation in non-farm activities and receipt of transfers. For both income sources for most countries the rate is at least 30 percent. Relatively few rural households in Albania and Bulgaria participate in agricultural wage labour; 20 percent to 40 percent do so in the Latin American and Asian countries. The African countries differ notably: few households have agricultural wage sources in Ghana and Nigeria, but over 50 percent in Malawi and over 20 percent in Madagascar.

Table 15 also shows household participation rates of non-farm wage employment and self employment. Rates of self employment participation are lowest for Albania and Bulgaria, but in other countries non-farm self-employment participation rates are generally high, at least equalling participation rates for non-farm wage employment. Wage employment is clearly important for most countries, with more than 20 percent to 40 percent of households participating in all non-African countries. In Africa, non-farm wage participation rates range from 10 percent to 20 percent. Non-farm wage employment is particularly important for rural households in Latin America and for most countries in Asia.

Non-farm wage and self employment can be further disaggregated by industrial sectors in the non-farm economy. There are nine broadly defined non-farm sectors: mining, manufacturing, utilities, construction, commerce, transport, finance, services and other. Figure 10 shows the share of households participating in the four most common sectors of non-farm activities. For most countries commerce and services have the highest shares of participation, followed in importance by manufacturing and construction.

The relative importance of types of rural non-farm activities differs by whether they are wage activity or self employment activities. As seen in Figure 11, services, primarily jobs in the public sector, are particularly important in non-agricultural wage employment, holding the greatest share of income from that activity in almost all countries. The commerce category is more important among non-agricultural self employment activities than in non-farm wage labour in terms of shares of income.

The rural economies in most of the RIGA countries show a high degree of diversification, with the exception of those in Africa. But there are significant differences in the incomes that can be derived from various activities. For both farming and non-farming activities, there is a high-productivity/high-income segment, confined mainly to privileged, better-endowed groups in high-potential areas. There are usually significant barriers to entry to this high-return segment in terms of land size and quality, human capital and other productive assets. These barriers to entry prevent vulnerable groups from participating and taking advantage of the opportunities offered by the more dynamic segments of the rural economy. Barriers may result from a combination of lack of household capacity to make investments in key assets and the relative scarcity of low-capital entry economic activities in rural areas (Reardon et al., 2000).

Usually the low-productivity segment serves as a refuge for the rural poor, providing residual income or subsistence food production. Low productivity activities are subsistence farming, seasonal agricultural wage labour and various forms of off-farm self employment. The resources generated through these activities – often informal – ensure food security and complement an otherwise inadequate resource base. They serve as an indispensable coping mechanism, reducing both the severity of deprivation and the likelihood of irreversible destitution.²⁸

For households with few assets, or with only seasonal subsistence farm production, or without access to liquidity or credit, off-farm activities, although poorly remunerated, might be the only available option. Households able to overcome financial or asset constraints can diversify or they can specialize in agricultural and non-agricultural activities. Diversification or specialization, whether farming or non-farming, depends on access to specific assets, on household characteristics and on the functioning of local labour and credit markets. And in fact, previous case studies have found a higher share of non-farm income among poorer households in some countries and contexts, and a lower share in others.

Studies reviewed in FAO (1998) found a higher share of non-farm income among poorer rural households in Pakistan and Kenya and a higher share among richer households in Niger, Rwanda, Mozambique and Vietnam. More recently, Lanjouw (1999) and Elbers and Lanjouw (2001) for Ecuador, Adams (2001) for Jordan and Isgut (2004) for Honduras find that the poor have a lower share of income from non-farm activities than the non-poor, while Adams (2002) for Egypt and De Janvry, Sadoulet and Zhu (2005) for China find the opposite. Further, Lanjouw and Shariff (2002) find that the importance of non-farm activities by income level varies by state in their study of India. For those states with an overall high non-farm income share, non-farm sources are more important for wealthier households. But in those states with an overall lower non-farm income, non-farm sources are more important for poorer households. This result is due in part to the types of non-farm activities in different states: the share of income from casual wage employment is highest among the poor, while the share from regular wage employment is highest among the rich.

By examining activities using an indicator of household welfare with the RIGA data, we can detect the relationship between rural income generating activities and poverty and identify those activities generally associated with wealth. For the 15 RIGA countries

²⁸ See Lanjouw and Lanjouw (2001) and Lanjouw and Feder (2001) for a general discussion relevant to non-farm activities.

Figure 12 shows the participation in four main activities by household expenditure quintile, while Figure 13 show the shares of total income stemming from these activities. There are several clear patterns across expenditure quintiles. Participation in farming activities is significant for most of households across the expenditure spectrum. At least 50 percent of households in all expenditure quintiles had a farming activity. For most countries, participation in, and the share of income from, farming is either greater for poorer households or there is an inverted-U trend across quintiles. Only in Pakistan does the share of on-farm income unambiguously increase across quintiles.

Participation rates and income shares of agricultural wage labour are clearly negatively correlated with household expenditures across countries. Albania, Bulgaria, Ghana and Nigeria for the most part have negligible agricultural labour markets, but in the remaining 11 countries poorer rural households have a much higher rate of participation in agricultural wage employment. Similarly, the share of income from agricultural wage labour is more important for poorer households in these same countries. By contrast, greater participation in non-farm wage and self employment is associated with greater levels of household expenditures, for all countries, with the exception of Pakistan and Nepal. Wealthier households in rural areas have a higher share of income from non-farm activities, and again this is true for all countries, with the exception of Pakistan. While a large percent of better off rural households maintain on-farm production, a key characteristic of these households is greater access to non-farm sources of income.

Notably, as can be seen in Figure 14, public transfers to rural households are disproportionately provided to households in poorer quintiles only in Albania, Malawi and Guatemala. For some countries, the relationship between public transfers and household expenditure is positive, likely reflecting that pensions, a major source of public transfers in developing countries, often go to wealthier households. It might also reflect poor targeting of programs meant for the poor. The percentage of rural households receiving private transfers tends to be positively correlated with household expenditure, as can be seen in Figure 15. Only in one country, Madagascar, are the households in the poorest quintile more likely to receive private transfers. In almost all other countries households in the richest quintile are most likely to receive transfers.

Thus far the evidence shows that rural economies in developing countries are diversified, but what of individual rural households? Do individual households tend to specialize, with diversity across households, or do individual households diversify their income sources? Following Davis et al. (2007) we sort households in the 15 RIGA countries according to the definition of specialized as 75 percent of income from a single source. Using this standard, rural households are clearly diversified, as reported in Table 16. Thus not only are most rural economies highly diversified, but most individual rural households are as well. The African countries are an exception; most households specialize in farming. Moreover, among most countries in the other regions, when households do specialize, they do so in farming. In Guatemala, Panama and Bangladesh, however, the dominant form of specialization is in non-farm wage employment.

Do poor or rich households tend to diversify? The relationship between diversification and wealth is obviously complicated. A decline in diversification as household wealth increases could imply that at lower income levels diversification is a response to market imperfections. But greater specialization at low levels of household wealth could imply

that poorer households face higher barriers to other activities that they would otherwise seek due to limited returns from further specialization. Alternatively, an increase in diversification as wealth increases could be the result of using profitability in one activity to enter other activities, or perhaps implies a complementary use of assets between activities.

Again using expenditures as an indicator for wealth, Figure 16 shows that diversification of income source varies little by wealth status in the RIGA countries. In only 4 of the 15 countries, the share of households with diversified sources increases over expenditure quintile, and in another 4 diversification decreases. For 8 countries there is no pattern across quintiles. Figure 17 demonstrates that the relationship between country per capita GDP and the share of diversified rural households is an inverted U. This is consistent with the hypothesis of higher levels of on farm specialization in the early stages of development, then an increasing diversification with economic growth, and an eventual spread of specialization in non-farm activities.

Diversification at the household level, even to a high degree, does not imply disengagement from agricultural activities. Figure 18 shows that, except for three countries in Africa, diversified households account for a least 30 percent of the total value of both marketed and overall agricultural production. Indeed in 8 countries diversified households account for a larger share of the total value of agricultural production than farm-specializing households; and in Albania, Bangladesh, Bulgaria, Ecuador and Guatemala diversified households account for at least 60 percent of the total value.

The most common form of specialization is in farming. But for 7 of 15 countries—returning to Figure 16, the share of households specializing in farming activities clearly decreases with wealth. In Nepal and Pakistan the share of farm-specializing households increases, reaching close to 30 percent of households in the top expenditure quintile. For all the African countries, at least 30 percent of the top quintile specializes in farming, reaching 50 percent in Nigeria and 60 percent in Madagascar.

Specialization in off-farm activities is better correlated with expenditure quintiles across countries. For those countries in which a significant share of the rural population specializes in agricultural wage labour (notably those in Latin America and Asia), the poorest households tend to specialize in this activity. Where there is specialization in non-farm employment, whether wage labour or self employment, it tends to be among those in the higher wealth categories, with the clear exception of Pakistan.

Some conclusions about the relationship between household assets and income generation strategies

The activities of rural households, their degree of specialization or diversification – and most importantly the incomes that they can derive from their activities – depend on the assets available to them. In rural areas obviously farming has been and will continue to be in the developing world a major economic activity, particularly of rural households. It is not surprising, therefore, that much of the thinking about improving the welfare of the rural poor focused on access to land and enhancing the productivity of small-scale agriculture. But as the many studies and previous evidence demonstrate rural households are involved in a range of economic activities; agriculture, although

important, is not the sole, or in some cases, even the principal activity of the poor. The rural development literature has developed a greater emphasis on a livelihoods approach, recognizing that households use a range of assets in a variety of activities, including farming and non-farming activities. Thinking in terms of assets and livelihoods suggests that there are multiple paths out of poverty (Ellis, 2000). This observation has led some to question the merit of a land-focused vision of rural poverty alleviation (e.g., Rigg, 2006). But, as a matter of policy, what combination of assets – of land, skills and education, access to technological improvements, and infrastructure – should be promoted?

Making use of its particular set of assets a household engages to greater or lesser degrees in the variety of economic activities discussed in the previous section. Certainly given the assets available, household decisions are influenced by external conditions, such as the nature of markets and government policy; and the final outcomes of these decisions depend on unknowns: family health, changing farm prices and wages, weather and pests, and other natural and market forces. Expectations of the working of markets influence the choice of activities through prices, and importantly through transaction costs, which when substantial – as is often the case in the developing world – raise barriers to entry into certain activities. Governments affect the choice of activities through a variety of past and present actions such as the investment in infrastructure, provision of services, the design and execution of interventions, the implementation and enforcement of laws, and regulations generally. Society more broadly speaking shapes activities, determining the acceptability of and returns to activities, and establishing the rules that govern the use of social capital (Winters, et al., 2007).

There are a few broadly-defined assets closely linked with certain economic activities across a range of contexts: land, education (human capital), and infrastructure. Land is closely linked to crop and livestock production, and is usually of direct value only in farming. It may, however, have an important indirect value to households for developing other activities through its use as collateral for credit. One expects that those without access to some land, on average, would focus on other non-farm economic activities, and in fact studies confirm that land ownership is negatively correlated with non-farm work and income. Access to land access appears to determine whether households remain in agriculture or shift to other activities.²⁹

Other types of assets are less likely to be linked to agriculture. A household's human capital, as measured by schooling, is linked to a shift to non-farm activities where returns to this asset are most likely to be highest (see for example Taylor and Yunez-Naude, 2000). While there are returns to investing in education for those in farming, on average increased education is likely to have greater returns elsewhere, and studies tend to confirm that education is linked to a shift away from agriculture.³⁰ Having access to

²⁹ Most studies find a positive relationship between land size and participation in and/or level of agricultural income, and a negative relationship with non-farm employment and income. See Yunez-Naude and Taylor (2001) and Winters, Davis and Corral (2002) for Mexico; Corral and Reardon (2001) for Nicaragua; Adams (2002) for Egypt; Berdegue et al (2001) for Chile; Elbers and Lanjouw (2001) for Ecuador; de Janvry, Sadoulet and Zhu (2005), Zhu and Luo (2005) and Zhang and Li (2001) for China; and Lanjouw and Shariff (2002) for India.

³⁰ For example, Tanzania (Lanjouw et al, 2001), Chile (Berdegue et al, 2001), Ecuador (Elbers and Lanjouw, 2001), Brazil (Ferreira and Lanjouw, 2001), Mexico (Taylor and Yunez-Naude, 2000; Winters, Davis and Corral, 2002), Honduras (Isgut, 2004, Ruben and Van den Berg, 2001) and China (de Janvry, Sadoulet and Zhu, 2005).

infrastructure and to population centres increases opportunities in non-farm activities. Infrastructure, such as electricity, serves as a factor in non-farm production, even small-scale production in the home; and the proximity to markets enhances both the profitability of self employment and opportunities for non-agricultural wage labour. One problem in assessing the impact of access to infrastructure on household activities and income is that there are varying definitions of “access” related to differences in measuring “infrastructure,” such as roads, travel time, electricity, piped water, and so on. Nevertheless, even with the differences in measures of access, the results of many studies point to a strong connection between the proximity to urban areas and having access to infrastructure, and a positive correlation between such access and rural non-farm employment, especially non-farm wage labour.³¹

Indeed, Winters et al. (2007) examine the relationships between rural household assets and activities using a meta-regression analysis combining comparable household data from the 15 RIGA countries. They find that the availability of certain assets strongly conditions participation in, and returns to, specific income generation activities. Further, characteristics of households participating in different income generating activities are surprisingly similar across these otherwise very dissimilar countries. Households participating in on-farm activities have land, lower levels of education, live further from infrastructure and the head of household tends to be an older male. Households engaging in non-farm wage labour have higher levels of education, and they tend to live closer to infrastructure, as is portrayed in Figure 26, with a younger head of household. Households participating in farm wage labour own little or no land, are poorly educated, live further from infrastructure and again the head of household tends to be a younger male. Households relying more on transfers are more likely be headed by an older female.

What do the RIGA data reveal about household access to different types of assets?

Education

Education is a key indicator of human capital, and a key asset determining household ability to access higher return activities and escape poverty.³² The RIGA data contain information concerning both the educational attainment of adults and current school attendance of children of school age. The first characterizes the educational stock of households, and the second gauges how households are currently building their future stock through educational investment in their children.

Figure 19 shows the educational attainments of urban and rural household heads by four levels based on the completed number of school years. Figure 20 reports data on average years of education for household heads in urban and rural areas. A clear picture emerges of low levels of education in rural areas and striking differences with urban areas. In all the African, Asian and Latin American countries (except Indonesia and

³¹ See, for example, Ferreira and Lanjouw (2001) for Brazil, Elbers and Lanjouw (2001) for Ecuador, Corral and Reardon (2001) for Nicaragua, De Janvry, Sadoulet and Zhu (2005) for China and Winters, Davis and Corral (2002) for Mexico.

³² See Schultz (1998) for an early review of the main theoretical issues and the empirical evidence, and Winters, et al (2007) for evidence using the RIGA data.

Panama) at least 60 percent or more of rural household heads have only completed 5 years of education or less, reaching over 80 percent in Nepal, Guatemala and Nicaragua. In fact, in four countries over half of household heads have no education at all. Only in Eastern Europe are education levels reasonably high with approximately 80 percent of the household heads having some post primary education, followed by Panama, Ecuador and Indonesia. The difference in education levels between urban and rural heads of household is particularly evident in Figure 20. Even in rural areas, wide disparities exist by wealth status. As can be seen in Table 17, average years of education for rural heads of household increase substantially over expenditure quintiles.

The education levels of household heads reflect the schooling history of the adults in our sample and suggest past failures in many countries in providing even primary level education. By examining investment in the education of children we can assess whether these failures will persist into the future. This is done by looking at school net attendance rates at the time of each survey.³³ Table 18 compares net attendance rates across urban and rural areas for the general population and for females. Looking first at the countries with the worse educational record as identified in Figure 19 above, there are some clear cases of improvement, such as in Ghana, Vietnam and Nicaragua where in rural areas 75 to 83 percent of primary school aged children were attending school at the time of the survey. On the other hand several countries show very little sign of improvement. In rural Madagascar still only one in three rural children of primary school age attends primary school. Countries such as Nigeria and Pakistan also show no major sign of improvement with over half of primary school age children in rural areas not attending school. While primary level attendance rates seem to show improvement in some cases, secondary school attendance in rural areas for secondary aged children is low, remaining below 50 percent of the population.

Aggregate national data show substantial levels of inequality in access to education by location (urban-rural), gender and wealth (UNESCO, 2005). Table 18 provides comparisons of urban and rural net attendance rates and the differences between these are shown in Figure 21. As expected, rural areas appear to lag behind urban areas in primary education in 12 of the 15 countries. The differences are greatest in Africa where rural primary school attendance is 8 to 30 percentage points lower than the urban rate. Nepal and Pakistan also exhibit high differences between urban and rural primary school attendance. The difference between rural and urban attendance comes though even more strongly in secondary school. In every country except Bangladesh, the rural-urban secondary school attendance gap is over 13 percentage points, and is particularly high in Latin America (over 25 percentage points) and Eastern Europe (over 20 percentage points).

In terms of gender, Figure 22 shows the differences in net attendance rates of rural boys and girls at the primary and secondary level of education. Gender differences in attendance rates are notable in some cases but not as widespread as one might have expected. For primary education, most of the differences are minimal (less than 4 percentage points) with the notable exceptions being Nepal and Pakistan and to a lesser extent Guatemala. In each of these cases girls attend primary school at a lower rate than boys. For secondary education, results are also mixed, with bias against females in

³³ Net attendance rates measure the number of children in an age category—age 6-11 for primary and 12-17 for secondary—that attend the appropriate level of education over the total population in that age category.

Nepal, Pakistan, Vietnam and Albania and against males in Bangladesh, Bulgaria, Nicaragua and Panama.

Finally, the relationship between school attendance of rural children and household expenditures is presented in Table 19 and Table 20. The relationship is unequivocally positive in all of the RIGA countries we analyzed, for both primary and secondary age levels, with the exception of Indonesia and Bulgaria for primary school. The results are much more dramatic for secondary education. For Latin America, children in households in the wealthiest quintile are about four times more likely to attend school than those in the poorest quintile. For the rest of the countries, differences in attendance rates for secondary education between the top and bottom expenditure quintiles are with a few exceptions higher than 20 percentage points, and as high as 40 percentage points in Nigeria, Nepal and Bulgaria. These differences are the same for boys and girls, and are also evident in communist Vietnam and the transition countries. Indonesia has the most equitable access to secondary education, ranging from 30 percent in the bottom quintile to 49 percent in the top quintile. Further, the attendance rates of children in households in the top rural expenditure quintiles are in most countries comparable to the average urban rates.

Land

Most rural households own no land, or only small plots of land, as seen in Figure 23, which presents histograms of the different land ownership categories by country for each region. Landlessness is most prevalent in Latin America and Asia, reaching from 40 to over 60 percent of households, as can also be seen in Table 21. The prevalence in Ghana is also high, though these numbers mask collective forms of land access which are not captured in this variable. Landlessness is least prevalent in Vietnam, Malawi and Albania, at around 10 percent. In some of these countries alternative forms of access to land, such as rentals and sharecropping, are common.

Not owning agricultural land does not necessarily represent a situation of disadvantage for rural households, as landlessness may signal either transition out of agriculture into higher return activities, or a household wanting to farm, but land constrained. Indeed, Table 21 shows that the share of rural households that own land tends to decrease with increasing levels of household wealth. This is true in all four of the Latin American countries, as well as Nigeria and Indonesia. In the other three African countries land ownership is more or less constant across quintiles, as is also the case in Nepal, Vietnam and Albania. Only in Bangladesh, Pakistan and Bulgaria does the share of rural households owning agricultural land increase with expenditure quintile.

Further, lack of ownership does not mean lack of access to agricultural land. In some countries informal and or traditional arrangements such as encroachment of public land or use of communal land, as well as formal arrangements such as land rentals and sharecropping agreements, allow access to agricultural land to many households. This is reflected in Table 22 which shows household owned and operated land by expenditure quintiles. For example, in Ghana the high jump in the operated land as compared to owned land illustrates how in this country informal land access mechanisms are extremely important. Also, operated land is better distributed than land owned, as shown by the simple inequality indicator of the ratio of holdings of the fifth to the first

quintile, which is lower for operated land for every country except for Bulgaria and Ecuador.

Landholdings of operated land in most of the RIGA countries are small; the vast majority have less than one hectare in size. A greater number of larger landholdings are found in Latin America, as reflected in Figure 23 and Table 22. The size of average landholding varies from 0.61 hectares in Vietnam to around 6 hectares in Nicaragua. Average land holdings are smallest in Asia and Eastern Europe and largest in Latin America most likely reflecting differences in population densities and, for transition countries in Eastern Europe, the specific patterns of de-collectivisation followed by these two countries following the collapse of the socialist system.

Land ownership tends to be concentrated, although this varies by country and region. Landholdings in the Latin American countries are the most concentrated, with between 70 and 80 percent of total land held by the top quintile of land owners. For most of the countries in Asia, around 60 percent of total land is held by the largest quintile (Indonesia is the exception, with 83 percent), while the African countries follow with around 55 percent. Albania is the country where owned land is most equitably distributed, with only 43 percent held by the top quintile.

Looking back at Table 22, there is generally a positive relationship between average size of land owned and welfare, although in Indonesia the poor own on average larger plots and in other cases it is apparent at the extremes but not in the central part of the welfare distribution (as in the four Latin American countries). This can be read as confirmation that for a number of these households, even if landed and to some extent involved in agriculture, assets other than land are proving more crucial in determining welfare levels.³⁴

To get a sense of who in the wealth distribution owns the greatest share of land in a given country, Figure 24 presents the relationship between expenditures levels and the share of total land owned, smoothed using a Lowess distribution. In all countries, the line is upward sloping indicating that wealthier agricultural households own a greater share of total agricultural land than poorer households. Among the Asian RIGA countries, for example, the lower expenditure groups each own around 2-3 percent of total land while the highest groups own twice that amount, with particular concentration in Bangladesh. Among the Latin American countries, particularly sharp increases are seen at the higher end of the distribution suggesting greater land concentration among the wealthiest.

Livestock

Despite the importance of livestock, issues of access to livestock have not been as extensively researched as issues related to land and human capital, and there is a tendency to consider them important solely for particular population subgroups (herders and pastoralists), while focusing most of the analysis of agricultural livelihoods on crop activities. The data in Table 23 confirm the widespread ownership of livestock in the developing world. Between 46 and 85 percent of the rural households in the RIGA countries own some livestock such as cattle, horses, mules, goats, sheep or chickens.

³⁴ The fact that the land ownership variable does not account for differences in land quality can also be part of the explanation.

The type of livestock owned is however much more context specific; while in some countries (Nepal, Pakistan and to a lesser extent Albania) most livestock owners own some cattle, in other countries (and notably in all our African countries) the bulk of herds are formed of smaller animals. To get a sense of overall ownership, livestock are aggregated into tropical livestock units, which were defined earlier. As is the case for land holdings, livestock holdings on average tend to be small in size, ranging from 0.32 in Malawi to 2.77 in Ecuador. Even among livestock owners, holdings range from 0.51 in Malawi to almost 4 in Nicaragua. By region, they tend to be smaller in Africa and Asia, and larger in Latin America.

As is the case with agricultural land, the share of households that own livestock is not necessarily positively related to well-being as measured by consumption expenditure. This is true only in Bangladesh, Pakistan and Bulgaria. In Latin America as well as Ghana and Nigeria, wealthier households are less likely than poorer households to own livestock. As also shown in the table, however, average holdings tend to increase with wealth, with the exception of Ghana, Nigeria, Vietnam and Albania.

While ownership of livestock is relatively evenly distributed, total livestock holdings are concentrated, both over livestock owners and wealth quintiles, and particularly among the Latin American countries. Among the countries in this region, the top quintile of livestock owners (in terms of size of holdings) hold between 71 and 93 percent of total livestock, followed by the African countries in the dataset, with between 67 and 75 percent (last column in Table 23). Herds are relatively less concentrated in the Asian and Eastern European countries, where the same indicator stands at around 50 percent. The particular concentration of livestock among the Latin American countries is most evident in Figure 25, which presents the relationship between expenditure levels and the share of total livestock owned, using a Lowess distribution. Wealthier agricultural households also own a greater share of total livestock in Malawi, Madagascar and Bangladesh. Contrary to the land distribution by wealth in Figure 24, however, livestock are progressively distributed in a number of countries, including Ghana, Nigeria, Albania, Nepal and Vietnam.

Infrastructure

Greater access to infrastructure is assumed to imply reduced time and distance to urban centres and facilitated access to markets. Households with greater access to electricity, water, communication, roads and other forms of infrastructure will have a broader range of economic opportunities compared to those with less access, who may be limited to agricultural activities for subsistence or near subsistence. Access to infrastructure, as a proxy for access to input and product markets, may also positively influence the type of agricultural activity towards more remunerative production technologies.

The difficulty in examining infrastructure is in identifying a measure comparable across countries. While most surveys include questions on infrastructure and distances to urban areas and key services, few of the variables are comparable. To address this issue, an infrastructure access index, including both public goods (electricity, telephone, etc.) and distance to infrastructure (schools, health centres, towns, etc.) was created using principal components analysis.³⁵ The variables included in the index vary by country

³⁵ See the description in Winters, et al, 2007. The specific variables contained in the index depend on the scope of information available in a given survey, which may differ across surveys. This index, therefore,

depending on data availability. Since infrastructure is generally linked to proximity to urban areas, the measure captures both jointly. In Table 24, the infrastructure index, which is normalized to have a mean zero in all cases, is presented for each country, by expenditure quintile. The higher the value of the index, the greater is the access to infrastructure. As can be seen in the table, not surprisingly, access to infrastructure increases with wealth, illustrating the constraints in terms of opportunities and services for the poor in all of the countries of the RIGA dataset.

How are bundles of assets distributed? The number of families without access to a minimum threshold of assets.

To illustrate further the importance of these assets, consider the shares of the rural population and the shares of the rural poor (\$2/day) according to households sorted by their levels of land holdings, education levels of household heads and an index of access to infrastructure. In Table 25, for each country we create twelve groups defined according to having different combinations of more or less than two hectares of land, more or less than primary education, and scoring more or less than the country's median level of access to rural infrastructure. Across all 15 countries, there are relatively few households in the group with high levels of all three assets, and this group's population share is consistently higher than its share of the rural poor. The numerically larger group that is lacking in all three assets – low education, low land holdings and low infrastructure – consistently represents a greater share of the poor than its share of the rural population.

The patterns of asset bundling – although low in all countries by the standards of the developed world – vary considerably across the 15 countries, and each case has its own story. In Ghana, for example, the landless with little education and infrastructure represent 43 percent of the rural population and 50 percent of the rural poor. Nearly half of the rural population is made up of the poor with very little access to assets. In Panama, regardless of the amount of land, households with low levels of education and infrastructure make up 35 percent of the population, but 62 percent of the poor, while those with high levels of both education and infrastructure make up 33 of the rural population, but only 5 percent of the poor.

As a general rural, the data for poverty rates by asset bundle show that higher levels of education are associated with lower poverty rates, and with non-agricultural wage labour. But in some cases the relationship between poverty and education is not so clear. In Albania and Bulgaria, for example, where education levels exceed those in other countries, access to infrastructure appears to be important in determining poverty. In Albania, those with high education, low land but high infrastructure make up 38 percent of the rural population and only 17 percent of the rural poor, while those with high education, low land and low infrastructure make up 33 percent of the rural population and 45 percent of the rural poor. In Bulgaria, those without land make up almost 70 percent of the rural poor; within this group without land, those with low infrastructure make up a much larger share of the rural poor than they do of the rural population, regardless of having high or low education.

takes into consideration the information contained in each survey and allows for the creation of a comparable relative measure of infrastructure access; the values of the index are not comparable across surveys, but the direction of change (larger equals better) is comparable.

Although in these RIGA countries education appears most obviously correlated with lower poverty rates, access to infrastructure is also linked clearly to poverty rates. For example, in Guatemala, the landless with little education but access to infrastructure make up 23 percent of the rural population, but only 16 percent of the rural poor. By contrast, the landless with little education and little access to infrastructure make up 19 percent of the rural population and 22 percent of the rural poor. In both Nepal and Vietnam, those with a little land and education but access to infrastructure make up nearly the same proportion of the rural poor as they do the rural population. But those with a little land and education and little access to infrastructure make up a notable larger share of the rural poor than they do the rural population. In Nepal this group makes up 38 percent of the rural poor and 44 percent of the rural population; in Vietnam, the group makes up 27 percent of the population and 35 percent of the poor.

To further illustrate the importance of education and the impact of infrastructure on the relationship between education and poverty, we model the probability of a household being poor (2\$/day) as a function of a series of household characteristics and assets. Here we focus on the results regarding education and infrastructure. Consider first Figure 27a for Malawi and Figure 27b for Nicaragua. In the case of Malawi, the probability of being poor is very high for those with low levels of schooling, and falls rapidly for schooling beyond primary. But with low access to infrastructure, the probability of poverty increases notably compared to high access to infrastructure: for those with no schooling the probability of falling below the poverty line is estimated to be over 80 percent with low infrastructure access, but falls to 70 percent with high access.

In the case of Nicaragua, the probability of being poor is similar to that of Malawi at very low levels of schooling, but falls more rapidly as education increases. Again, access to infrastructure influences this schooling-poverty relationship. With five years of schooling and low infrastructure access, the probability of being poor is approximately 60 percent in Nicaragua, but it takes ten years of schooling in Malawi to decline to this probability. With high infrastructure access in Nicaragua, the probability of falling below the poverty line with five years of schooling falls relative to low infrastructure by 20 points to approximately 40 percent. A similar story can be found for Bangladesh (Figure 27c). In Panama (Figure 27d), households with no education on average have a relatively low probability of living in poverty (around 30 percent); with low infrastructure, however, the probability jumps to almost 70 percent, and with high infrastructure access falls to less than 10 percent.

Again for Malawi and Nicaragua Figure 28a and Figure 28b show the relationship between the size of land holding and the probability of being poor and the influence of infrastructure on that relationship. To put these probability functions in context, note that the average holdings of the poorest income quintile in Malawi is about 1.2 hectares and for the highest 1.7. The average holding of the poorest quintile in Nicaragua is about 3.6 hectares and for the highest 7.5. Clearly for both countries the sensitivity with respect to land holdings of the probability of falling below the poverty line appears low.³⁶ The impact of moving from low to high access to infrastructure, however, is apparent at all levels of land holdings.

³⁶ A similar insensitivity of income with respect to farmland size was found in rural areas of six Latin American countries (see Lopez and Valdes, 2000). The contribution of land to total household per capita income was estimated to be small in Chile, Colombia, Peru and Honduras, reaching the highest income-

Across countries the probability of being poor responds most clearly to education levels and to infrastructure. The relationship between the probability of being poor and land holding is less clear. In most countries, controlling for education and infrastructure (and given the low levels of both), changing land size reduces the probability of being poor only marginally. There are exceptions, however. In Nepal (Figure 28c), on average the probability of poverty decreases with increasing size of landholdings, from almost 80 percent with no land to around 50 percent with 4 has; for Bangladesh (Figure 28d), the change is even greater. Further, for both countries across landholdings the association of infrastructure with a lower level of poverty is evident. However, the average size of landholdings in the wealthiest quintile of agricultural households in Bangladesh is only .84 has, and in Nepal .75 has. So, while the probability of being poor might be more sensitive to with land holdings than other countries, a reasonable range over which land holdings might increase is quite restricted, with a decline in poverty rates small in absolute terms.

In most countries in the RIGA sample, the majority of the rural population simply lacks the assets necessary to exit poverty. Some countries, slightly richer, do tend to have greater access to infrastructure in rural areas, and higher levels of education, but in poorer countries the lack of access to assets is widespread. This raises the question, What is the scope for public policies that might have an impact over the medium-term horizon? For the adult population the level of schooling is almost given. Expanding the size of land holdings over a reasonable range appears only to offer a slight benefit in most of the RIGA countries, aside from the cost considerations. The evidence considered here points toward education for the young as a longer-term anti-poverty strategy – not only in terms of the quantity of schools and teachers, but incentives for attendance and improved quality of instruction. It also suggests that improving access to infrastructure could be a feasible, medium-term strategy, both by improving farmer access to markets, but also by improving employment opportunities in the non-farm sector, including wage labour.

The role of rural labour markets

The poorest of the poor often only have one asset—their own labour, making labour markets a key alternative for rural households. However, despite its increasing importance, the functioning of rural labour markets receives relatively little attention. In developing countries, the agricultural sector is a major employer of rural labour; it often employs those who might otherwise be farming but have limited or no access to land. Agricultural wage labour, however, is generally viewed as a low productivity activity that provides workers with a basic income for survival, sometimes serving as a means to diversify income. The evidence from most developing regions suggests that the rural labour force is growing faster than the agricultural labour force (World Bank 2008), raising concerns that the agricultural sector might be limited in its ability to absorb labour and to provide rural households with sufficient returns to exit poverty.

to-land elasticity in El Salvador and Paraguay, but all elasticities less than 0.5 (and three less than 0.15). The elasticity of output to land is generally higher, fluctuating between 0.36 and 0.46.

The evidence provided thus far in this paper suggests that the rural non-farm labour market can provide an important source of income for rural households. What is less clear is the role that rural non-farm wage activities can play in providing an exit out of poverty for rural households, and how this may vary by gender, education and other characteristics of the individual and of the labour market. The current evidence suggests that the rural non-farm farm economy includes a mixed range of employment options, some of which play a role similar to farm work (low productivity and wages) and others providing higher-productivity and higher-wage options.

Rural labour markets are likely to differ from urban markets primarily because of the central role of agriculture in the rural economy. Both the nature of the work done on farms and the seasonality of the demand for workers determines how rural labour is organized. Moreover, many rural households are likely to be involved in multiple economic activities, including agricultural production, in part due to the seasonal nature of farming. Rural labour markets are also likely to be conditioned by the absence of an infrastructure familiar to more densely populated areas. Without goods roads and communications, both workers and employers suffer higher transaction costs in labour market interactions, making them “thinner” than they would otherwise be in an urban setting. Search costs are higher in the coordination of employers and workers, and the higher costs of movement reduce geographic integration.

The rest of this section explores participation in rural labour markets, focusing on some important characteristics of workers (gender, education, and wealth status) and on the distinction between employment in agriculture and employment in a variety of non-farm sectors. For example, consider first the influence of gender in labour market participation and wage earnings. There is often an expectation that women are likely to participate in different occupations than men; they are also more likely to work on a part-time or seasonal basis and earn less from employment activities. Sometimes, women are not encouraged to work outside the household and family farm, while in other situations women have more leeway. The range of the type of work that women might do varies by countries and traditions.

Along with gender, education and age are also likely to play a role in labour choices. Those with higher levels of education are expected to find more lucrative jobs, which means they are less likely to be in agriculture and more likely to be in non-farm activities and working full time. In terms of age, many of the changes in rural labour markets appear to be linked to a shift in younger individuals toward non-farm activities while older members remain in agriculture or other lower return activities. This, of course, may be linked to improvements in the number of years of schooling and the quality of instruction of younger households as public investments in education increase.

In markets for agricultural wage employment, it has been observed that permanent workers often earn less than the daily rate of casual workers, but nevertheless earn greater annual incomes. One argument for why this occurs is that employers are willing to pay permanent workers during both peak and slack seasons in order to elicit a greater commitment from workers, especially in some jobs for which the cost of supervision is high (Eswaran and Kotwal, 1985). For workers, the benefit is a higher annual income and a reduced risk of having to search for new employment. This also can be a mechanism to assure employment for the worker and labour access for land owners

during the peak labour demand seasons. Similarly, it has been viewed as a mechanism to ensure that the labourer has sufficiently high nutrition in the slack season to perform efficiently on the job during the peak season.

Along with possible differences in wage earnings, there is also a question of whether agriculture, by virtue of its seasonal production, tends to lead to more casual work opportunities than non-farm activities. While seasonal employment demand would be consistent with the liquidity constraints of smallholder farmers, it could also limit the ability of workers' households to exit poverty. Recent evidence from Brazil shows that seasonality in agricultural employment has increased over recent decades with greater employment fluctuations across seasons in recent years than previously understood (World Bank 2008).

Data from 14 RIGA countries serve to compare agricultural and non-agricultural labour market participation, and here the focus turns from the household to the individual labourer of working age (between the ages of 15 and 60). Along with the data on rural labour market activities, the availability of individual and household level variables allows for an understanding of how participation and remuneration vary based on individual and household characteristics, such as gender, education, age, and wealth. Table 26 shows the basic rates of participation in wage labour in rural countries for the 14 countries.³⁷

A great deal of variance in overall participation rates is evident, suggesting substantial differences in the rural labour markets in each country. Further, countries with very disparate economies and levels of development have similar participation rates; for example, the countries with the lowest rates are Ghana and Albania at 8 and 14 percent, respectively, while those with the highest rates of overall participation are Nepal and Bulgaria (65 and 47 percent). That said, the four Latin American countries have nearly uniform rates between 34 and 39 percent, while in the South and East Asian countries the participation rate varies between 25 and 65 percent. In most of these 14 countries of the RIGA dataset, men have higher rates of participation in rural labour markets, making up between 60 to 80 percent of total participation. In three countries (Bangladesh, Nepal and Bulgaria), however, men and women have more or less equal shares of labour market participation.

Agricultural versus non-agricultural labour markets

Wide variation is also evident in the division of wage employment by agricultural and non-agricultural labour markets, as seen in Table 27. While in most countries non-agricultural wage labour is more prevalent, in the South and East Asian and Latin American countries the share are relatively balanced, while in the Eastern European and Sub Saharan African countries the large majority (from 70 to 80 percent) is made up of non-agricultural employment. The one exception is Malawi, where 82 percent of wage

³⁷ These figures derive from data on persons who (a) responded to participation questions in surveys, (b) responded to labour time and earnings questions, and (c) had a calculable value of monthly earnings that was not equal to zero. Individuals could have participated in agricultural and non-farm wage employment and could have participated in multiple jobs. The overall participation rates by country in Table 26 are necessarily calculated at the level of the individual, created by adding up each person's various jobs. Note, however, that job-level and individual-level results are very similar, since most individuals in these 13 datasets that have wage employment report only one job. For greater on methodological issues, please consult the Appendix III.

employment is in agricultural wage labour. A further disaggregating of non-agricultural wage labour by industry (Table 28) shows that in most countries services represents the largest sector, followed by commerce, construction and manufacturing. In all countries except for three, as with the household level analysis described earlier, participation in agricultural wage employment is higher among individuals located in the lower expenditure quintiles (Table 29). This is particularly true in the Latin American countries and Nepal. Conversely, in almost all countries participation in non-agricultural wage employment is higher among individuals in the middle to upper expenditure quintiles.

Participants in non-agricultural labour markets have higher levels of education. As can be seen in Table 30, in all countries, a higher share of participants in non-agricultural labour markets, as compared to those participating in agricultural wage employment, have a high school and above education, and for most countries, a middle-school level of education as well. Conversely, in almost all countries, the large majority of participants in agricultural wage labour have no formal education or only a primary school education.

These higher levels of education are associated with better daily wages, as can be seen in Figure 29. In most countries, the distribution of daily wages shifts to the right with greater levels of education. The only exception is Vietnam, where there is essentially no difference between wages. Given the higher levels of education in non-agricultural wage employment, it is not surprising that non-farm wages are higher, as can be observed with the distribution of daily wages by sector shown in Figure 30. For all countries, again with the exception of Vietnam, the distribution of daily wages in non-farming is to the right of the distribution of farm wages.

Not surprisingly, gender differences in labour market participation emerge by sector (Table 31). Women have relatively higher shares of participation in agricultural wage labour in three countries—Malawi, Indonesia and Vietnam. Conversely, women have relatively higher shares of participation in non-farming labour, but lower participation in farming labour, in all four Latin American countries. As can be seen in Table 32, for these four countries, as well as Vietnam and Albania, women working in the non-farm sector participate most frequently in services compared to men.

Perhaps more surprising, as can be seen in Figure 31, in the 13 countries under study, women have an equal or better distribution of daily non-agricultural wages. At the same time, women have an equal or worse distribution of daily agricultural wages. For most countries, following the pattern described earlier, male and female daily non-agricultural wages are greater than male and female agricultural wages. In Bangladesh, Nepal, Bulgaria, Nicaragua and Panama, the distribution of male and female daily wages in both sectors are essentially the same. Even more, in Ghana, Malawi, Vietnam, Indonesia, Ecuador and Guatemala, the distribution of female non-agricultural wage is greater than that of males. However, the distribution of female agricultural wages is lower than that of males in Nigeria, Indonesia, Vietnam, Ecuador and Guatemala. Of course, a formal multivariate treatment is needed to distinguish with more certainty between gender and other individual and household characteristics that may vary systematically with gender, most importantly education and wealth.

Full vs. casual labour

Participation in rural labour markets varies by the amount of time dedicated to activities with some individuals working full time for the entire year while others working as casual or seasonal labour. Both the duration and the frequency of work likely influence the level of wages and final earnings. We categorize workers according to full-year versus part-year (reflecting seasonality) and then between full-time and part-time (an indicator permanent or casual work): (i) Full-Year-Full-Time (FYFT), (ii) Full-Year-Part-Time (FYPT), (iii) Part-Year-Full-Time (PYFT), and (iv) Part-Year-Part-Time (PYPT).³⁸ For three countries (Ghana, Nigeria and Bulgaria) due to data limitations we can only distinguish between full time and part time, and not full year versus part year. Each category of work presents a different set of opportunities and challenges to the worker. The participation rates in these categories for the RIGA countries are shown in Table 33.

Once again, as can be seen in Table 33, while there is wide variation among countries, some trends do emerge. First, whether full or part year, most employment is full time instead of part time. Over half of the countries – and all four Latin American countries – are more or less evenly split between full year and part year employment. For these seven countries, most of either full year or part year employment is full time; only around 20 percent of all rural employment is part time. Only in Bangladesh are rural labour markets primarily full year. In only three countries (Malawi, Nepal and Vietnam) are rural labour markets primarily part year, and in two of these countries, Malawi and Nepal, is the majority of part year employment also part time.

One question of interest is whether the wages found in casual and seasonal work are higher or lower than those for full time employees. There is some evidence found in agricultural labour markets that daily wages are higher for seasonal and casual workers compared to permanent workers although incomes for permanent workers are higher. The reasoning for this is that permanent workers are willing to forego higher wages in the peak season for obtaining wages in the lean season. On the other hand, in many cases full time jobs may be higher productivity jobs and thus receive higher wages. Looking at the distribution of wages by time category in Figure 32, few clear patterns are evident. In Ghana, Nigeria, Indonesia and Bulgaria, part time employment is better remunerated. On the other hand, in the four Latin American countries, Bangladesh, Nepal and Malawi full time employment is better paid.

Agricultural wage employment, given its seasonal nature, is more likely to be part year employment, which in fact is what we can see in Table 34, where a larger share of non-agricultural wage employment is full year. Still, surprisingly, approximately one-third of agricultural wage employment in the Latin American countries is full time, year round, and more than half in Bangladesh and Ghana.

As can be seen in Table 35, for more than half of the countries no differences are evident between men and women, but in six countries women have relatively lower participation in full time employment. The largest difference is found in Ghana, where more than 60 percent of men participating in rural labour markets have full time employment, compared to 40 percent of women. Smaller, though significant, differences are found in Malawi, Indonesia, Ecuador and Guatemala. Moreover, in three countries women have a disproportionately higher share of participation in part year,

³⁸ The precise definitions of these variables can be found in Quiñones et al. (2008).

part time employment (Malawi, Indonesia and Vietnam). Only Panama shows somewhat more stability of employment for women, with a higher share of full time, full year employment, and a low share of part year, part time.

Overall, the analysis of the RIGA data provides a heterogeneous picture of rural labour markets. For almost all of the countries of the RIGA dataset, of those who participate in wage employment, half or more work in non-farm jobs. Malawi is a notable exception, where the major of rural wage employment is in agricultural wage labour. Overall, services, commerce, construction and manufacturing are the most frequent sub-sectors for non-farm rural workers, and most rural wage employment, and particularly in non-farm jobs, is full time. Again in almost all countries, non-farm daily wages are greater than farm wages, and are generally associated with higher levels of education. Not surprisingly, participation in farm wage work is associated with lower levels of remuneration, as well as lower levels of education for the individual worker.

In most of the RIGA countries, women participate less in rural labour markets. When they do participate, they work relatively less full time. In the Latin American countries considered here, women participate relatively less in farm wage work, while in other regions of the world women participate relatively more agricultural wage labour. More importantly, women do not necessarily have lower wages than men in non-agricultural wage activities, though men in a number of countries on average receive higher pay for agricultural wage labour. The analysis of returns to labour however, need to be more formally treated in a multivariate framework.

5. The changing characteristics of the rural poor

This section focuses on the changing structure of the rural economy and of the livelihood strategies of the rural poor as countries develop. As described earlier in this background paper, the process of structural transformation that accompanies economic development has led to a shift of the relative importance in agricultural and rural non-farm economy in most developing countries. This shift that comes with development was suggested earlier in Figure 9 and Figure 17, which traced how the share of agricultural and non-farm income for rural households and the number of diversified households varied across countries by per capita GDP. There is, however, surprisingly little available empirical evidence, based on comparable data, at the country level showing this change over time.³⁹

This section explores the available evidence on changes over time in livelihood strategies, the composition of income and poverty dynamics. First, we bring together available comparable cross-sectional data sources to look descriptively at changes over time. Second, given the paucity of long term panel data with which to analyze country level dynamics in the composition of income, we compare the strategies of rural households in countries at different stages in the development path.

³⁹ See Hazel, Haggblade and Reardon (2007) for a review of changes in the composition of income over multiple decades in countries such as China, Japan, India, South Korea and Taiwan, and Reardon, Berdegue, Barrett and Stamoulis (2007) for a review of country level data on the composition of income, including an early version of the RIGA data. For many of the countries with multiple years of data, the numbers are not necessarily comparable over time, due to differences in sample and definitions.

Changes in the composition of rural income over time

We use two comparable data sources in order to examine rural income changes over time: data for those RIGA dataset countries for which there is more than one year of information, and data for other countries for which multiple years of information are available from repeated cross-sections of the same survey instrument. For the RIGA dataset countries one can be reasonably confident that differences over time are real, and not due to changes in sampling properties or changes in definitions and the methods of the construction of income variables. For non-RIGA countries definitional and construction differences might exist, because the results summarized here are from secondary sources.

For most of both the RIGA and non-RIGA countries, one indeed finds decreases in the average household share of income which comes from agricultural sources. As can be seen in Table 36, Figure 33, and Figure 34, these decreases are evident across a wide variety of countries, across different continents, and at different levels of development: Albania, Bulgaria, Ghana, Indonesia, Nepal and Pakistan among the RIGA countries, and Bangladesh, Chile, China, Mexico and the Philippines among the non RIGA countries. For four of the RIGA countries for which we have data (Ecuador, Nicaragua, Panama and Vietnam) no change is evident over time.

For the RIGA countries, Figure 35 further disaggregates the changes in the composition of income of rural households by expenditure quintile. As noted in the earlier discussion above, for most countries the poor tend to have a higher share of agricultural income. For all of the countries with a decreasing share of agricultural income in total income, the reduction is spread evenly over expenditure quintiles. For two of the countries where the shares remain constant over time, Ecuador and Panama, the trend reverses, with the poor increasing their share of agricultural income over time.

Development, the changing income strategies of rural households and poverty

Classical economic studies often used inter-country macro-level comparisons to understand the process of economic and social development (Kuznets, Lewis, Engel, Chenery and Syrquin). At the core of these studies is the assumption that there exists a set of underlying processes that drive the development of an economy. While the interactions and details of the processes may differ at a country level, a universal relation drives the development process. The existence of these macro-level, universal development patterns lends credence to the possibility of similar micro-level household development patterns. Much in the spirit of Chenery and Syrquin's idea that economic development leads to a shrinking agricultural sector and expanding industrial and service sectors, we posit that household development in rural areas exhibits a similar pattern. That is, as the rural economy grows, household participation and the intensity of involvement in farm activities declines and is gradually replaced by participation and more intensive involvement in rural non-farm activities. While gains in wealth do not lead to complete divestment from farm activities and some households remain successful in agricultural production, on average the share of income households derive from farm activities declines and the share from rural non-farm activities increases substantially as the rural economy expands and per capita income grows. The pattern appears to be driven by a process of accumulation of assets and investment in education and infrastructure, contained within the framework of a dynamic rural economy.

We first consider this hypothesis by using simple descriptive graphs, comparing rural income diversification and household level specialization and diversification by per capita GDP using the RIGA dataset. As seen previously, as a general rule the share of rural on-farm income falls, and the share of rural non-agricultural income increases, with increasing levels of GDP per capita. Similarly, this time looking at household patterns of specialization and diversification, as can be seen in Figure 36 the share of on-farm specializing households drops as per capita GDP increases. However, as we saw earlier in Figure 17, household level diversification follows an inverted U with respect to per capita GDP.

Second, we carry out a more formal test of the existence of a universal pattern of rural development with respect to income generation that is akin to the well-known development pattern, Engel's Law, which hypothesized that poorer households devote a higher share of their income, and thus expenditures, on food than wealthier households. Tests of Engel's Law seek to verify the relationship between food expenditure and total income while we seek to determine a relationship between sets of income generating activities (agricultural production, agricultural wage, non-farm wage and non-farm self employment) and total income earned. Since the approach to estimating Engel's law has been well-established, a similar approach has been employed here. Details on the estimation approach can be found in Appendix II.

Table 37 reports the results of the analysis of each of 15 RIGA countries as well as the analysis of a megadata set which includes all 15 countries together. The results indicate that in all countries except Madagascar, as per capita income increases the share of income from non-farm wage employment increases significantly. The size of the elasticities varies from as low as 0.5 percent to over 10 percent. The analysis of non-farm self employment follows a similar pattern in all countries with elasticities ranging from 2 percent to 20 percent. The results indicate that as rural households get wealthier they do indeed tend to obtain more income from non-farm sources.

The results for agricultural activities are a bit more mixed. In the Latin American and Eastern European countries, there appears to be a negative relationship between the share of income from agricultural production and total income but a positive relationship between agricultural wage shares and income. In the Asian countries, with the exception of Indonesian agricultural wages, agricultural production and agricultural wage shares are negatively associated with income, and among the African countries the picture is mixed.

The main question we want to answer, however, is how these elasticities vary by level of development. The estimated values are plotted against GDP per capita and fitted with a trend line in Figure 37; clear patterns emerge. In poorer countries, the elasticities for agricultural production are positive or only slightly negative suggesting that agriculture remains a key source of income for relatively wealthy households. For the wealthier countries, as household income increases the share of agriculture in total income decreases. In contrast, the results suggest that in countries with greater levels of national wealth non-agricultural wage income becomes increasingly important with rising elasticities; thus, income gains tend to bring about larger shifts to non-agricultural wage employment. Non-agricultural self employment shows similar positive estimated elasticities in all cases (note the scale on this graph differs and the values are much

higher due to an outlier). Regardless of the level of development, income gains at the household level are associated with a shift toward more non-agricultural self-employment income earnings. Somewhat surprisingly, agricultural wage employment is not uniformly negatively associated with income earnings. In fact, agricultural employment appears to be negatively associated with income only in the poorest countries. In better off countries, the share of income earned from agricultural wage employment increases slightly with higher income levels.

To get an overall picture of what these elasticities suggest in terms of a broader pattern of rural development, Figure 38 provides predicted shares from different income generating activities and how they relate to per capita income using the megadata.⁴⁰ Overall, the figure confirms our hypothesis and highlights the clear shift from agriculture to non-agricultural activities as per capita income rises. On average, as development occurs, households with higher levels of income earn a smaller proportion of their income from agricultural production and a greater proportion of their income from non-agricultural wage employment and self employment. The shift from agricultural production to non-agricultural activities is most pronounced at lower levels of development (below \$500 per capita) where shares from non-farm wage and self employment both go from below 10 percent to nearly 20 and shares of agricultural production decreases from 60 percent to under half of income. Agricultural wage employment income represents over 20 percent of income of the poorest households but drops quickly to just above 10 percent and remains steady across the remaining distribution, while transfers and other income represent about 10 percent of income shares across the range of income levels.

6. Some concluding remarks on addressing the challenges to alleviating rural poverty

The magnitude of the problem of rural poverty in developing countries can seem overwhelming. About 2.6 billion people live on less than two dollars a day, and nearly a billion live on less than one dollar a day. In Sub-Saharan Africa, agricultural-based countries are poor in terms of per capita GDP and face a rural poverty rate of 51 percent on average. Transforming economies – not yet urbanized but dependent on agriculture and mainly in Asia – have a lower rural poverty rate of 28 percent, but represent 77 percent of the developing world's rural population – and 74 percent of the rural poor. Developing urbanized economies have a much lower rate of rural poverty – 13 percent – but only represent 9 percent of the developing world's rural population and 4 percent of the rural poor.

Progress toward alleviating poverty has been elusive in many countries, notably in South Asia and Sub-Saharan Africa, where poverty rates have remained stagnant. But there has been progress elsewhere, with a fall in the absolute number of the world's poor, mainly due to economic growth in East Asia, especially China. And in Latin America the number of poor has been falling in number and percentages since the year

⁴⁰ For the merged data, it is necessary to make per capita income comparable across the 15 RIGA countries. This was done using purchasing power exchange rates for the year in question and then deflating the values using the consumer price index to get real 2005 US dollars. In order to allow a more flexible specification, the natural log (and squared term) of per capita income are included in the estimation (as are the other terms in equation 1).

2000. These differences in the trends in poverty across regions highlight the importance of economic growth generally to poverty reduction and the importance of public policies that foster pro-poor growth.

This background paper concentrated its attention on household-level attributes and decisions – activities and assets – which underline the practical links between public policies and the enhancement of opportunities of households to exit poverty. One basic link is between policy and growth. Associated with rapid economic growth is the expansion of employment opportunities beyond the farm. Growth also delivers fiscal resources that permit expansion of public policies, in infrastructure and education, but also in safety nets for those who find the new opportunities related to growth out of reach. A second basic link is between access to assets and the ability to exit poverty. We have focused on three key assets in our discussion: education, farm land and public infrastructure.

A number of key messages emerge. First, an increase in the diversification of income sources is important to fighting poverty through the incorporation of more rural workers into non-farm activities. Across countries, with economic development overall there is an increase in the share of non-farm income in rural areas. Second, the relative importance of the three basic assets, bundled or by themselves, varies by country and context. However, in most cases the poor are those with low levels of all three assets. Third, in few of the countries under study did a significant share of rural households have high levels of all three assets, or even two of the three. Most importantly, higher levels of education are almost without exception associated with higher household incomes, especially when families have access to other assets, in particular infrastructure and the opportunities and the ability to engage in multiple activities. Moreover, higher levels of education permit mobility within and between rural and urban areas, and are associated with higher individual returns to labour.

The scope is limited, however, for public policies with an impact on rural poverty in the medium-term horizon. For adults the level of schooling is difficult to improve significantly beyond some initiatives for training. For younger rural residents, investment in education is the principle avenue for escaping poverty as they reach working age. The evidence considered here points toward education for the young as a longer-term anti-poverty strategy – not only in terms of the quantity of schools and teachers, but incentives for attendance and improved quality of instruction. Beyond a general education policy for rural areas, special attention should be given to marginalized groups, which often have higher rates of poverty, less access to infrastructure, and lower levels of schooling.

In contrast, it is less clear whether it is possible to expand the size of land holdings to such a degree that it might significantly raise incomes. Expanding land holdings over a feasible range might increase agricultural production but raise family income only slightly. Moreover, there are other policy considerations. Surplus land might not be available because of population density, and the costs of land transfers are large and many times ineffective without further, expensive support to beneficiaries for working capital and longer-term investments. Further, involuntary land transfers generate strong political tensions and undermine the credibility of property rights. The encouragement of land markets, however, especially rental markets, might offer an attractive option for farm-income-based families with the opportunity to expand. Again, in the case of

marginalized groups, specific policies should be considered in the light of the legal and institutional obstacles they face in making better use of land resources. Similar institutional improvements could be applied to water markets.

In the medium term improving access to infrastructure appears to be among the most feasible and effective medium-term strategies. Rural infrastructure both improves farmer access to markets and expands employment opportunities in the non-farm sector. As discussed in previous sections, and supported by data from the RIGA countries, investments in infrastructure – most notably rural roads – tend to have a large impact on poverty reduction, and there is evidence that they also enhance agricultural productivity. The literature on the complementarities of policy instruments shows that with telephones and roads, for example, households can diversify income sources. A policy of providing better rural infrastructure could also influence the accumulation of human capital, improving both access to schooling and healthcare. Indeed, improved road networks, and the consequent improvement in local transportation and safety, leads to improved school attendance. The wider accessibility of electricity in rural areas produces a range of benefits; one in particular – more time for school study – in turn improves school performance. Investments in water and sanitation reduce infant, child, and maternal mortality, and increase school attainment. The mix of public expenditures can take advantage of these synergies.

For many farming areas agriculture will remain for the foreseeable future not only the mainstay of economic activity but the main income source of the bulk of rural families, and particularly the poor. While infrastructure investments would enhance access to markets, and reduce the costs of all transactions for agriculture generally, in order to improve the wellbeing of most smallholders policy makers should also consider the merits of specific institutional innovations. In the longer run many countries would benefit – rural areas especially – by the improvement the security of property rights, including the facilitation land transfers and rentals. In terms of having a shorter-term, program-oriented focus on farm families, development efforts can encourage farmer organizations, such as cooperatives, that might better be able to take advantage of scale economies, both for input purchases, technological transfers, and in accessing markets.

This background paper has shown the importance of different economic activities for improving rural family incomes, and the importance of the access to the assets that allow households to take advantage of available opportunities. One can extract from the results of previous studies, and the evidence presented here for a sample of countries, that, in order to reduce rural poverty, policies should concentrate both on improving household activities already available – most prominently farming – and on expanding the range of potential activities of family members. The lesson from experience and much of the rural development literature is that the income generating potential – the ability to access and take advantage of activities – depends crucially on access to assets, such as education, land, and infrastructure.

References

- Adams, R. (2001) "Non-Farm Income, Inequality and Poverty in Rural Egypt and Jordan", Policy Research Working Paper 2572, World Bank, Washington DC.
- Adams, R. (2002) "Non-farm Income, Inequality and Land in Rural Egypt." *Econ. Devel. Cult. Change*, 50(2).
- African Commission on Human and Peoples' Rights (2003) "Report of the African Commission's Working Group of Experts on Indigenous Populations/Communities", 28th Ordinary Session.
- Ahmed, A., R. Vargas Hill, L. Smith, D. Wiesmann, and T. Frankenberger (2007) "The World's Most Deprived. Characteristics and Causes of Extreme Poverty and Hunger" IFPRI, 2020 Discussion Paper 43, October.
- Anriquez, G. (2007) "Long-Term Rural Demographic Trends.", FAO ESA Working Paper No. 07-19, 07-7 FAO, Rome.
- Anriquez, G. and G. Bonomi (2007) "Long-Term Farming Trends. An Inquiry Using Agricultural Censuses." FAO ESA Working Paper No. 07-20, 07-5 FAO, Rome.
- Alayande B. and Alayande O. (2004) "A Quantitative and Qualitative Assessment of Vulnerability to Poverty in Nigeria." Paper presented at CSAE Conference on Poverty Reduction, Growth and Human Development in Africa, Oxford, UK.
- Anderson, David and Vigdis Broch-Due (1999) "The Poor Are Not Us: Poverty & Pastoralism in Eastern Africa." Athens, Ohio: Ohio University Press.
- Bane, M.J. and D. Ellwood (1986) "Slipping Into and Out of Poverty: The Dynamics of Spells." *J. Human Res.*, 21(1): 1-23.
- Barrett, C. (2005) "Rural poverty dynamics: development policy implications." *Agr. Econ.*, 32(1).
- Barrett, C., P. Marenya, J. McPeak, B. Minten, F. Murithi, W. Oluoch-Kosura, F. Place, J. Randrianarisoa, J. Rasanbainarivo and J. Wangila (2006) "Welfare Dynamics in Rural Kenya and Madagascar." *J. Devel. Stud.*, 42(2):248-277.
- Berdegue, J., Ramirez, E., Reardon, T. and Escobar, G. (2001) "Rural Non-farm Employment and Incomes in Chile." *World Devel.*, 29(3).
- Bernus, E. (1990) "Dates, dromedaries, and drought - diversification in Tuareg pastoral systems", in *The world of pastoralism - herding systems in comparative perspective*, The Guilford Press /Belhaven. Press, New York /London, pp. 149-176.
- Bezemer, D. and Hazell, P. (2006) *The Agricultural Exit Problem; An Empirical Assessment*, Background note for the WDR 2008.
- Bigsten, A., B. Kebede, A. Shimeles and M. Tadesse (2002) "Growth and Poverty Reduction in Ethiopia: Evidence from Household Panel Surveys." *World Devel.*, 31(1): 87-106.
- Buvinic M. and G. Rao Gupta (1997) "Female-headed Households and Female Maintained Families: Are They Worth Targeting to Reduce Poverty in Developing Countries?" *Econ. Devel. and Cult. Change*, 45(2), 259–280.

- Carletto, G., Covarrubias, K. and Krausova, M. (2007) "Rural Income Generating Activities (RIGA) Study: Income Aggregate Methodology." Agricultural Sector in Economic Development Service, FAO, Rome.
- Chen, S and Ravallion, M. (2004) "How Have the World's Poorest Fared Since the Early 1980s?" *World Bank Res. Observer*, 19(2).
- Chen, S. and Ravallion, M. (2007) "Absolute Poverty Measures for the Developing World, 1981–2004." Policy Research Working Paper 4211, World Bank, Washington DC.
- Chong, A. and J. Hentschel (1999) "Bundling of Basic Services, Welfare and Structural Reform in Peru." World Bank, Washington, DC.
- Corral, L. and Reardon, T. (2001) "Rural Non-farm Incomes in Nicaragua." *World Devel.*, 29(3).
- Davis, B., Winters, P., Carletto G., Covarrubias, K., Quinones, E., Zezza, A., Stamoulis, K. and DiGiuseppe, S. (2007) "A Cross Country Comparison of Rural Income Generating Activities." FAO-ESA, November.
- De Bruijn, M.E. and H. J.W.M. van Dijk. (1999) "Insecurity and Pastoral Development in the Sahel." *Devel. and Change*, vol. 30, pp. 115-139.
- Deere, Carmen Diana and Magdalena Leon (2003), "The Gender Asset Gap: Land in Latin America." *World Devel.*, 31(6): 925-47.
- De Janvry, A., Sadoulet, E. and Zhu, N. (2005) "The Role of Non-Farm Incomes in Reducing Poverty and Inequality in China." CUDARE Working Paper 1001, University of California, Berkeley.
- Deaton A. and Dreze J. (2002) "Poverty and Inequality in India: A Re-Examination." *Econ. and Polit. Weekly*.
- Deaton, A. and J. Muellbauer (1986) "On Measuring Child Costs: With Applications to Poor Countries." *J. Polit. Economy*, 94:720-744.
- Deininger, K. and J. Okidi (2002) "Growth and Poverty Reduction in Uganda, 1992-2000: Panel Data Evidence." Economic Policy Research Council, Kampala, Uganda.
- DeNavas-Walt, C., B. Proctor C. Hill Lee (2005) "Income, Poverty and Health Insurance Coverage in the United States: 2004." US Census Bureau.
- Denisova, I. (2007) "Entry to and Exit from Poverty in Russia: Evidence from Longitudinal Data." CEFIR/NES WP Series #98, Centre for Economic and Financial Research at New Economic School.
- Deolalikar, A. B. (2001) "The Spatial Distribution of Public Spending on Roads in Vietnam and its Implications." Asian Development Bank, Manila.
- Drèze, J. (1990) "Widows in Rural India." DEP No. 26, London School of Economics, Development Economics Research Programme.
- Elbers, C. and Lanjouw, P. (2001) "Intersectoral Transfer, Growth and Inequality in Rural Ecuador." *World Devel.*, 29(3).
- Ellis, F. (2000) "Rural Livelihoods and Diversity in Developing Countries." Oxford: Oxford University Press.

- Escobal, J. and M. Torero (2005) "Measuring the Impact of Asset Complementarities: the Case of Rural Peru." *Cuadernos Econ.*, 42:1-26.
- Eswaran M. and A. Kotwal (1985) "A Theory of Contractual Structure in Agriculture." *Amer. Econ. Rev.*, 75(3): 352-367.
- Fan, S., P. Hazell and S. Thorat (1999) "Linkages Between Government Spending, Growth and Poverty in Rural India" IFPRI Research Report 110.
- Fan, S., L. X. Zhang, and X. B. Zhang, (2002) "Growth, Inequality, and Poverty in Rural China: The Role of Public Investments." Research Report 125, International Food Policy Research Institute, Washington, D.C.
- FAO (1998) "The State of Food and Agriculture: Rural Non-Farm Income in Developing Countries" FAO, Rome.
- Ferreira, F. and Lanjouw, P. (2001) "Rural Non-farm Activities and Poverty in the Brazilian Northeast." *World Devel.*, 29(3).
- Ferreira, F, Leite, Ravallion, M. (2007) "Poverty Reduction without Economic Growth? Explaining Brazil's Poverty Dynamics, 1985-2004" Policy Research Working Paper, n. 4431, World Bank, Washington DC.
- Filmer D. and L. Pritchett (2001) "Estimating Wealth Effects Without Expenditure Data – or Tears: an Application to Educational Enrolments in States of India." *Demography*, 38: 115–32.
- Gonzalez-Vega, C., J. Rodríguez-Meza, D. Southgate and J. Maldonado (2004) "Poverty, Structural Transformation and Land Use in El Salvador." *Amer. J. Agr. Econ.*, 86(5):1367-1374.
- Haddad, L. (1991) "Gender and Poverty in Ghana" *IDS Bulletin*, 22(1): 5-16.
- Haddad, L. and A. Ahmed (2002) "Chronic and Transitory Poverty: Evidence from Egypt, 1997-99." *World Devel.*, Vol. 31.
- Haggblade, S., P.B.R. Hazell and T. Reardon (2007) *Transforming the Rural Non-farm Economy*, John Hopkins University Press, Baltimore, MD.
- Hall, G. and H. Patrinos (2005) *Indigenous People, Poverty and Human Development in Latin America: 1994-2004*, World Bank.
- Homewood, K., E. Coast, S. Kiruswa, S. Serneels, M. Thompson, P. Trench (2005), "Maasai Pastoralists: Diversification and Poverty." International Livestock Research Institute.
- Hume, D. and Shepherd, A. (2003), "Conceptualizing Chronic Poverty", *World Development*, 31(3): 403-423.
- Hunter, B. (1999) "Three Nations, not One: Indigenous and Other Australian Poverty." CAEPR Working Paper # 1/1999.
- IFAD (2002a) "Regional Strategy Paper: Asia and the Pacific." Asia and the Pacific Division, Rome.
- IFAD (2001) *Rural Poverty Report 2001. The Challenge of Ending Rural Poverty*. Oxford: Oxford University Press.
- IFAD (2001b) India: Country Strategic Opportunities Paper, Rome.

- Isgut, A. (2004) "Non-farm Income and Employment in Rural Honduras: Assessing the Role of Locational Factors." *J. of Devel. Stud.*, 40(3).
- Jalan, J. and M. Ravallion (1998) "Are There Dynamic Gains from a Poor Area Development Program?" *J. Public. Econ.*, 67:65-85.
- Jalan, J. and M. Ravallion (2000) "Is Transient Poverty Different? Evidence from Rural China" in *Economic Mobility and Poverty Dynamics in Developing Countries*, eds. B. Baulch and J. Hoddinott, Taylor and Francis.
- Kakwani, N., Neri, M. and S. Hyun (2006) "Linkages between Pro-Poor Growth, Social Programmes and Labour Markets: the Recent Brazilian Experience." Paper for presentation at 5th General Meeting of the Poverty and Economic Policy Research Network, Addis Ababa, Ethiopia, June.
- Kanbur, R. (2007) "Conceptualizing Economic Marginalization" Key-notes for the Living at the Margin Conference, Cornell University.
- Krishna, A (2004) "Escaping Poverty and Becoming Poor: Who Gains, Who Loses, and Why? Accounting for Stability and Change in 35 North Indian Villages." *World Devel.*, 32(1): 121-136.
- Krishna, A (2007) "For Reducing Poverty Faster: Target Reasons Before People." *World Devel.*, 35(11): 1947-1960.
- Lanjouw, P. (1999) "Rural nonagricultural Employment and Poverty in Ecuador." *Econ. Devel. Cult. Change*, 48(1).
- Lanjouw, P. and G. Feder (2001) "Rural Non-farm Activities and Rural Development: From Experience towards Strategy." Rural Development Strategy Background Paper #4, The World Bank, Washington, DC.
- Lanjouw, P., J. Quizon and R. Sparrow (2001) "Non-agricultural Earnings in Peri-urban Areas of Tanzania: Evidence from Household Survey Data." *Food Pol.*, 26(4): 385-403.
- Lanjouw, J. and P. Lanjouw (2001) "The Rural Non-farm Sector: Issues and Evidence from Developing Countries" *Agr. Econ.*, 26(1).
- Lanjouw, P. and A. Shariff (2002) "Rural Non-Farm Employment in India: Access, Income and Poverty Impact" NCAER Working Paper Series, No. 81, New Delhi.
- Leipziger, D., M. Fay, Q. Wodon and T. Yepes (2003) "Achieving the Millennium Development Goals: The Role of Infrastructure" in World Bank Policy Research Working Paper, No. 3163.
- Leser, C. (1963) "Forms of Engel Functions." *Econometrica*, 31:694-703.
- Lipton, M. and M. Ravallion (1995) "Poverty and Policy" in *Handbook of Development Economics*, eds. J. Behrman and T. N. Srinivasan, Vol. 3, Amsterdam, North Holland.
- Lopez, R. and A. Valdes (2000) *Rural Poverty in Latin America*, St. Martin's Press.
- Lloyd, C.B. and A.J. Brandon (1991) "Women's Role in Maintaining Households: Poverty and Gender Inequality in Ghana." International Centre for Research on Women, Washington, DC.

- Louat, F., M. Grosh, and J. Van der Gagg (1993) "Welfare Implications of Female Headship in Jamaican Households." LSMS Working Paper 96, The World Bank, Washington, DC.
- McCulloch, N. and B. Baulch (2000) "Simulating the Impact of Policy upon Chronic and Transitory Poverty in Rural Pakistan." Institute of Development Studies, University of Sussex, Brighton.
- McCulloch, N. and M. Calandrino (2003) "Vulnerability and Chronic Poverty in Rural Sichuan." *World Devel.*, 31(3): 611-628.
- McKay, A. and D. Lawson (2003) "Assessing the Extent and Nature of Chronic Poverty in Low Income Countries: Issues and Evidence." *World Devel.*, 31(3): 425-439.
- Medeiros, M. and J. Costa (2007) "Is There a Feminization of Poverty in Latin America?" *World Devel.* 36(1), pp. 115-127.
- Neri, M. (2005) *Miséria em Queda*, Fundacao Gertulio Vargas, Centro de Políticas Sociais, Rio.
- Neri, M. (2006) *Miséria, Desigualdade e Estabilidade. O Segundo Real*, Fundacao Gertulio Vargas, Centro de Políticas Sociais, Rio.
- OECD FAO (2007) *Agricultural Outlook 2007-2016*, Organization for Economic Cooperation and Development, Paris.
- OECD (2008) *Environmental Outlook to 2030*, Organization for Economic Cooperation and Development, Paris.
- Ohenjo, N. et al. (2006) "Health of Indigenous Peoples in Africa." *Lancet Series on Indigenous Health*, vol. 367.
- Plant, R. (2002) "Indigenous Peoples, Ethnic Minorities and Poverty Reduction." Asian Development Bank (ADB), Regional Report, Manila.
- Psacharopoulos, G. and H. Patrinos (1994) "Indigenous People and Poverty in Latin America, an Empirical Analysis." World Bank Regional and Sectoral Studies.
- Quiñones, E, de la O, A., Rodríguez, C., Hertz, T., and Winters, P. (2008). "Labour Methodology." Agricultural Sector in Economic Development Service, Food and Agriculture Organization of the United Nations (FAO).
- Quisumbing, A., L. Haddad and C. Peña (2001) "Are Women Overrepresented Among the Poor? An Analysis of Poverty in Ten Developing Countries." FCND Discussion Paper #115, International Food Policy Research Institute, Washington.
- Ravallion M., Chen S. (2007) "China's (uneven) progress against poverty." *J. Devel. Econ.*, 82.
- Ravallion, M., Chen, S. and P. Sangraula (2007) "New Evidence on the Urbanization of Global Poverty" Background paper prepared for the World Development Report 2008.
- Reardon, T., J. Berdegue, C.B. Barrett and K. Stamoulis (2006) "Household Income Diversification into Rural Non-farm Activities" in *Transforming the Rural Non-farm Economy*, eds. Haggblade, Hazell and Reardon, John Hopkins University Press, Baltimore, MD.

- Reardon, T., Taylor, J. E., Stamoulis, K., Lanjouw P. and A. Balisacan (2000) "Effects of Non-Farm Employment on Rural Income Inequality in Developing Countries: An Investment Perspective." *J. Agr. Econ.*, 51(2).
- Revenga, A., D. Ringold and W.M. Tracy (2002) "Poverty and Ethnicity. A Cross-Country Study of Roma Poverty in Central Europe." World Bank Technical Paper # 531, World Bank.
- Rigg, J. (2006) "Land, Farming, "Livelihoods and Poverty: Rethinking the Links in the Rural South," *World Development*, 34(12): 180-202.
- Ruben, R. and M. Van den Berg (2001) "Nonfarm Employment and Poverty Alleviation of Rural Farm Household in Honduras." *World Devel.*, 29(3): 549-560.
- Schultz, T.P. (1988), "Education Investments and Returns", in *Handbook of Development Economics*, Volume I, Edited by H. Chenery and T.N. Srinivasan Elsevier Science Publishers B. K.
- Soares, S. (2006) "Distribuição de Renda no Brasil de 1976 a 2004 Com Ênfase no Período Entre 2001 e 2004", IPEA, Texto Para Discussão No 1166, Brasília.
- Stampini, M. and B. Davis (2006) "Discerning Transient from Chronic Poverty in Nicaragua: Measurement with a Two-Period Panel Data Set." *Europ. J. Devel. Res.*, 18(1): 105-130.
- Stevens, A. (1994) "The Dynamics of Poverty Spells: Updating Bane and Ellwood." *Amer. Econ. Rev.*, 84:34-37.
- Stevens, A. (1999), "Climbing out of Poverty, Falling Back in. Measurement of Persistence of Poverty Over Multiple Spells, *Journal of Human Resources*, Vol.34.
- Svedberg, R (1990) "Undernutrition in Sub-Saharan Africa: Is There a Gender Bias?" *J. Devel. Stud.*, 26(3):469-486.
- Taylor, J.E. and A. Yunez-Naude (2000) "The Returns from Schooling in a Diversified Rural Economy." *Amer. J. Agr. Econ.*, 82(2):287-297.
- Tomei, M. (2005) "Indigenous and Tribal Peoples: An Ethnic Audit of Selected Poverty Reduction Strategy Papers." ILO, Geneva.
- Urzúa C., Macías A., Sandoval H. (2007) "TIPs for the Analysis of Poverty in Mexico, 1992-2005." EGAP Working Paper, n. 08, Mexico.
- Van de Walle, D. and D. Gunewardena (2001) "Sources of Ethnic Inequality in Vietnam." *J. Devel. Econ.*, 65(1).
- Visaria, P. (1980a) "Poverty and Living Standards in Asia." *Population Devel. Rev.*, 6 (2): 189-224.
- Visaria, P. (1980b) "Poverty and Living Standards in Asia. An Overview of the Main Results of Selected Household Surveys." Living Standards Measurement Study, Working Paper #2, World Bank, Washington D.C.
- Von Braun, J. 2007. "The world food situation: New Driving forces and required actions, IFPRI's Biannual Overview of the World Food Situation," presented at the CGIAR Annual General Meeting, Beijing, December 4, 2007.
- Winters, P., Davis, B. and Corral, L. (2002) "Assets, Activities and Income Generation in Rural Mexico: Factoring in Social and Public Capital." *Agr. Econ.*, 27(2).

- Winters, P., B. Davis, C. Carletto, K. Covarrubias, K. Stamoulis, E. Quiñones, E. and A. Zezza (2007) "Assets, activities and rural poverty alleviation: Evidence from a multi-country analysis." FAO-ESA, November.
- Working, H. (1943) "Statistical Laws of Family Expenditure." *J. Amer. Statistical Assoc.*, 38:43-56.
- World Bank (2008) *World Development Report 2008, Agriculture for Development*, Washington DC.
- World Bank (2005) "A Study of Rural Poverty in Mexico: Income Generation and Social Protection for the Poor", Country Report.
- World Bank (2003) "Implementation of Operational Directive 4.20 on Indigenous Peoples: An Independent Desk Review." Report No. 25332, Operations Evaluation Department, Country Evaluation and Regional Relations (OEDCR), World Bank (Washington, DC).
- Yunez-Naude, A. and J.E. Taylor (2001) "The Determinants of Non-farm Activities and Incomes in Rural households in Mexico with an Emphasis on Education." *World Devel.*, 29(3).
- Zeza, A., Winters, P., Davis, B., Carletto, G., Covarrubias, K., Quinones, E., Stamoulis, K., Karfakis, P., Tasciotti, L., DiGiuseppe S. and Bonomi, G. (2007) "Rural Household Access to Assets and Agrarian Institutions: A Cross Country Comparison", FAO-ESA Working Paper 07-16.
- Zhang, X. and J. Li. (2001) "Does Guanxi Matter to Non-Farm Employment?" EPTD Discussion Paper 74, IFPRI, Washington, DC.
- Zhu, N. and X. Luo (2005) "Impacts of Non-farm Income on Inequality and Poverty: The Case of Rural China." Manuscript.

Tables

Table 1. Projected population growth in selected countries and regions, 2010-2050

Region and countries	Population in millions			% change 2010-2030	% urban	
	2010	2030	2050		2010	2030
Least developed countries	863	1,301	1,742	50.6	29.0	40.9
Less developed (excluding least)	4,811	5,756	6,204	19.7	48.4	59.6
China	1,352	1,458	1,409	7.9	44.9	60.3
India	1,220	1,506	1,658	23.4	30.1	40.6
Sub-Saharan Africa	867	1,308	1,761	50.9	37.3	48.2
Latin America and Caribbean	594	713	769	20.1	79.1	84.3
United States of America	315	366	402	16.4	82.3	87.0
Russian Federation	140	128	108	-8.6	72.6	75.7
North, West and South Europe	440	449	442	2.0	75.4	80.6
World	6,907	8,318	9,191	20.4	50.6	59.7

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects. These are median projections. The group of least developed countries, as defined by the United Nations General Assembly in 2003, comprises 50 countries, of which 34 are in Africa, 10 in Asia, 1 in Latin America and the Caribbean, and 5 in Oceania. The group of less developed regions includes all least developed plus middle income countries. They comprise all regions of Africa, Asia (excluding Japan), Latin America and the Caribbean plus Melanesia, Micronesia and Polynesia.

Table 2. Trends in crops used for ethanol and bio-diesel, projections 1995-2016.
Million metric tons of crop production

Year	US	Canada		EU			Total of US, Canada and EU	Brazil
	maize	maize	wheat	wheat	maize	oilseeds	maize	sugar cane
1995	14,225	18	53				14,243	146,051
1996	10,745	18	53				10,763	151,850
1997	12,701	150	60				12,851	158,553
1998	13,666	330	113				13,996	165,806
1999	14,352	330	110				14,682	172,627
2000	15,927	330	133				16,257	166,924
2001	17,298	330	115				17,628	163,853
2002	20,804	330	90	0	0	2,815	21,134	172,971
2003	27,357	330	119	0	0	3,734	27,687	182,196
2004	33,607	330	130	500	0	4,735	33,937	198,493
2005	40,718	393	130	1,000	300	7,568	41,411	205,620
2006	54,613	1,001	400	1,400	500	7,993	56,114	222,652
2007	81,284	2,479	1,163	2,851	2,654	10,204	86,417	249,868
2008	93,985	3,438	1,285	4,151	2,966	11,154	100,388	276,042
2009	99,065	3,501	1,455	5,533	3,336	13,044	105,903	301,233
2010	101,605	3,565	1,481	6,926	3,727	15,652	108,897	325,494
2011	103,510	3,598	1,495	9,408	4,150	16,767	111,259	353,680
2012	105,416	3,632	1,509	11,906	4,606	18,550	113,653	381,608
2013	106,686	3,665	1,523	13,483	5,102	18,921	115,453	409,281
2014	107,956	3,699	1,537	14,931	5,147	19,489	116,802	436,705
2015	109,226	3,733	1,551	16,301	5,193	20,074	118,153	463,881
2016	110,496	3,768	1,566	17,798	5,240	20,676	119,504	490,814
% change 2007-2016	35.9	52.0	34.7	524.3	97.5	102.6	38.3	96.4

Source: Authors' tabulations from data referenced in Figures 1.2 to 1.4 in OECD-FAO Agricultural Outlook 2007, Chapter 1. Projections are based on OECD assumptions regarding countries' biofuel policies already in place.

Table 3a. Incidence of poverty by region (EAP, SAS and SSA) and by urban/rural, \$1.08 a day, 1993-2002

	Number of poor in millions			Headcount index (%)			Urban share of the poor (%)	Urban share of the population (%)	Rural share of the poor (%)
	Urban	Rural	Total	Urban	Rural	Total			
1993									
EAP	28.71	407.17	435.88	5.55	35.47	26.17	6.59	31.09	93.41
SAS	107.48	383.3	490.78	35.3	43.55	41.43	21.9	25.7	78.10
SSA	66.42	206.73	273.15	40.21	53.07	49.24	24.32	29.78	75.68
Total	235.58	1036.41	1271.99	13.5	36.58	27.78	18.52	38.12	81.48
1996									
EAP	19.34	264.54	283.88	3.34	23	16.41	6.81	33.49	93.19
SAS	115.43	384.97	500.4	34.82	41.63	39.84	23.07	26.39	76.93
SSA	82.32	221.37	303.69	43.41	53.97	50.63	27.11	31.62	72.89
Total	256.96	914.02	1170.98	13.56	31.45	24.39	21.94	39.47	78.06
1999									
EAP	19.53	268.24	287.76	3.02	23.46	16.08	6.79	36.1	93.22
SAS	120.15	402.4	522.55	33.41	41.59	39.37	22.99	27.1	77.01
SSA	92.05	228.85	320.9	42.57	53.14	49.61	28.69	33.43	71.32
Total	274.36	945.15	1219.51	13.37	31.87	24.31	22.5	40.89	77.50
2002									
EAP	16.27	223.23	239.5	2.28	19.83	13.03	6.79	38.79	93.21
SAS	125.4	394.34	519.74	32.21	39.05	37.15	24.13	27.83	75.87
SSA	98.84	228.77	327.61	40.38	50.86	47.17	30.17	35.24	69.83
Total	282.52	882.77	1165.29	12.78	29.32	22.31	24.24	42.34	75.76

Source: Ravallion et al. (2007)

Note: EAP = East Asia and the Pacific, ECA = Eastern Europe and Central Asia, LAC = Latin America and the Caribbean, MNA= Middle East and North Africa, SAS = South Asia, SSA = Sub-Saharan Africa.

Table 3b. Incidence of poverty by region (EAP, SAS and SSA) and by urban/rural, \$2.15 a day, 1993-2002

	Number of poor in millions			Headcount index (%)			Urban share of the poor (%)	Urban share of the population (%)	Rural share of the poor (%)
	Urban	Rural	Total	Urban	Rural	Total			
1993									
EAP	199.84	976.38	1176.22	38.6	85.07	70.62	16.99	31.09	83.01
SAS	237.38	770.65	1008.02	77.97	87.56	85.09	23.55	25.7	76.45
SSA	110.45	331.96	442.41	66.86	85.22	79.75	24.97	29.78	75.03
Total	683.15	2214.65	2897.8	39.14	78.17	63.29	23.57	38.12	76.43
1996									
EAP	169.18	812.09	981.26	29.21	70.6	56.73	17.24	33.49	82.76
SAS	259.94	813.58	1073.52	78.42	87.99	85.46	24.21	26.39	75.79
SSA	131.64	346.62	478.25	69.42	84.51	79.74	27.52	31.62	72.48
Total	723.7	2118.04	2841.74	38.19	72.88	59.19	25.47	39.47	74.53
1999									
EAP	166.03	796.67	962.69	25.7	69.68	53.81	17.25	36.1	82.75
SAS	270.88	846.45	1117.33	75.32	87.48	84.19	24.24	27.1	75.76
SSA	150.54	362.76	513.3	69.63	84.24	79.36	29.33	33.43	70.67
Total	760.9	2160.71	2921.61	37.09	72.85	58.23	26.04	40.89	73.96
2002									
EAP	126.71	711.45	838.16	17.77	63.21	45.59	15.12	38.79	84.88
SAS	290.29	876.3	1166.59	74.56	86.78	83.38	24.88	27.83	75.12
SSA	167.72	370.83	538.55	68.52	82.45	77.54	31.14	35.24	68.86
Total	745.94	2097.29	2843.23	33.73	69.65	54.44	26.24	42.34	73.76

Source: Ravallion et al. (2007)

Table 4. Projected rural-urban primary income ratios, purchasing power adjusted

	1980	1990	2000
Sub-Saharan Africa	0.26	0.41	0.49
Asia (without China and India)	0.29	0.31	0.33
Middle East and North Africa	0.34	0.60	0.47
Latin America and the Caribbean	0.32	0.44	0.49
Europe and Central Asia	0.66	0.67	0.69
India	0.17	0.16	0.11
China	0.41	0.39	0.34

Source: Bezemer and Hazell (2007)

Table 5. Dependency ratios and changes by region, rural and urban

Region	National Dependency Ratio		Urban Dependency Ratio		Rural Dependency Ratio		Obs.	Urban – Rural†
	Average	Std. Deviation	Average	Std. Deviation	Average	Std. Deviation		
East Asia & Pacific	0.67	0.13	0.56	0.12	0.73	0.14	25	--
E Europe & Central Asia	0.58	0.12	0.51	0.08	0.67	0.14	21	--
Latin America & Caribbean	0.70	0.11	0.63	0.07	0.82	0.16	36	--
Middle East & North Africa	0.87	0.14	0.77	0.13	0.99	0.15	15	--
South Asia	0.84	0.12	0.67	0.09	0.91	0.15	14	--
Sub-Saharan Africa	0.93	0.14	0.74	0.16	1.02	0.15	39	--
High income: non OECD	0.58	0.09	0.54	0.09	0.65	0.10	13	--
High income: OECD	0.52	0.06	0.49	0.06	0.57	0.06	35	--
Total	0.71	0.18	0.61	0.14	0.79	0.21	198	--
Region	Mean Yearly % Change National Dependency Ratio		Mean Yearly % Change Urban Dependency Ratio		Mean Yearly % Change Rural Dependency Ratio		Obs.	Urban – Rural†
	Average	Std. Deviation	Average	Std. Deviation	Average	Std. Deviation		
East Asia & Pacific	-2.01	0.73	-2.08	1.49	-1.78	0.92	9	-
E Europe & Central Asia	-0.58	.	-1.22	.	0.45	.	1	-
Latin America & Caribbean	-0.88	0.58	-0.71	0.62	-1.03	0.85	17	+
Middle East & North Africa	-1.59	0.92	-1.38	1.11	-1.48	0.63	5	+
South Asia	-0.43	0.47	-0.91	0.94	-0.26	0.65	7	-
Sub-Saharan Africa	-0.48	0.71	-0.69	0.46	-0.24	0.74	8	-
High income: non OECD	-1.04	0.98	-0.92	0.88	-1.03	1.22	5	+
High income: OECD	-0.83	1.08	-0.74	1.03	-0.89	1.16	18	+
Total	-0.98	0.91	-0.98	1.02	-0.93	1.02	70	-

Source: Anríquez (2007). The Femininity Ratio refers to the number of females for every 100 males.

† +/- Identifies the sign of the difference between urban and rural mean. ++/-- Indicates that the difference is statistically significant at 90% using a t-test.

Table 6. The ratio of females to males by region, national, rural and urban

Region	National Femininity Ratio		Urban Femininity Ratio		Rural Femininity Ratio		Obs.	Urban – Rural†
	Average	Std. Deviation	Average	Std. Deviation	Average	Std. Deviation		
East Asia & Pacific	99.2	4.7	99.0	7.8	99.0	5.2	28	
E Europe & Central Asia	106.2	5.6	107.5	6.2	104.5	6.3	27	++
Latin America & Caribbean	102.3	2.6	107.2	2.9	92.6	7.5	43	++
Middle East & North Africa	95.7	3.2	94.7	4.3	96.4	3.7	17	-
South Asia	94.8	2.8	87.6	5.0	96.8	3.0	14	--
Sub-Saharan Africa	104.2	4.3	99.4	7.0	106.0	5.3	45	--
High income: non OECD	99.1	6.8	100.8	7.7	95.0	6.3	14	++
High income: OECD	103.1	2.6	105.6	3.4	97.3	5.7	41	++
Total	101.8	5.2	101.9	7.8	99.0	7.5	229	++

Region	National Working Age (15-49) Femininity Ratio		Urban Working Age (15-49) Femininity Ratio		Rural Working Age(15-49) Femininity Ratio		Obs.	Urban – Rural†
	Average	Std. Deviation	Average	Std. Deviation	Average	Std. Deviation		
East Asia & Pacific	100.9	5.3	99.9	9.7	100.7	6.6	28	-
E Europe & Central Asia	100.3	2.9	103.2	5.5	95.6	6.7	27	++
Latin America & Caribbean	103.6	3.1	109.2	4.2	91.4	9.5	42	++
Middle East & North Africa	96.4	6.5	93.4	7.4	99.3	8.7	16	--
South Asia	97.8	4.8	84.3	7.9	103.3	7.3	14	--
Sub-Saharan Africa	110.3	6.7	98.1	10.4	116.3	10.3	42	--
High income: non OECD	97.8	9.1	100.1	10.0	92.0	8.9	14	++
High income: OECD	98.2	2.3	100.7	2.8	92.2	4.6	40	++
Total	101.9	6.7	100.4	9.5	99.2	12.1	223	+

Source: Anríquez (2007). The Femininity Ratio refers to the number of females for every 100 males.

† +/- Identifies the sign of the difference between urban and rural mean. ++/-- Indicates that the difference is statistically significant at 90% using a t-test.

Table 7. Poverty rates, by ethnicity, in selected Latin-American countries

Country	Year	Head-count index	
		Indigenous	Non-indigenous
Bolivia	1997	75.0	57.0
Bolivia	2002	74.0	53.0
Ecuador	1998	87.0	61.0
Peru	1994	62.3	40.1
Peru	2000	62.8	43.0
Guatemala	1989	88.0	63.0
Guatemala	2000	74.0	38.0
Mexico	1992	90.0	49.1
Mexico	2000	89.7	46.7

Source: Psacharopoulos, G. and H. Patrinos (1994).

Table 8. Poverty rates among Roma and Non-Roma households, 2000

Country	\$ 2.15 PPP		\$ 4.30 PPP	
	Roma	Non-Roma	Roma	Non-Roma
Bulgaria	41.4	4.1	80.1	36.8
Hungary	6.6	0.5	40.3	6.9
Romania	37.6	7.3	68.8	29.5

Source: Revenga et al. (2002).

Table 9. Poverty rates in Australia, 1994-95

Equivalent income	Indigenous Australians			All Australians		
	<40%	<50%	<60%	<40%	<50%	<60%
OECD scale	12.8	31.4	49.2	6.2	11.7	25.8
Whiteford (1985)	10.9	31.2	47.7	6.1	17.3	28.0
Square Root of Household size	13.5	33.2	41.8	7.9	20.9	28.7

Source: Hunter (1999).

Table 10. Poverty rates in ten developing countries, by gender of household head

Country	Poverty Line #1				Poverty Line #2			
	Exp/Capita		Exp/AE		Exp/Capita		Exp/AE	
	MHH	FHH	MHH	FHH	MHH	FHH	MHH	FHH
Botswana	5.8	2.4	5.0	1.8	0.0	0.6	0.8	0.6
Côte d'Ivoire	31.7	24.0*	32.3	31.0	8.2	6.2	7.5	9.3
Ethiopia	99.6	100.0	99.6	100.0	99.6	100.0	99.6	100.0
Ghana	62.0	69.9***	66.5	69.6	77.2	85.5***	81.1	85.8***
Madagascar	70.0	84.2	68.8	84.2*	75.3	84.2	77.6	89.5
Rwanda	99.4	100.0	99.4	100.0	98.8	100.0	99.4	100.0
Bangladesh	63.5	85.3***	62.1	88.5***	46.0	73.8***	45.1	75.4***
Indonesia	87.8	85.0	80.1	85.0	90.5	90.0	83.7	85.0
Nepal	95.5	94.4	95.1	94.4	77.2	94.4**	77.6	88.9
Honduras	67.4	65.6	70.0	68.8	70.3	65.6	71.6	68.8

Source: Quisumbing et al. (2001).

Notes: Poverty line #1 = 365\$/ year, local currency, current prices.

Poverty line #2 = 365\$/ year, local currency, PPP conversion.

Exp/Capita = Total expenditure (income) per capita.

Exp/AE = Total expenditure (income) per adult equivalent.

*, **, and *** indicate difference between households is significant at the .1, .05, and 0.01 lever respectively.

Table 11. Rural Poverty by Gender of the Head of Household and Gender of the Individual

Country	Year	Poverty by Gender of the Household Head FGT(0)		Poverty by Gender FGT(0)			
		FHH	MHH	Females	Males		
Albania	2002	0.1217	0.1174	0.1239	**	0.1121	
Albania	2005	0.1044	0.0963	0.1039	**	0.0902	
Bangladesh	1991	0.6183	0.6232	0.6261		0.6201	
Bangladesh	2000	0.6357	0.7043	***	0.7041	*	0.6965
Bulgaria	1995	0.0465	0.0479	0.0544	*	0.0409	
Bulgaria	2001	0.0623	0.0932	**	0.0934	0.0841	
Chile§	1992	0.1791	***	0.1397	0.1519	***	0.1377
Chile§	2003	0.1455	***	0.1151	0.1259	***	0.1142
Ecuador	1995	0.4435	0.4364	0.4429		0.4317	
Ecuador	1998	0.6490	**	0.6259	0.6233	0.6336	
Ghana†	1991	0.6771	0.7359	***	0.7253	0.7186	
Ghana†	1998	0.7237	0.7564	***	0.7471	0.7495	
Guatemala	2000	0.3475	0.4650	***	0.4567	**	0.4453
Indonesia	1993	0.8083	0.8362	***	0.8328	0.8332	
Indonesia	2000	0.5599	0.5779	**	0.5729	0.5780	
Madagascar	1993	0.9221	***	0.8911	0.8994	*	0.8909
Malawi	2004	0.8388	***	0.7770	0.7965	***	0.7821
Nigeria	2003	0.8439	0.9354	***	0.9293	**	0.9248
Nicaragua†	1998	0.7013	0.6940		0.6950	0.6956	
Nicaragua†	2001	0.6523	0.6623		0.6575	0.6634	
Nepal	1995	0.8060	***	0.7723	0.7772	0.7740	
Nepal	2003	0.6344	0.6231		0.6306	*	0.6191
Pakistan	1991	0.6351	0.6780		0.6797	0.6753	
Pakistan	2001	0.7176	0.7968	***	0.7913	0.7918	
Panama	1997	0.3214	0.3804	***	0.3655	0.3780	*
Panama	2003	0.3212	0.3588	***	0.3540	0.3509	
Thailand	2000	0.1676	0.1818	***	0.1751	0.1829	**
Thailand	2002	0.0900	0.1200	***	0.1085	0.1184	***
Vietnam	1993	0.7785	0.8214	***	0.8137	0.8136	
Vietnam	1998	0.5596	0.6109	***	0.6083	**	0.5959
Vietnam	2002	0.4113	0.5042	***	0.4969	***	0.4825
Zambia	1996	0.9208	**	0.9133	0.9202	***	0.9093
Zambia	2002	0.9149	0.9186		0.9199	0.9156	

Notes: Authors' calculations using nationally representative household surveys.

Poverty lines established at 2 PPP US\$ per day

† National Poverty line used.

§ Income instead of consumption per capita used to measure poverty.

Table 12. Accumulation of assets by rural households, by gender of head of household

Country/ Region	Average Years of Education of the Head		Average Farm Size (ha)		Average Tropical Livestock Units	
	FHH	MHH	FHH	MHH	FHH	MHH
<i>Africa</i>						
Ghana 1998	2.4	3.2	0.87	1.30	0.16	0.89
Madagascar 1993	1.9	3.0	0.66	1.24	0.61	1.77
Malawi 2004	2.3	4.8	1.21	1.59	0.22	0.35
Nigeria 2004	1.9	2.7	N/A	N/A	0.23	0.79
<i>Asia</i>						
Bangladesh 2000	1.1	2.8	0.14	0.37	0.13	0.57
Indonesia 2000	3.6	6.8	0.29	0.94	N/A	N/A
Nepal 1996	0.4	2.1	0.34	0.63	1.23	1.81
Pakistan 2001	1.0	3.2	0.30	0.97	N/A	N/A
Vietnam 1998	4.5	4.7	0.17	0.21	0.75	1.18
<i>Europe</i>						
Albania 2005	5.1	8.1	0.66	0.82	0.80	1.58
Bulgaria 2001	6.4	8.2	0.40	0.75	0.30	0.57
<i>Latin America</i>						
Ecuador 1995	3.2	4.5	2.28	6.21	1.80	2.97
Guatemala 2000	1.4	2.4	0.92	2.07	0.64	0.97
Nicaragua 2001	1.8	2.7	3.69	6.40	1.39	2.38
Panama 2003	5.6	5.8	3.22	7.23	1.46	2.16

Source: Authors' calculations using nationally representative household surveys.

Shaded (bold) numbers indicate that the statistic is significantly larger, at the 95% (90%) level, than the equivalent statistic for households headed by the opposite sex.

Table 13a. Household characteristics by poverty status, African countries

	Ghana 1998		Madagascar 1993		Malawi 2004		Nigeria 2004	
	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor
	73.6%	26.4%	89.4%	10.6%	78.0%	22.0%	92.6%	7.4%
Demographic characteristics								
Share female headed households (%)	28.0	33.1	18.3	15.3	25.1	21.4	12.3	27.3
Age of household head	46.56	43.98	43.08	40.75	43.88	41.26	47.61	49.28
Household Size	5.37	3.15	5.14	3.48	5.05	3.26	5.20	2.67
Number HH members working age	2.38	1.71	2.41	2.14	2.23	1.86	3.01	1.78
Share of dependents in the HH (%)	54.6	40.2	49.5	32.2	54.1	37.3	40.0	30.8
Assets								
<i>Agricultural assets</i>								
Land ownership (ha)	1.05	1.29	1.09	1.48	1.43	1.66	...	...
Livestock holdings (TLU)†	0.83	0.41	1.51	1.84	0.28	0.41	0.79	0.23
<i>Human Capital</i>								
Years of education of household head	3.65	5.09	2.69	3.42	3.63	5.50	2.40	3.71
Highest years education in the HH	5.43	6.22	4.07	4.45	5.65	6.70	4.48	5.24
<i>Infrastructure</i>								
Distance nearest primary school (km)	0.81	0.38	0.33	0.26	2.01	5.24	...	...
Distance nearest health clinic/hospital (km)	6.04	6.41	1.85	2.30	0.67	0.66	...	...
Share households with running water (%)	2.95	15.49	0.05	1.92	0.98	5.08	23.85	30.61
Share households with electricity (%)	9.58	30.11	1.35	7.17	0.54	5.20	16.72	33.02
Income profile								
<i>Participation share (% by Activity)§</i>								
Farm	94.63	79.09	96.19	90.86	96.15	92.32	87.79	73.29
Agricultural Wage	2.95	5.02	27.62	16.86	60.40	42.34	3.76	3.13
Non-Agricultural Wage	13.32	24.84	17.54	21.98	14.67	19.37	8.16	13.35
Self-Employment	36.90	45.36	21.09	22.55	28.23	33.57	16.93	27.55
Transfers and Others	47.37	50.38	50.90	41.94	90.01	88.62	8.37	15.32
<i>Income share (% by Activity)</i>								
Farm	67.86	45.54	71.06	67.61	56.06	53.17	80.38	60.95
Agricultural Wage	0.97	2.19	6.97	3.71	16.91	10.62	1.99	1.82
Non-Agricultural Wage	6.27	15.11	5.47	9.70	6.58	12.48	6.34	12.10
Self-Employment	16.89	26.48	7.87	12.08	9.67	13.60	9.38	19.85
Transfers and Others	8.02	10.68	8.64	6.90	10.78	10.12	1.91	5.28

Source: Authors' calculations using the RIGA database.

Notes: † Livestock measured in tropical livestock units. § Participation shares do not add to 100, as households may participate in more than one activity.

Table 13b. Household characteristics by poverty status, Asian countries

	Bangladesh 2000		Indonesia 2000		Nepal 1996		Pakistan 2001		Vietnam 1998	
	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor	Non-poor	Non-poor
	70.0%	30.0%	56.7%	43.3%	73.5%	26.5%	79.0%	21.0%	60.6%	39.4%
Demographic characteristics										
Share female headed households (%)	7.61	11.01	15.49	18.38	11.80	14.86	7.68	11.54	19.55	24.22
Age of household head	43.52	47.00	46.68	45.34	43.93	46.36	45.02	46.93	45.40	49.47
Household Size	5.30	4.95	5.64	4.64	6.05	4.80	7.64	5.30	5.17	4.23
Number HH members working age	2.65	2.88	3.25	3.00	2.94	2.70	3.48	3.06	2.70	2.56
Share of dependents in the HH (%)	0.48	0.40	0.44	0.36	0.50	0.41	0.53	0.39	0.48	0.41
Assets										
<i>Agricultural assets</i>										
Land ownership (ha)	0.22	0.65	0.96	0.68	0.50	0.80	0.69	1.44	0.18	0.23
Livestock holdings (TLU)†	0.46	0.68	...	...	1.74	1.70	0.46	0.51	1.16	1.00
<i>Human Capital</i>										
Yrs. of education of household head	1.82	4.42	4.92	7.64	1.35	3.10	2.50	4.32	6.10	6.67
Highest years education in the HH	3.96	7.08	9.97	12.04	3.95	6.24	5.51	7.34	7.98	8.94
<i>Infrastructure</i>										
Dist. nearest primary school (km)	0.17	0.17	0.27	0.24	...	...	0.73	0.51	1.66	1.31
Distance nearest health clinic/hospital (km)	29.26	29.57	0.30	0.24	...	...	53.23	65.07	2.32	2.00
Share households with running water (%)	0.21	0.72	10.92	14.71	3.49	9.44	10.87	12.23	1.17	2.54
Share households with electricity (%)	10.21	37.30	81.50	86.75	4.41	16.45	66.31	77.72	40.20	62.84
Income profile										
<i>Participation share (% by Activ.)§</i>										
Farm	77.80	81.51	59.12	49.30	95.02	93.36	68.68	72.44	98.77	98.11
Agricultural Wage	43.99	16.66	25.05	13.17	50.01	23.18	22.49	13.45	23.64	15.67
Non-Agricultural Wage	31.03	33.74	30.41	33.28	36.81	32.27	51.75	39.92	30.70	33.32
Self-Employment	23.49	30.44	28.43	37.32	18.61	23.26	17.85	17.58	33.83	44.01
Transfers and Others	71.02	82.23	87.61	86.38	27.72	42.64	37.39	51.17	45.97	51.36
<i>Income share (% by Activity)</i>										
Farm	16.72	19.41	29.63	21.72	43.51	44.48	34.57	38.78	62.22	48.89
Agricultural Wage	25.82	7.36	12.00	7.14	22.09	10.00	9.70	4.66	7.53	3.90
Non-Agricultural Wage	20.18	18.68	18.75	22.00	17.75	17.03	29.29	22.48	8.52	10.10
Self-Employment	14.85	19.63	14.82	20.71	7.71	12.94	10.61	9.37	16.11	27.70
Transfers and Others	22.44	34.92	24.81	28.43	8.94	15.55	15.83	24.71	5.62	9.40

Source: Authors' calculations using the RIGA database.

Notes: † Livestock measured in tropical livestock units. § Participation shares do not add to 100, as households may participate in more than one activity.

Table 13c. Household characteristics by poverty status, Latin American countries

	Ecuador 1995		Guatemala 2000		Nicaragua 2001		Panama 2003	
	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor
	43.5%	56.5%	45.3%	54.7%	66.1%	33.9%	35.3%	64.7%
Demographic characteristics								
Share female headed households (%)	14.05	14.13	10.41	17.02	18.17	19.70	16.16	20.15
Age of household head	48.12	47.14	43.07	44.57	45.72	46.79	47.29	49.40
Household Size	6.37	4.34	7.02	4.81	6.64	4.62	6.96	3.75
Number HH members working age	2.87	2.36	2.89	2.45	3.17	2.51	3.10	2.15
Share of dependents in the HH (%)	55.20	44.65	58.23	47.53	50.85	42.87	53.95	42.21
Assets								
<i>Agricultural assets</i>								
Land ownership (ha)	3.83	6.65	1.84	1.94	5.43	6.36	5.42	6.47
Livestock holdings (TLU)†	2.33	3.06	0.56	1.14	1.33	3.24	0.70	2.26
<i>Human Capital</i>								
Years of education of household head	3.26	5.05	1.41	2.76	1.92	3.27	3.43	6.46
Highest years education in the HH	6.52	7.95	3.31	5.08	4.78	6.56	6.78	9.45
<i>Infrastructure</i>								
Distance nearest primary school (km)	10.73	10.70	4.30	3.08	1.55	1.40	0.64	0.50
Distance nearest health clinic/hospital (km)	2.64	2.58	...	...	6.22	5.60	4.95	3.66
Share households with running water (%)	0.48	0.49	0.49	0.56	0.19	0.37	0.61	0.85
Share households with electricity (%)	65.55	78.18	33.86	58.94	14.83	31.28	17.71	73.60
Income profile								
<i>Participation share (% by Activity)§</i>								
Farm	91.94	86.32	94.86	87.02	92.83	90.01	91.13	79.72
Agricultural Wage	49.60	33.56	59.27	33.23	48.14	27.63	46.23	25.73
Non-Agricultural Wage	32.86	35.27	24.15	40.60	33.17	38.27	23.89	47.38
Self-Employment	30.70	43.10	24.58	34.17	19.98	34.47	23.06	29.81
Transfers and Others	59.32	62.85	70.17	64.53	39.46	47.44	52.75	71.75
<i>Income share (% by Activity)</i>								
Farm	32.42	29.73	31.74	22.12	37.56	31.71	41.92	19.06
Agricultural Wage	29.47	17.52	30.44	17.07	27.43	13.33	26.48	14.27
Non-Agricultural Wage	17.63	19.04	11.56	26.20	18.39	25.06	11.40	32.46
Self-Employment	9.13	19.12	8.73	15.13	7.13	17.37	10.83	15.02
Transfers and Others	11.36	14.59	17.54	19.48	9.49	12.53	9.37	19.19

Source: Authors' calculations using the RIGA database.

Notes: † Livestock measured in tropical livestock units. § Participation shares do not add to 100, as households may participate in more than one activity.

Table 13d. Household characteristics by poverty status, Eastern European countries

	Albania 2005		Bulgaria 2001	
	Poor	Non-poor	Poor	Non-poor
	7.6%	92.4%	8.9%	91.1%
Demographic characteristics				
Share female headed households (%)	3.33	7.66	13.64	22.21
Age of household head	47.75	52.32	50.09	57.03
Household Size	5.93	4.35	5.55	3.00
Number HH members working age	3.18	2.60	3.61	1.60
Share of dependents in the HH (%)	46.19	41.32	40.70	53.42
Assets				
<i>Agricultural assets</i>				
Land ownership (ha)	0.65	0.82	0.17	0.70
Livestock holdings (TLU)†	1.65	1.52	0.18	0.53
<i>Human Capital</i>				
Years of education of household head	6.60	7.95	5.61	7.90
Highest years education in the HH	8.68	9.79	7.30	9.30
<i>Infrastructure</i>				
Distance nearest primary school (km)	0.37	0.37	1.43	2.31
Distance nearest health clinic/hospital (km)	0.82	0.46	5.27	6.09
Share households with running water (%)	11.88	28.06	100.00	98.28
Share households with electricity (%)	92.66	89.61	63.64	88.36
Income profile				
<i>Participation share (% by Activity)§</i>				
Farm	88.20	95.66	40.91	78.75
Agricultural Wage	9.05	5.08	11.36	16.81
Non-Agricultural Wage	14.39	30.96	6.82	20.89
Self-Employment	2.64	11.44	2.27	2.40
Transfers and Others	86.00	75.21	88.64	90.76
<i>Income share (% by Activity)</i>				
Farm	49.73	39.95	6.89	16.00
Agricultural Wage	5.72	2.59	8.24	9.73
Non-Agricultural Wage	7.94	18.76	5.94	11.72
Self-Employment	1.76	7.71	0.73	1.39
Transfers and Others	34.85	30.99	78.21	61.16

Source: Authors' calculations using the RIGA database.

Notes: † Livestock measured in tropical livestock units. § Participation shares do not add to 100, as households may participate in more than one activity.

Table 14. Percent of rural income generating activities in total income, 15 RIGA countries

Country and year	Income-generating activity														
	Group I							Group II		Group III			Group IV		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1) + (2) + (3)	(4) + (5) + (6) + (7)	(1) + (2)	(4) + (5)	(6) + (7)	(3) + (4) + (5) + (6) + (7)	Transfers Public	Transfers Private
Agriculture-Crops	Agriculture - Livestock	Agricultural wage employment	Non-farm wage employment	Non-farm self-employment	Transfers	Other	Agricultural total	Non-Agricultural Total	On-Farm Total	Non-farm total	Transfers & Other	Off-farm Total	Transfers Public	Transfers Private	
Albania 2005	17.2	23.3	2.8	18.1	7.4	28.0	3.2	43.3	56.7	40.5	25.5	31.2	59.5	16.4	11.6
Bulgaria 2001	4.1	11.5	9.7	11.5	1.4	60.7	1.2	25.2	74.8	15.6	12.8	61.9	84.4	56.7	4.0
Ghana 1998	55.0	4.4	1.4	9.6	20.5	8.5	0.5	60.9	39.1	59.4	30.1	9.0	40.6	0.6	7.9
Madagascar 1993	57.3	13.2	6.5	6.1	8.5	6.2	2.2	77.0	23.0	70.5	14.6	8.4	29.5	0.1	6.1
Malawi 2004	42.2	12.9	15.0	8.4	10.9	10.1	0.5	70.2	29.8	55.2	19.2	10.6	44.8	3.5	6.6
Nigeria 2004	73.5	4.3	2.0	7.1	10.8	1.7	0.6	79.8	20.2	77.8	17.8	2.4	22.2	0.3	1.5
Ecuador 1995	21.7	9.0	21.6	18.6	15.7	5.5	8.0	52.3	47.7	30.7	34.2	13.5	69.3	0.5	5.0
Guatemala 2000	22.1	3.5	21.9	20.9	12.8	18.2	0.5	47.5	52.5	25.6	33.7	18.8	74.4	12.9	5.4
Nicaragua 2001	21.5	13.5	21.5	21.2	11.5	6.1	4.7	56.5	43.5	35.1	32.7	10.8	64.9	0.6	5.4
Panama 2003	19.9	4.3	17.0	27.7	14.1	15.7	1.3	41.3	58.7	24.2	41.8	17.0	75.8	7.1	8.6
Bangladesh 2000	15.3	2.2	20.0	19.7	16.3	13.2	13.1	37.6	62.4	17.6	36.1	26.4	82.4	3.3	9.9
Indonesia 2000	23.8	2.1	9.7	20.3	17.6	22.9	3.6	35.5	64.5	25.8	37.9	26.5	74.2	1.5	21.4
Nepal 1996	29.4	14.4	18.3	17.5	9.3	9.8	1.2	62.1	37.9	43.8	26.9	11.0	56.2	1.8	8.0
Pakistan 2001	22.5	13.2	8.3	27.4	10.3	13.9	4.4	44.0	56.0	35.7	37.7	18.3	64.3	2.5	11.4
Vietnam 1998	41.5	14.8	5.9	9.2	21.2	7.0	0.3	62.2	37.8	56.3	30.5	7.3	43.7	3.3	3.7

Source: Authors' calculations using the RIGA database

Table 15. Participation in rural income generating activities, 15 RIGA countries.

Country and Year	Agricultur e-Crops	Agricultur e- Livestock	Agricul- tural wage employ- ment	Non- farm wage employ- ment	Non- farm self- employ- ment	Transfers	Other	<i>Agricultural total</i>	<i>Non- agricultural total</i>	<i>On-Farm Total</i>	<i>Non- farm Total</i>	<i>Trans- fers & Other</i>	<i>Off-farm Total</i>	<i>Trans- fers Public</i>	<i>Trans- fers Private</i>
Albania 2005	94.69	85.43	5.30	30.01	10.93	74.44	18.84	95.40	90.30	95.23	38.77	75.83	91.94	58.95	42.51
Bulgaria 2001	68.30	66.48	16.53	20.18	2.39	89.28	12.54	80.73	94.30	76.85	22.23	90.65	96.81	87.91	9.12
Ghana 1998	87.75	51.45	3.74	17.70	40.12	41.34	13.48	88.94	74.69	88.72	49.33	48.52	75.91	1.86	40.39
Madagascar 1993	93.44	78.02	26.02	18.20	21.31	43.46	11.42	96.06	67.02	95.40	35.50	49.56	75.04	0.30	43.33
Malawi 2004	92.71	64.36	54.90	16.10	29.86	88.93	6.60	97.02	93.45	94.99	41.66	89.58	97.13	54.13	77.40
Nigeria 2004	88.06	43.82	3.82	9.22	19.11	6.29	4.16	89.52	32.46	89.33	25.94	9.69	35.37	1.27	5.34
Ecuador 1995	73.55	76.17	39.09	34.44	38.82	27.30	48.36	93.03	85.35	88.26	56.55	61.64	94.05	2.01	25.73
Guatemala 2000	84.66	66.11	42.66	34.64	30.69	65.30	3.67	92.55	84.13	89.86	53.49	66.57	94.58	58.13	18.62
Nicaragua 2001	85.33	72.26	39.44	35.34	26.12	38.66	19.51	94.97	72.75	91.64	51.92	42.85	87.33	2.35	37.67
Panama 2003	77.43	64.15	30.38	42.06	28.28	64.59	11.52	86.61	86.51	82.31	58.45	67.45	93.87	15.23	58.65
Bangladesh 2000	61.22	56.89	35.40	31.88	25.67	48.54	54.96	87.06	90.54	78.96	53.08	74.54	97.37	32.49	26.48
Indonesia 2000	53.66	10.20	19.33	31.79	32.71	85.40	14.13	64.31	92.51	54.40	54.95	87.02	93.82	7.36	84.62
Nepal 1996	90.94	80.41	41.64	35.39	20.06	26.42	8.52	97.62	69.09	94.50	49.87	32.37	84.48	3.50	23.81
Pakistan 2001	47.55	64.28	19.98	48.47	17.77	31.46	15.73	74.52	78.06	69.72	57.87	41.21	84.79	14.46	20.55
Vietnam 1998	97.75	90.76	20.11	31.86	38.34	36.38	19.34	94.97	72.75	91.64	51.92	42.85	85.84	2.35	37.67

Source: Authors' calculations using the RIGA database

Table 16. Percent of rural households with diversified and specialized income generating activities, 15 RIGA countries.

<i>Percent (%)</i>	Principal Household Income Source (\geq 75% of Total Income)						
	Diverse Income Portfolio	On Farm (Crop, Livestock)	Agricultural Wage	Non-Agricultural Wage	Self Employment	Transfers	Other
Albania 2005	54.8	19.4	1.4	9.1	5.0	9.8	0.5
Bulgaria 2001	38.4	3.6	4.8	5.5	1.1	46.3	0.2
Ghana 1998	23.9	50.3	0.6	6.1	15.4	3.5	0.2
Madagascar 1993	30.6	59.4	1.3	2.8	4.0	1.4	0.4
Malawi 2004	39.4	41.8	5.6	5.7	5.0	2.5	0.0
Nigeria 2004	14.7	69.9	1.0	5.5	7.8	0.9	0.2
	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ecuador 1995	45.5	17.4	13.2	11.7	8.9	2.3	1.1
Guatemala 2000	51.5	11.7	10.9	13.6	5.9	6.2	0.2
Nicaragua 2001	43.2	22.4	12.4	14.5	6.5	0.8	0.4
Panama 2003	41.0	13.3	10.4	20.2	7.6	7.3	0.2
Bangladesh 2000	47.4	11.7	10.9	12.2	10.3	5.4	2.0
Indonesia 2000	41.5	15.7	5.9	13.9	10.4	11.5	1.1
Nepal 1996	50.7	26.3	7.9	7.1	4.3	3.5	0.2
Pakistan 2001	36.3	24.8	4.9	18.2	6.3	8.2	1.4
Vietnam 1998	44.5	37.5	2.1	1.9	12.8	1.2	0.1

Source: RIGA dataset. All figures are weighted. In a few cases, more than one income activity generated returns greater than 75% of total income (due to negative income shares in another activity). In these cases, the household was classified as having a diverse, rather than specialized, income portfolio.

Table 17. Years of education, rural heads of household, by expenditure quintiles

	Average Household Head Education (Years, Rural Households)					
	Expenditure Quintiles					
	1	2	3	4	5	All
Africa						
Ghana 1998	1.43	2.59	2.86	3.52	4.41	2.96
Madagascar 1993	2.15	2.71	3.03	2.87	3.26	2.80
Malawi 2004	3.00	3.55	4.06	4.64	5.79	4.21
Nigeria 2004	2.59	3.22	3.89	4.73	5.65	4.02
Asia						
Bangladesh 2000	1.17	1.68	2.19	3.23	4.91	2.64
Indonesia 2000	4.43	5.00	5.90	6.98	8.84	6.23
Nepal 1996	0.99	1.23	1.76	2.29	3.20	1.89
Pakistan 2001	1.89	2.37	2.83	3.40	4.53	3.00
Vietnam 1998	3.42	4.28	4.77	5.06	5.88	4.68
Eastern Europe						
Albania 2005	6.63	7.35	8.50	8.13	8.77	7.87
Bulgaria 2001	6.00	7.06	7.89	8.86	9.15	7.79
Latin America						
Ecuador 1995	2.66	3.58	4.40	4.94	5.99	4.31
Guatemala 2000	1.32	1.58	2.03	2.48	3.89	2.26
Nicaragua 2001	1.37	2.03	2.37	2.79	4.03	2.52
Panama 2003	3.36	4.91	5.73	6.41	8.41	5.77
<i>mean</i>	2.83	3.54	4.15	4.69	5.78	4.20
<i>max</i>	6.63	7.35	8.50	8.86	9.15	7.87
<i>min</i>	0.99	1.23	1.76	2.29	3.20	1.89

Source: Zezza, et al (2007)

Table 18. Net primary and secondary school attendance rates, by rural/urban and gender

	Primary School				Secondary School			
	Overall Urban	Female Urban	Overall Rural	Female Rural	Overall Urban	Female Urban	Overall Rural	Female Rural
Africa								
Ghana 1998	0.83	0.80	0.75	0.73	0.55	0.53	0.40	0.37
Madagascar 1993	0.63	0.65	0.33	0.34	0.24	0.26	0.04	0.05
Malawi 2004	0.79	0.80	0.68	0.70	0.33	0.35	0.10	0.10
Nigeria 2004	0.51	0.51	0.37	0.37	0.44	0.43	0.34	0.35
Asia								
Bangladesh 2000	0.64	0.64	0.65	0.66	0.45	0.47	0.38	0.42
Indonesia 2000	0.78	0.77	0.81	0.80	0.55	0.54	0.41	0.42
Nepal 1996	0.71	0.76	0.58	0.47	0.54	0.53	0.30	0.23
Pakistan 2001	0.56	0.55	0.41	0.34	0.44	0.45	0.25	0.15
Vietnam 1998	0.83	0.82	0.83	0.82	0.69	0.71	0.50	0.45
Eastern Europe								
Albania 2005	0.91	0.90	0.89	0.89	0.58	0.61	0.35	0.31
Bulgaria 2001	0.92	0.92	0.86	0.84	0.84	0.85	0.50	0.54
Latin America								
Ecuador 1995	0.90	0.91	0.87	0.88	0.63	0.66	0.27	0.29
Guatemala 2000	0.76	0.75	0.69	0.66	0.44	0.42	0.12	0.10
Nicaragua 2001	0.87	0.86	0.79	0.79	0.52	0.55	0.19	0.23
Panama 2003	0.88	0.88	0.85	0.85	0.76	0.79	0.48	0.51

Source: Zezza, et al (2007)

Table 19. Primary school net attendance rates, by expenditure quintile

	Overall Rural						Female Rural					
	1	2	3	4	5	All	1	2	3	4	5	All
Africa												
Ghana 1998	.65	.78	.81	.80	.78	.75	.62	.76	.76	.81	.76	.73
Madagascar 1993	.23	.33	.42	.36	.44	.33	.24	.35	.44	.38	.44	.34
Malawi 2004	.63	.66	.70	.75	.78	.68	.64	.69	.72	.76	.80	.70
Nigeria 2004	.21	.38	.48	.57	.56	.37	.20	.39	.52	.57	.56	.37
Asia												
Bangladesh 2000	.55	.63	.68	.70	.74	.65	.56	.64	.70	.74	.71	.66
Indonesia 2000	.82	.81	.82	.78	.75	.81	.82	.80	.82	.79	.72	.80
Nepal 1996	.43	.53	.58	.78	.73	.53	.31	.43	.49	.67	.70	.47
Pakistan 2001	.30	.40	.44	.51	.60	.41	.23	.34	.37	.44	.54	.34
Vietnam 1998	.77	.86	.86	.87	.86	.83	.77	.85	.86	.85	.83	.82
Eastern Europe												
Albania 2005	.83	.89	.94	.94	.89	.89	.84	.86	.95	.99	.91	.89
Bulgaria 2001	.79	.91	.88	.90	.91	.86	.77	.87	.92	.89	.88	.84
Latin America												
Ecuador 1995	.84	.89	.90	.88	.94	.87	.86	.88	.89	.89	.93	.88
Guatemala 2000	.57	.71	.75	.77	.84	.69	.52	.67	.73	.80	.86	.66
Nicaragua 2001	.70	.81	.81	.89	.85	.79	.72	.81	.81	.89	.84	.79
Panama 2003	.79	.91	.90	.93	.97	.85	.79	.90	.92	.92	1.00	.85

Source: Zezza, et al (2007)

Table 20. Secondary school net attendance rates, by expenditure quintile

	Overall Rural						Female Rural					
	1	2	3	4	5	All	1	2	3	4	5	All
Africa												
Ghana 1998	.28	.43	.47	.42	.43	.40	.24	.39	.45	.37	.49	.37
Madagascar 1993	.01	.02	.05	.05	.08	.04	.00	.03	.06	.06	.09	.05
Malawi 2004	.03	.07	.10	.16	.25	.10	.04	.06	.09	.17	.28	.10
Nigeria 2004	.19	.34	.41	.48	.50	.34	.18	.36	.41	.47	.49	.35
Asia												
Bangladesh 2000	.19	.27	.31	.48	.59	.38	.22	.30	.37	.53	.64	.42
Indonesia 2000	.30	.39	.47	.47	.49	.41	.33	.41	.48	.45	.45	.42
Nepal 1996	.13	.21	.27	.45	.54	.30	.05	.14	.17	.45	.49	.23
Pakistan 2001	.14	.21	.26	.35	.49	.25	.05	.11	.15	.23	.37	.15
Vietnam 1998	.33	.44	.53	.56	.70	.50	.30	.39	.51	.52	.64	.45
Eastern Europe												
Albania 2005	.21	.28	.38	.53	.57	.35	.16	.20	.42	.44	.57	.31
Bulgaria 2001	.30	.54	.57	.78	.74	.50	.35	.52	.58	.93	.73	.54
Latin America												
Ecuador 1995	.14	.23	.33	.44	.57	.27	.16	.26	.32	.48	.61	.29
Guatemala 2000	.03	.06	.14	.17	.42	.12	.02	.06	.08	.15	.42	.10
Nicaragua 2001	.07	.13	.25	.32	.44	.19	.08	.18	.35	.35	.46	.23
Panama 2003	.24	.52	.72	.80	.91	.48	.25	.58	.78	.80	.88	.51

Source: Zezza, et al (2007)

Table 21. Percentage of rural households owning land, by expenditure quintiles

	Percentage of Land-Owning Households					
	Expenditure Quintiles					
	1	2	3	4	5	All
Africa						
Ghana 1998	11.6	27.1	35.0	34.9	34.2	28.5
Madagascar 1993	73.5	81.0	75.3	73.3	69.8	74.6
Malawi 2004	94.7	94.9	93.4	91.7	82.3	91.4
Nigeria 2004	65.4	70.2	70.2	72.2	73.0	70.2
Asia						
Bangladesh 2000	32.7	40.7	52.5	55.9	63.6	49.1
Indonesia 2000	n/a	n/a	n/a	n/a	n/a	n/a
Nepal 1996	75.5	79.4	79.4	78.4	80.5	78.6
Pakistan 2001	20.4	27.9	35.2	37.9	42.1	32.7
Vietnam 1998	91.8	93.3	90.8	90.8	84.5	90.2
Eastern Europe						
Albania 2005	92.0	91.8	94.2	97.0	95.1	93.9
Bulgaria 2001	34.1	61.7	76.1	78.9	75.4	65.2
Latin America						
Ecuador 1995	63.7	63.3	56.0	52.2	53.2	57.7
Guatemala 2000	62.9	59.8	53.0	44.6	37.7	51.6
Nicaragua 2001	45.8	44.0	45.3	40.1	32.9	41.7
Panama 2003	68.7	54.1	49.3	45.1	36.5	50.8

Source: Zezza, et al (2007)

Table 22. Land ownership and operated land in hectares, by expenditure quintiles

	Average Owned Land Size (has, Rural Households)							Average Operated Land Size (has, Rural Households)						
	Expenditure Quintiles							Expenditure Quintiles						
	1	2	3	4	5	All	(5)/(1)	1	2	3	4	5	All	(5)/(1)
Africa														
Ghana 1998	0.88	0.92	1.23	1.30	1.34	1.14	1.52	2.48	2.44	2.94	2.84	2.52	2.64	1.02
Madagascar 1993	0.90	1.19	1.05	1.18	1.40	1.14	1.56	1.35	1.71	1.46	1.60	1.89	1.60	1.40
Malawi 2004	1.21	1.42	1.57	1.63	1.67	1.50	1.38	1.11	1.46	1.42	1.71	1.40	1.42	1.26
Nigeria 2004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Asia														
Bangladesh 2000	0.12	0.20	0.28	0.44	0.73	0.35	6.08	0.18	0.25	0.38	0.42	0.47	0.33	2.65
Indonesia 2000	1.09	0.86	0.71	0.80	0.68	0.83	0.62	1.39	0.63	0.87	1.08	0.82	0.96	0.59
Nepal 1996	0.41	0.61	0.54	0.73	0.70	0.60	1.71	0.61	0.89	0.80	0.87	0.89	0.81	1.46
Pakistan 2001	0.47	0.57	0.85	1.05	1.55	0.90	3.30	0.85	0.92	1.16	1.26	1.71	1.18	2.01
Vietnam 1998	0.15	0.19	0.20	0.21	0.27	0.20	1.80	0.56	0.60	0.61	0.60	0.66	0.61	1.18
Eastern Europe														
Albania 2005	0.68	0.71	0.84	0.85	0.96	0.81	1.41	0.70	0.72	0.82	0.90	0.94	0.81	1.33
Bulgaria 2005	0.44	0.56	0.75	0.64	0.96	0.67	2.18	0.08	0.24	0.27	0.30	0.36	0.25	4.71
Latin America														
Ecuador 1995	4.22	3.73	4.10	5.92	10.41	5.67	2.47	3.14	4.18	4.05	6.36	7.50	5.04	2.39
Guatemala 2000	1.70	1.99	1.61	1.26	2.97	1.91	1.75	1.57	2.77	1.78	1.90	3.18	2.24	2.02
Nicaragua 2001	3.62	4.77	7.87	5.35	7.52	5.81	2.08	4.52	5.55	9.01	6.18	6.57	6.36	1.45
Panama 2003	5.66	4.37	5.16	7.16	9.02	6.27	1.59	5.19	4.68	4.71	6.21	6.92	5.54	1.33
Mean	1.54	1.58	1.91	2.04	2.87	1.99	1.86	1.69	1.93	2.16	2.30	2.56	2.13	1.77
Max	5.66	4.77	7.87	7.16	10.41	6.27	1.84	5.19	5.55	9.01	6.36	7.50	6.36	4.71
Min	0.12	0.19	0.20	0.21	0.27	0.20	2.25	0.08	0.24	0.27	0.30	0.36	0.25	0.59

Source: Authors' calculations and Zezza, et al (2007)

Table 23. Livestock holdings (TLU)

	Households owning livestock (%)	Livestock holdings (TLU)	Households owning cattle (%)	Cattle owned (#)	Among owners, livestock holdings (TLU)	Share of livestock owned by the top 20% of livestock holders
Africa						
Ghana 1998	50.1	0.67	7.2	0.46	1.34	69.5
Madagascar 1993	76.7	1.56	33.4	2.34	2.04	73.9
Malawi 2004	62.8	31.78	4.8	0.20	0.51	74.5
Nigeria 2004	46.4	0.71	9.4	0.60	1.54	66.6
Asia						
Bangladesh 2000	61.7	0.53	36.8	0.89	0.86	51.9
Nepal 1996	88.3	1.72	79.8	2.95	1.96	42.3
Pakistan 2001	47.0	N/A	44.0	N/A	N/A	N/A
Vietnam 1998	82.1	1.09	34.2	0.60	1.33	50.9
Eastern Europe						
Albania 2005	84.1	1.52	65.7	1.17	1.81	49.2
Bulgaria 2001	68.2	0.51	20.6	0.31	0.75	51.2
Latin America						
Ecuador 1995	84.4	2.81	31.2	2.47	3.32	71.4
Guatemala 2000	70.2	0.93	11.0	0.75	1.32	78.3
Nicaragua 2001	55.3	2.13	22.8	2.38	3.86	77.6
Panama 2003	60.8	1.90	12.9	2.40	3.14	92.9

Holdings measured in tropical livestock units (TLU). Source of TLU conversion factors: FAO GLiPHA

Source: Zezza, et al (2007)

Table 24. Infrastructure index

	Infrastructure Index					
	Expenditure Quintiles					
	1	2	3	4	5	All
Africa						
Ghana 1998	-0.58	-0.22	0.01	0.30	0.48	0.00
Madagascar 1993	-0.20	-0.17	0.03	0.08	0.25	0.00
Malawi 2004	-0.18	-0.16	-0.12	0.00	0.45	0.00
Nigeria 2004	-0.43	-0.19	-0.05	0.17	0.39	-0.03
Asia						
Bangladesh 2000	-0.40	-0.28	-0.10	-0.08	0.70	0.00
Indonesia 2000	-0.35	-0.15	0.01	0.11	0.38	0.00
Nepal 1996	-0.30	-0.27	-0.18	0.12	0.65	0.00
Pakistan 2001	-0.25	-0.15	-0.04	0.08	0.36	0.00
Vietnam 1998	-0.42	-0.12	-0.04	0.18	0.41	0.00
Eastern Europe						
Albania 2005	-0.31	-0.18	0.00	0.12	0.37	0.00
Bulgaria 2001	-0.59	-0.08	0.07	0.21	0.40	0.00
Latin America						
Ecuador 1995	-0.21	-0.14	0.01	0.11	0.24	0.00
Guatemala 2000	-0.40	-0.22	0.00	0.06	0.57	0.00
Nicaragua 2001	-0.37	-0.11	-0.09	0.10	0.47	0.00
Panama 2003	-0.91	-0.41	0.08	0.32	0.93	0.00

Source: Zezza, et al (2007)

Table 25a. Household asset status and selected group characteristics

			Household by Asset Position	Share of HH members younger	Group's Share in Rural Population	Share of Group Poor (%)	Group's share in overall rural	% of Income						
								Agriculture	Agricultural Wage	Non-Agricultural Wage	Self-Employment	Remittances	Public Transfers	Other
ALBANIA 2005	WITH LAND	1	E, L, I	5.66	2.20	0.00	0.00	41.18	5.07	15.89	12.24	9.95	12.85	2.82
		2	NE, L, I	0.00	0.24	0.00	0.00	31.83	0.00	0.00	0.00	42.55	25.63	0.00
		3	E, NL, I	2.50	38.73	3.01	16.67	36.48	1.75	22.96	11.38	11.43	13.03	2.98
		4	E, NL, NI	4.70	33.84	10.00	45.24	52.29	4.17	13.82	3.41	9.14	13.88	3.30
		5	E, L, NI	2.81	1.89	2.96	1.19	54.83	5.38	9.31	2.43	11.87	14.71	1.47
		6	NE, NL, I	3.90	5.93	9.40	5.95	33.59	1.95	6.97	1.51	21.55	30.66	3.76
		7	NE, L, NI	0.00	0.37	39.31	1.19	57.69	0.00	0.00	12.23	5.85	24.23	0.00
		8	NE, NL, NI	2.36	10.81	17.81	20.24	41.87	2.73	7.09	0.85	15.86	30.22	1.38
	NO LAND	9	E, I	9.72	3.30	6.59	2.38	5.96	2.77	54.03	14.76	4.54	14.12	3.82
		10	NE, I	0.00	0.55	0.00	0.00	2.42	0.00	16.33	7.57	37.94	33.16	2.58
		11	E, NI	2.54	0.98	7.62	1.19	15.27	2.23	59.65	16.15	1.73	3.22	1.74
		12	NE, NI	14.51	1.16	50.77	5.95	5.21	0.00	15.42	23.16	7.53	23.40	25.28
BULGARIA 2001	WITH LAND	1	E, L, I	0.00	5.25	3.64	2.27	22.50	7.20	11.50	2.37	2.32	51.88	2.24
		2	NE, L, I	0.00	0.34	0.00	0.00	10.16	0.00	0.00	0.00	18.80	70.63	0.40
		3	E, NL, I	1.29	26.57	0.28	2.27	18.16	11.21	17.89	1.79	2.71	46.78	1.46
		4	E, NL, NI	4.65	19.61	4.92	13.64	20.76	7.27	8.63	0.75	1.98	59.87	0.74
		5	E, L, NI	0.00	4.22	0.00	0.00	16.73	5.74	12.12	1.13	4.13	54.65	5.50
		6	NE, NL, I	7.69	2.96	0.00	0.00	28.55	6.71	3.45	0.00	2.75	56.58	1.97
		7	NE, L, NI	0.00	0.68	18.18	2.27	7.02	0.00	3.88	0.00	5.09	74.11	9.90
		8	NE, NL, NI	8.16	5.59	24.48	9.09	21.89	1.43	4.83	0.00	2.07	68.56	1.21
	NO LAND	9	E, I	11.70	10.72	0.00	0.00	6.28	17.24	20.53	3.72	7.10	44.06	1.07
		10	NE, I	15.63	3.65	22.73	9.09	5.15	14.42	3.80	0.00	7.65	68.98	0.00
		11	E, NI	12.24	11.17	18.18	25.00	10.96	13.16	5.89	0.00	5.98	63.77	0.25
		12	NE, NI	22.22	9.24	29.50	36.36	5.00	5.64	4.68	1.70	6.42	76.56	0.00
GHANA 1998	WITH LAND	1	E, L, I	6.51	0.80	31.53	0.46	55.31	1.85	34.79	-5.88	9.18	3.87	0.87
		2	NE, L, I	3.79	1.90	47.04	1.13	56.17	1.50	8.03	18.04	14.80	0.27	1.19
		3	E, NL, I	5.02	0.64	41.63	0.50	42.97	2.41	26.49	16.87	7.22	3.84	0.20
		4	E, NL, NI	29.54	1.69	63.91	1.05	68.41	1.57	8.08	16.42	2.95	2.29	0.28
		5	E, L, NI	13.77	2.41	54.42	1.51	72.67	0.00	13.21	7.32	4.22	2.03	0.55
		6	NE, NL, I	9.25	1.98	60.32	1.59	38.28	3.15	18.50	27.62	7.35	5.01	0.09
		7	NE, L, NI	11.57	14.64	80.06	15.75	82.85	0.75	1.73	8.82	4.86	0.46	0.53
		8	NE, NL, NI	11.49	11.37	76.50	12.78	71.57	0.95	2.69	16.94	7.32	0.48	0.06
	NO LAND	9	E, I	34.84	4.92	39.04	2.60	12.47	1.69	33.82	39.96	8.86	2.07	1.13
		10	NE, I	15.61	8.11	53.00	6.41	25.86	1.93	18.98	41.85	10.54	0.21	0.64
		11	E, NI	35.19	8.40	61.71	5.87	51.12	2.30	21.05	17.85	6.86	0.15	0.67
		12	NE, NI	16.54	43.14	83.96	50.36	64.81	1.39	4.91	19.61	8.63	0.16	0.49

Source: Authors' calculations using the RIGA database. Note: E, L and I refer to high levels of education, land and infrastructure, while NE, NL and NI refer to low levels of these three assets.

Table 25b. Household asset status and selected group characteristics

			Household by Asset Position	Share of HH members younger	Group's Share in Rural Population	Share of Group Poor (%)	Group's share in overall rural	% of Income						
								Agriculture	Agricultural Wage	Non-Agricultural Wage	Self-Employment	Remittances	Public Transfers	Other
MADAGASCAR 1993	WITH LAND	1	E, L, I	0.00	0.19	81.86	0.18	92.54	0.00	2.95	-0.25	0.81	0.00	3.95
		2	NE, L, I	7.64	2.96	81.86	2.58	69.70	6.81	4.69	14.33	2.39	0.91	1.16
		3	E, NL, I	29.28	1.22	68.71	0.93	36.86	5.61	11.13	35.00	8.04	0.00	3.37
		4	E, NL, NI	24.21	1.33	72.59	1.16	71.67	3.78	7.36	12.31	3.52	0.00	1.36
		5	E, L, NI	38.14	0.42	76.35	0.36	90.79	0.00	0.67	0.53	7.37	0.00	0.65
		6	NE, NL, I	24.29	10.33	89.97	10.81	67.52	6.70	7.72	9.88	5.85	0.00	2.31
		7	NE, L, NI	17.24	14.25	84.55	13.04	83.76	2.71	1.77	5.76	3.03	0.00	2.96
		8	NE, NL, NI	24.69	45.36	93.33	47.57	79.44	5.56	2.00	6.27	4.61	0.07	2.04
	NO LAND	9	E, I	23.13	1.14	50.06	0.53	3.88	8.10	54.70	9.63	19.14	2.64	1.92
		10	NE, I	34.78	6.16	84.59	5.87	32.53	10.55	28.05	14.31	12.64	0.16	1.76
		11	E, NI	39.41	0.76	64.18	0.53	32.18	19.14	23.76	18.86	6.03	0.00	0.02
		12	NE, NI	32.49	15.88	93.08	16.42	61.97	10.08	5.84	10.01	9.65	0.00	2.45
MALAWI 2004	WITH LAND	1	E, L, I	22.16	2.88	52.29	2.03	66.95	5.82	11.37	7.20	4.62	1.68	2.36
		2	NE, L, I	10.02	5.40	72.12	5.13	68.35	8.98	4.05	10.28	4.55	3.15	0.64
		3	E, NL, I	40.45	8.58	59.10	6.38	45.67	10.79	19.83	15.75	4.83	1.91	1.22
		4	E, NL, NI	56.04	6.88	66.70	5.50	58.93	14.33	7.24	9.97	6.43	2.93	0.17
		5	E, L, NI	44.75	2.56	61.01	1.87	74.37	5.93	4.23	6.53	6.08	2.34	0.54
		6	NE, NL, I	21.88	21.57	85.54	24.33	52.30	17.40	6.81	12.70	6.25	4.23	0.31
		7	NE, L, NI	17.67	9.42	83.95	10.29	73.23	9.63	3.44	5.46	4.58	3.11	0.55
		8	NE, NL, NI	27.08	33.77	87.33	38.41	57.35	17.81	3.81	8.77	7.55	4.47	0.24
	NO LAND	9	E, I	41.83	3.23	27.65	1.16	12.27	9.08	54.43	16.22	6.22	0.78	1.00
		10	NE, I	26.89	2.07	76.94	1.95	21.20	15.53	27.15	23.04	10.70	2.25	0.13
		11	E, NI	64.48	1.16	50.49	0.68	33.87	20.15	13.50	21.44	9.57	1.23	0.25
		12	NE, NI	36.52	2.47	77.06	2.26	32.87	26.90	6.14	19.32	11.80	2.75	0.21
NIGERIA 2004	ALL RURAL	1	E, I	14.91	6.67	82.33	5.69	43.24	1.92	30.58	19.57	2.73	1.44	0.52
		2	NE, I	11.53	32.60	90.64	31.59	70.19	2.31	8.67	15.53	2.24	0.29	0.78
		3	E, NI	18.05	3.98	86.66	3.60	69.72	1.35	13.86	12.44	1.32	0.55	0.76
		4	NE, NI	13.84	56.75	95.66	59.12	87.44	1.80	2.52	6.68	0.91	0.11	0.54

Source: Authors' calculations using the RIGA database.

Table 25c. Household asset status and selected group characteristics

			Household by Asset Position	Share of HH members younger	Group's Share in Rural Population	Share of Group Poor (%)	Group's share in overall rural	% of Income						
								Agriculture	Agricultural Wage	Non-Agricultural Wage	Self-Employment	Remittances	Public Transfers	Other
ECUADOR 1995	WITH LAND	1	E, L, I	3.91	5.25	24.99	2.69	30.03	7.87	21.87	15.59	3.41	1.21	20.03
		2	NE, L, I	3.93	6.13	43.59	6.23	49.36	9.48	5.59	13.70	3.15	0.55	18.17
		3	E, NL, I	14.62	4.97	39.28	5.37	21.26	10.22	29.38	23.80	4.35	0.31	10.68
		4	E, NL, NI	38.48	2.81	43.43	2.69	39.53	6.46	31.13	11.09	5.52	0.44	5.83
		5	E, L, NI	8.71	4.69	33.45	3.05	45.95	14.08	9.27	10.09	2.49	0.14	18.00
		6	NE, NL, I	10.02	8.14	61.41	12.58	38.65	20.55	15.75	9.49	5.42	0.74	9.41
		7	NE, L, NI	8.18	13.79	47.89	15.02	58.50	14.35	5.24	3.71	1.36	0.12	16.71
		8	NE, NL, NI	11.55	11.50	63.70	17.95	42.81	22.05	14.61	7.96	6.37	0.25	5.96
	NO LAND	9	E, I	25.64	13.19	13.78	4.52	8.35	17.26	32.55	34.10	4.70	1.27	1.78
		10	NE, I	14.82	10.18	45.12	10.38	11.23	37.76	19.18	19.73	9.43	1.21	1.45
		11	E, NI	36.02	6.29	20.71	2.44	12.06	25.23	33.74	23.66	3.95	0.20	1.15
		12	NE, NI	16.10	13.07	59.65	17.09	19.36	40.53	17.37	14.95	6.78	0.06	0.94
GUATEMALA 2000	WITH LAND	1	E, L, I	20.12	1.04	21.38	0.29	23.35	1.61	40.60	23.46	3.67	5.53	1.78
		2	NE, L, I	5.20	8.17	44.50	7.95	41.72	13.14	8.60	15.04	4.78	14.99	1.72
		3	E, NL, I	36.12	1.77	7.72	0.36	18.27	5.80	50.51	12.68	2.24	9.49	1.00
		4	E, NL, NI	82.17	0.21	10.61	0.07	18.69	12.90	57.78	0.00	0.16	10.48	0.00
		5	E, L, NI	18.99	0.29	10.74	0.14	65.73	9.08	9.66	2.37	4.19	8.71	0.26
		6	NE, NL, I	15.67	21.68	47.90	24.66	26.08	17.12	17.70	17.86	6.49	14.52	0.23
		7	NE, L, NI	11.30	6.73	63.30	9.91	58.69	14.25	4.47	8.32	2.79	10.81	0.67
		8	NE, NL, NI	25.09	11.06	70.58	18.37	37.36	27.16	9.75	7.89	6.30	11.48	0.06
	NO LAND	9	E, I	31.82	5.77	4.78	0.58	2.68	5.44	56.04	19.65	4.71	9.99	1.49
		10	NE, I	23.38	22.65	29.44	15.69	12.65	22.45	30.49	13.61	5.81	14.36	0.63
		11	E, NI	59.57	1.43	3.26	0.22	11.41	15.55	44.22	15.41	6.63	6.77	0.00
		12	NE, NI	29.31	19.20	53.88	21.76	23.61	37.57	15.36	7.06	4.66	11.51	0.23
NICARAGUA 2001	WITH LAND	1	E, L, I	4.70	1.64	16.78	0.37	40.31	4.69	25.76	12.71	7.52	0.04	8.97
		2	NE, L, I	6.39	9.90	64.91	9.11	57.03	10.75	13.09	8.47	5.11	0.03	5.51
		3	E, NL, I	0.00	0.93	35.41	0.55	13.38	11.19	36.17	25.98	5.53	0.00	7.75
		4	E, NL, NI	23.59	0.33	26.39	0.18	26.39	40.49	17.73	7.04	2.65	0.00	5.69
		5	E, L, NI	40.60	0.77	44.09	0.37	72.18	3.89	7.65	8.86	2.64	0.00	4.78
		6	NE, NL, I	5.39	3.83	69.78	4.23	37.23	20.76	22.86	10.67	4.39	0.00	4.10
		7	NE, L, NI	15.02	23.36	74.43	26.86	72.38	10.72	4.72	3.92	3.77	0.52	3.97
		8	NE, NL, NI	20.65	5.58	85.22	7.27	50.65	23.10	12.75	5.02	4.35	0.77	3.35
	NO LAND	9	E, I	22.22	6.51	21.96	2.02	7.70	7.91	51.25	20.24	6.07	1.65	5.19
		10	NE, I	15.51	17.51	63.03	15.92	13.83	24.74	26.68	22.04	6.15	1.12	5.43
		11	E, NI	38.20	2.74	48.28	1.66	12.03	20.57	42.92	11.36	7.23	0.42	5.48
		12	NE, NI	29.95	26.91	78.03	31.46	24.35	36.92	20.62	7.54	6.01	0.47	4.09

Source: Authors' calculations using the RIGA database.

Table 25d. Household asset status and selected group characteristics

			Household by Asset Position	Share of HH members younger	Group's Share in Rural Population	Share of Group Poor (%)	Group's share in overall rural	% of Income							
								Agriculture	Agricultural Wage	Non-Agricultural Wage	Self-Employment	Remittances	Public Transfers	Other	
PANAMA 2003	WITH LAND	1	E, L, I	2.81	5.36	9.34	0.85	21.17	7.81	37.58	17.59	4.18	8.88	2.78	
		2	NE, L, I	1.46	3.07	0.00	0.00	34.45	11.23	11.34	18.18	11.25	5.24	8.30	
		3	E, NL, I	4.33	5.50	7.88	0.85	15.40	11.68	37.47	18.83	5.18	9.51	1.93	
		4	E, NL, NI	9.73	4.58	47.66	6.94	32.56	27.14	18.48	11.55	5.66	4.26	0.34	
		5	E, L, NI	11.85	5.05	32.97	5.24	42.15	11.71	19.63	13.92	6.04	5.31	1.25	
		6	NE, NL, I	7.97	3.21	6.14	0.99	19.94	9.39	21.16	8.68	20.74	18.52	1.58	
		7	NE, L, NI	6.42	14.21	74.68	32.29	55.30	16.72	6.24	9.71	7.29	3.33	1.42	
		8	NE, NL, NI	8.58	8.98	68.22	19.83	41.54	23.06	14.93	9.36	8.76	2.26	0.09	
	NO LAND	9	E, I	17.94	22.61	5.36	3.40	5.73	11.03	50.67	17.34	5.82	8.42	1.00	
		10	NE, I	10.61	6.76	23.45	3.68	9.30	21.11	19.96	14.52	14.31	18.72	2.08	
		11	E, NI	38.54	8.44	27.39	6.37	13.24	24.36	33.78	13.71	11.14	3.61	0.15	
		12	NE, NI	17.12	12.23	55.42	19.55	28.27	28.57	13.93	12.59	12.92	3.53	0.20	
BANGLADESH 2000	WITH LAND	1	E, L, I	8.24	1.25	19.77	0.32	27.12	0.37	22.62	20.23	6.42	1.99	21.26	
		2	NE, L, I	6.14	0.95	23.35	0.29	40.55	0.83	5.00	13.66	9.00	1.35	29.60	
		3	E, NL, I	11.23	6.22	27.06	2.15	25.55	11.23	2.13	25.07	18.30	13.72	1.97	13.25
		4	E, NL, NI	13.95	3.42	51.30	2.39	31.68	3.74	24.13	12.43	10.68	3.82	13.51	
		5	E, L, NI	4.31	0.46	21.83	0.12	36.24	2.97	11.79	23.44	4.92	1.19	19.46	
		6	NE, NL, I	9.27	12.58	60.08	10.45	29.13	10.06	14.91	14.63	13.64	2.35	15.26	
		7	NE, L, NI	0.00	0.70	51.28	0.47	47.29	4.14	3.15	3.73	8.10	1.89	31.70	
		8	NE, NL, NI	12.82	23.61	81.09	26.94	33.34	18.59	9.72	12.48	8.40	2.33	15.15	
	NO LAND	9	E, I	16.24	3.08	21.74	0.90	2.44	6.60	32.49	26.36	13.14	4.27	14.69	
		10	NE, I	19.88	12.94	69.46	12.71	3.96	18.72	25.52	24.35	13.33	3.01	11.10	
		11	E, NI	14.58	1.39	61.53	1.19	2.03	7.03	34.14	28.63	10.72	2.39	15.07	
		12	NE, NI	20.56	33.39	89.53	42.07	4.58	33.70	23.93	15.38	7.40	4.80	10.21	
INDONESIA 2000	WITH LAND	1	E, L, I	1.94	2.10	54.59	1.50	50.61	2.98	15.10	11.37	14.67	0.52	4.75	
		2	NE, L, I	6.27	0.49	56.60	0.49	43.70	4.91	9.15	19.86	18.09	0.03	4.26	
		3	E, NL, I	6.28	13.31	48.24	10.39	42.46	3.91	19.96	16.20	13.38	1.51	2.58	
		4	E, NL, NI	7.42	8.67	63.42	9.25	48.79	6.67	14.85	10.38	16.41	1.73	1.18	
		5	E, L, NI	7.43	1.45	46.82	1.10	45.75	6.07	7.14	16.83	17.96	0.54	5.71	
		6	NE, NL, I	7.33	6.81	71.93	8.01	42.13	6.29	12.18	19.01	16.94	1.58	1.87	
		7	NE, L, NI	8.69	1.21	72.71	1.54	65.36	1.72	2.35	9.10	18.53	0.07	2.87	
		8	NE, NL, NI	10.26	12.61	76.38	16.32	51.77	7.38	8.93	10.79	18.13	0.87	2.12	
	NO LAND	9	E, I	16.13	19.97	42.76	13.14	4.41	6.52	38.25	24.19	19.48	2.33	4.82	
		10	NE, I	13.65	10.98	67.96	12.66	9.15	15.27	21.54	26.25	22.78	1.08	3.92	
		11	E, NI	19.27	8.27	52.13	7.00	9.25	14.25	24.92	17.41	26.10	2.96	5.11	
		12	NE, NI	14.76	14.12	79.18	18.60	13.92	19.30	22.59	16.64	23.18	1.13	3.22	

Source: Authors' calculations using the RIGA database.

Table 25e. Household asset status and selected group characteristics

			Household by Asset Position	Share of HH members younger	Group's Share in Rural Population	Share of Group Poor (%)	Group's share in overall rural	% of Income						
								Agriculture	Agricultural Wage	Non-Agricultural Wage	Self-Employment	Remittances	Public Transfers	Other
NEPAL 1996	WITH LAND	1	E, L, I	10.45	0.77	11.14	0.11	68.65	0.00	4.48	16.25	0.64	9.32	0.66
		2	NE, L, I	6.08	2.04	58.50	1.44	68.34	2.00	11.54	6.81	6.15	2.02	3.14
		3	E, NL, I	16.42	4.88	20.63	1.33	44.09	1.22	24.63	14.11	8.18	4.59	3.18
		4	E, NL, NI	41.22	1.00	63.65	0.72	50.69	2.01	19.41	8.82	14.40	3.06	1.60
		5	E, L, NI	28.81	0.35	20.73	0.17	77.28	0.00	9.45	0.00	6.69	0.71	5.86
		6	NE, NL, I	15.79	30.30	70.66	29.19	49.84	14.76	17.01	7.17	7.53	2.61	1.08
		7	NE, L, NI	19.67	3.00	68.05	3.11	73.12	6.16	6.29	9.36	3.34	0.75	0.98
		8	NE, NL, NI	17.36	37.72	84.11	43.90	49.20	16.68	16.55	7.15	8.09	1.49	0.85
	NO LAND	9	E, I	25.20	1.15	21.06	0.28	12.25	0.34	28.93	51.21	3.92	1.58	1.76
		10	NE, I	19.67	8.92	70.00	7.94	19.40	28.46	24.21	17.08	9.28	0.27	1.30
		11	E, NI	62.79	0.19	64.60	0.17	27.00	3.81	41.05	24.57	3.56	0.00	0.00
		12	NE, NI	24.73	9.69	90.61	11.65	16.50	44.68	17.38	9.73	10.08	0.76	0.88
PAKISTAN 2001	WITH LAND	1	E, L, I	5.92	1.04	24.05	0.26	64.32	1.91	11.80	3.72	4.90	1.77	11.59
		2	NE, L, I	12.72	4.96	63.46	4.05	73.46	1.94	7.34	3.43	5.42	0.46	7.95
		3	E, NL, I	16.73	0.93	44.92	0.56	48.60	2.60	19.72	12.33	5.70	3.88	7.18
		4	E, NL, NI	11.08	0.61	59.99	0.43	43.72	3.36	12.97	5.30	23.78	8.56	2.30
		5	E, L, NI	14.86	0.28	42.85	0.16	62.44	2.04	9.75	5.87	10.03	3.59	6.27
		6	NE, NL, I	12.38	8.15	76.36	7.98	58.42	3.45	14.25	6.37	11.40	1.67	4.45
		7	NE, L, NI	14.02	7.46	73.63	7.28	79.25	2.26	7.08	2.33	3.73	0.42	4.92
		8	NE, NL, NI	13.97	9.13	85.07	9.80	63.98	3.84	11.75	4.48	13.13	1.06	1.74
	NO LAND	9	E, I	9.80	4.87	42.92	2.46	6.32	1.62	46.12	14.64	14.97	6.40	9.92
		10	NE, I	19.45	28.39	83.03	29.02	17.95	6.64	37.59	15.73	14.86	2.95	4.29
		11	E, NI	21.93	1.05	55.30	0.73	10.82	3.38	40.34	16.02	15.05	4.95	9.43
		12	NE, NI	22.07	33.12	89.79	37.27	26.00	16.95	31.41	10.04	9.71	2.60	3.27
VIETNAM 1998	WITH LAND	1	E, L, I	0.00	0.17	43.88	0.04	55.14	0.00	15.89	25.72	2.19	0.00	1.06
		2	NE, L, I	7.83	0.19	41.33	0.04	61.25	0.00	9.97	28.77	0.00	0.00	0.00
		3	E, NL, I	4.00	31.62	47.16	23.60	55.96	1.97	10.81	23.92	2.51	4.74	0.09
		4	E, NL, NI	7.17	11.06	64.70	11.65	66.47	4.03	8.50	15.94	2.20	2.64	0.22
		5	E, L, NI	0.00	0.05	0.00	0.00	52.60	12.99	13.50	0.00	0.00	20.90	0.00
		6	NE, NL, I	13.04	19.57	65.53	20.47	60.77	2.80	7.22	21.01	4.51	3.16	0.53
		7	NE, L, NI	35.58	0.07	100.00	0.13	71.01	0.00	0.00	28.99	0.00	0.00	0.00
		8	NE, NL, NI	13.69	26.46	76.47	34.85	63.84	10.54	6.18	14.05	3.10	1.79	0.50
	NO LAND	9	E, I	0.66	2.52	18.64	0.71	7.15	2.59	27.95	50.58	8.42	3.21	0.11
		10	NE, I	8.77	2.36	35.33	1.54	10.39	9.50	8.23	46.14	19.86	4.92	0.96
		11	E, NI	4.46	0.71	56.00	0.62	16.12	12.99	29.07	33.22	4.14	4.17	0.29
		12	NE, NI	13.60	5.23	70.27	6.35	26.31	27.37	12.14	25.71	5.76	2.42	0.28

Source: Authors' calculations using the RIGA database.

Table 26. Percentage of individuals participating in rural wage employment

Name of Survey		Working Age Individuals	Employed Individuals	Participation Rate	M	F
Sub-Saharan Africa						
Ghana98	Ghana Living Standards Survey Round 3	8,600	737	8%	69%	31%
Malawi04	Integrated Household Survey - 2	22,016	9,000	39%	62%	38%
Nigeria04	Living Standards Survey	35,521	1,675	4%	74%	26%
South & East Asia						
Bangladesh00	Household Income-Expenditure Survey	14,282	6,361	43%	51%	49%
Indonesia00	Family Life Survey - Wave 3	13,193	3,409	27%	68%	32%
Nepal03	Living Standards Survey II	14,530	4,839	65%	47%	53%
Vietnam98	Living Standards Survey	11,772	3,356	28%	60%	40%
Eastern Europe & Central Asia						
Albania05	Living Standards Measurement Survey	4,998	671	13%	84%	16%
Bulgaria01	Integrated Household Survey	1,340	630	47%	51%	49%
Tajikistan03	Living Standards Survey	9,782	3,205	33%	59%	41%
Latin America & Caribbean						
Ecuador95	Estudio de Condiciones de Vida	6,275	2,342	38%	77%	23%
Guatemala00	Encuesta de Condiciones de Vida	10,240	3,970	39%	81%	19%
Nicaragua01	Encuesta de Medición de Niveles de Vida	5,408	1,767	34%	76%	24%
Panama03	Encuesta de Niveles de Vida	13,255	2,640	36%	75%	25%

Notes: (1) This only includes individuals who are of working age (15 and 60 years old).

(2) Participation rates are weighted to be nationally representative.

Source: Authors' calculations using the RIGA database

Table 27. Participation in rural labour markets by agricultural vs. non-agricultural sector (for participants only)

	Ag.	Non-Ag.	Total
Sub-Saharan Africa			
Ghana98	16%	84%	100%
Malawi04	82%	18%	100%
Nigeria04	29%	71%	100%
South & East Asia			
Bangladesh00	46%	54%	100%
Indonesia00	38%	62%	100%
Nepal03	45%	55%	100%
Vietnam98	46%	54%	100%
Eastern Europe & Central Asia			
Albania05	15%	85%	100%
Bulgaria01	23%	77%	100%
Tajikistan03	75%	25%	100%
Latin America & Caribbean			
Ecuador95	51%	49%	100%
Guatemala00	56%	44%	100%
Nicaragua01	49%	51%	100%
Panama03	41%	59%	100%

Source: Authors' calculations using the RIGA database

Table 28. Participation in rural labour markets by agricultural vs. non-agricultural sector, disaggregated by industry (for participants only)

	1	2	3	4	5	6	7	8
	Agriculture & Fishing	Manufacturing	Construction	Commerce + Transport, Storage, etc. + Finance, Real Estate, etc.	Services	Mining + Electricity & Utilities	Other	Total
Sub-Saharan Africa								
Ghana98	16%	17%	6%	20%	36%	5%	0%	100%
Malawi04	82%	4%	4%	2%	8%	0%	0%	100%
Nigeria04	29%	3%	2%	26%	36%	1%	3%	100%
South & East Asia								
Bangladesh00	46%	17%	5%	16%	14%	1%	1%	100%
Indonesia00	38%	15%	11%	11%	22%	2%	0%	100%
Nepal03	45%	13%	20%	5%	15%	2%	1%	100%
Vietnam98	46%	14%	13%	5%	19%	3%	0%	100%
Eastern Europe & Central Asia								
Albania05	15%	10%	29%	15%	26%	5%	0%	100%
Bulgaria01	23%	26%	4%	25%	15%	5%	1%	100%
Tajikistan03	75%	1%	3%	4%	17%	0%	0%	100%
Latin America & Caribbean								
Ecuador95	51%	9%	11%	11%	12%	3%	4%	100%
Guatemala00	56%	9%	10%	11%	13%	1%	0%	100%
Nicaragua01	49%	9%	7%	8%	25%	2%	0%	100%
Panama03	41%	6%	7%	18%	27%	1%	0%	100%

Source: Authors' calculations using the RIGA database

Table 29. Participation in rural labour markets by sector and expenditure quintile (participants only)

	Ag					Total	Non-Ag					Total	
	1	2	3	4	5		1	2	3	4	5		
Sub-Saharan Africa													
Ghana98	14%	18%	23%	22%	22%	100%	10%	21%	21%	28%	20%	100%	
Malawi04	35%	24%	18%	13%	8%	100%	21%	20%	19%	20%	21%	100%	
Nigeria04	36%	19%	17%	18%	11%	100%	13%	17%	25%	26%	20%	100%	
South & East Asia													
Bangladesh00	33%	28%	20%	12%	7%	100%	17%	18%	20%	24%	22%	100%	
Indonesia00	30%	24%	21%	15%	9%	100%	19%	19%	19%	20%	22%	100%	
Nepal03	40%	27%	17%	12%	4%	100%	26%	25%	19%	17%	13%	100%	
Vietnam98	31%	29%	17%	15%	8%	100%	19%	21%	21%	21%	18%	100%	
Eastern Europe & Central Asia													
Albania05	24%	25%	25%	11%	15%	100%	13%	22%	21%	23%	21%	100%	
Bulgaria01	21%	27%	11%	26%	15%	100%	10%	21%	26%	20%	24%	100%	
Tajikistan03	33%	25%	19%	15%	9%	100%	15%	19%	24%	23%	18%	100%	
Latin America & the Caribbean													
Ecuador95	37%	27%	20%	11%	6%	100%	24%	24%	22%	17%	14%	100%	
Guatemala00	42%	25%	18%	11%	4%	100%	16%	18%	22%	25%	19%	100%	
Nicaragua01	44%	26%	15%	11%	5%	100%	18%	23%	23%	22%	15%	100%	
Panama03	48%	26%	16%	8%	2%	100%	18%	25%	22%	21%	14%	100%	

Source: Authors' calculations using the RIGA database

Table 30. Participation in rural labour markets by sector and level of education (participants only)

	Ag				Overall	Non-Ag				Overall
	No Education	Primary School	Middle School	High-School & Above		No Education	Primary School	Middle School	High-School & Above	
Sub-Saharan Africa										
Ghana98	34%	14%	39%	12%	100%	24%	11%	37%	29%	100%
Malawi04	41%	40%	15%	4%	100%	34%	35%	19%	13%	100%
Nigeria04	52%	38%	5%	5%	100%	15%	47%	6%	31%	100%
South & East Asia										
Bangladesh00	77%	11%	8%	3%	100%	46%	15%	20%	19%	100%
Indonesia00	20%	36%	30%	14%	100%	6%	16%	33%	45%	100%
Nepal03	70%	16%	11%	3%	100%	55%	17%	15%	13%	100%
Vietnam98	15%	51%	28%	6%	100%	4%	22%	49%	24%	100%
Eastern Europe & Central Asia										
Albania05	1%	3%	73%	23%	100%	1%	2%	44%	54%	100%
Bulgaria01	2%	7%	59%	32%	100%	1%	4%	44%	51%	100%
Tajikistan03	1%	2%	16%	81%	100%	1%	1%	7%	92%	100%
Latin America & the Caribbean										
Ecuador95	16%	34%	40%	11%	100%	7%	20%	42%	32%	100%
Guatemala00	42%	44%	14%	1%	100%	18%	39%	33%	10%	100%
Nicaragua01	42%	43%	14%	1%	100%	17%	36%	33%	14%	100%
Panama03	10%	29%	52%	9%	100%	2%	11%	48%	39%	100%

Source: Authors' calculations using the RIGA database

Table 31. Participation in rural labour markets by sector and gender (participants only)

	Ag		Non-ag		Total		Overall	
	M	F	M	F	M	F	M	F
Sub-Saharan Africa								
Ghana98	20%	7%	80%	93%	100%	100%	69%	31%
Malawi04	77%	89%	23%	11%	100%	100%	62%	38%
Nigeria04	29%	28%	71%	72%	100%	100%	74%	26%
South & East Asia								
Bangladesh00	45%	47%	55%	53%	100%	100%	51%	49%
Indonesia00	35%	45%	65%	55%	100%	100%	68%	32%
Nepal03	44%	46%	56%	54%	100%	100%	47%	53%
Vietnam98	41%	52%	59%	48%	100%	100%	60%	40%
Eastern Europe & Central Asia								
Albania05	16%	7%	84%	93%	100%	100%	84%	16%
Bulgaria01	24%	22%	76%	78%	100%	100%	51%	49%
Tajikistan03	69%	84%	31%	16%	100%	100%	59%	41%
Latin America & the Caribbean								
Ecuador95	55%	35%	45%	65%	100%	100%	77%	23%
Guatemala00	61%	35%	39%	65%	100%	100%	81%	19%
Nicaragua01	59%	19%	41%	81%	100%	100%	76%	24%
Panama03	53%	7%	47%	93%	100%	100%	75%	25%

Source: Authors' calculations using the RIGA database

Table 32. Participation in rural labour markets by agricultural vs. non-agricultural sector, disaggregated by industry, and by gender (for participants only)

	1		2		3		4		5		6		7		8			
	Agriculture & Fishing		Manufacturing		Construction		Commerce + Transport, Storage, & Communication + Finance, Insurance & Real Estate		Services		Mining + Electricity & Utilities		Other		Total (horizontal)		Overall	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Sub-Saharan Africa																		
Ghana98	20%	7%	11%	32%	6%	5%	17%	27%	39%	29%	6%	0%	0%	0%	100%	100%	69%	31%
Malawi04	77%	89%	6%	1%	4%	4%	3%	1%	9%	5%	1%	0%	0%	0%	100%	100%	62%	38%
Nigeria04	29%	28%	3%	2%	3%	1%	27%	24%	34%	43%	1%	0%	3%	1%	100%	100%	74%	26%
South & East Asia																		
Bangladesh00	45%	47%	17%	17%	6%	5%	16%	15%	14%	14%	1%	1%	1%	1%	100%	100%	51%	49%
Indonesia00	35%	45%	13%	21%	16%	1%	12%	9%	22%	22%	2%	0%	0%	0%	100%	100%	68%	32%
Nepal03	44%	46%	13%	13%	20%	19%	6%	5%	15%	15%	1%	2%	1%	1%	100%	100%	47%	53%
Vietnam98	41%	52%	12%	17%	19%	4%	6%	4%	18%	22%	3%	2%	0%	0%	100%	100%	60%	40%
Eastern Europe & Central Asia																		
Albania05	16%	7%	9%	17%	34%	1%	16%	14%	20%	58%	6%	2%	0%	0%	100%	100%	84%	16%
Bulgaria01	24%	22%	24%	28%	5%	3%	26%	25%	13%	17%	6%	4%	1%	1%	100%	100%	51%	49%
Tajikistan03	69%	84%	1%	1%	5%	1%	5%	1%	20%	12%	0%	0%	0%	0%	100%	100%	59%	41%
Latin America & the Caribbean																		
Ecuador95	55%	35%	9%	10%	14%	1%	10%	12%	8%	23%	3%	1%	0%	19%	100%	100%	77%	23%
Guatemala00	61%	35%	7%	18%	13%	1%	11%	13%	8%	33%	1%	0%	0%	0%	100%	100%	81%	19%
Nicaragua01	59%	19%	9%	8%	9%	0%	8%	6%	12%	67%	3%	0%	0%	0%	100%	100%	76%	24%
Panama03	53%	7%	7%	3%	9%	0%	16%	23%	14%	67%	1%	1%	0%	0%	100%	100%	75%	25%

Source: Authors' calculations using the RIGA database

Table 33. Participation in rural labour markets by time categories (for participants only)

	FYFT	FYPT	PYFT	PYPT	FY	PY	FT	PT	Total
Sub-Saharan Africa									
Ghana98							55%	45%	100%
Malawi04	9%	1%	13%	77%	10%	90%	22%	78%	100%
Nigeria04							70%	30%	100%
South & East Asia									
Bangladesh00	72%	8%	15%	6%	80%	20%	86%	14%	100%
Indonesia00	34%	13%	34%	19%	47%	53%	68%	32%	100%
Nepal03	16%	8%	30%	46%	24%	76%	46%	54%	100%
Vietnam98	13%	7%	54%	26%	20%	80%	67%	33%	100%
Eastern Europe & Central Asia									
Albania05	49%	3%	41%	7%	52%	48%	90%	10%	100%
Bulgaria01							85%	15%	100%
Tajikistan03	9%	39%	9%	42%	49%	51%	19%	82%	100%
Latin America & Caribbean									
Ecuador95	34%	16%	31%	19%	49%	51%	65%	35%	100%
Guatemala00	38%	11%	46%	5%	49%	51%	84%	16%	100%
Nicaragua01	36%	7%	44%	13%	43%	57%	80%	20%	100%
Panama03	40%	11%	40%	10%	50%	50%	80%	20%	100%

Source: Authors' calculations using the RIGA database

Table 34. Participation in rural labour markets by sector and by time categories (for participants only)

	Ag						Total	Non-Ag						Total	
	FYFT	FYPT	PYFT	PYPT	FT	PT		FYFT	FYPT	PYFT	PYPT	FT	PT		
Sub-Saharan Africa															
Ghana98					57%	43%	100%						55%	45%	100%
Malawi04	2%	1%	8%	89%	10%	90%	100%	39%	3%	37%	21%	76%	24%	100%	
Nigeria04					70%	30%	100%					72%	28%	100%	
South & East Asia															
Bangladesh00	59%	10%	22%	9%	81%	19%	100%	82%	6%	9%	2%	91%	9%	100%	
Indonesia00	24%	11%	34%	31%	58%	42%	100%	41%	14%	33%	12%	74%	26%	100%	
Nepal03	5%	4%	25%	65%	31%	69%	100%	25%	11%	33%	31%	58%	42%	100%	
Vietnam98	5%	2%	58%	35%	63%	37%	100%	18%	12%	51%	18%	70%	30%	100%	
Eastern Europe & Central Asia															
Albania05	10%	1%	81%	8%	91%	9%	100%	56%	3%	34%	7%	90%	10%	100%	
Bulgaria01					77%	23%	100%					87%	13%	100%	
Tajikistan03	14%	5%	53%	28%	68%	32%	100%	16%	2%	66%	16%	82%	18%	100%	
Latin America & the Caribbean															
Ecuador95	34%	22%	22%	21%	57%	43%	100%	33%	9%	41%	17%	73%	27%	100%	
Guatemala00	30%	10%	54%	5%	85%	15%	100%	48%	11%	36%	5%	84%	16%	100%	
Nicaragua01	35%	8%	41%	16%	76%	24%	100%	37%	7%	46%	10%	83%	17%	100%	
Panama03	33%	13%	42%	12%	75%	25%	100%	45%	9%	39%	8%	83%	17%	100%	

Notes: (1) TBC = To be completed.

(2) It is not possible to classify Ghana98, Nigeria04, & Bulgaria01 according to 4 time categories because of insufficient information.

Source: Authors' calculations using the RIGA database

Table 35. Participation in rural labour markets by time category and gender (participants only)

	FYFT		FYPT		PYFT		PYPT		FT		PT		Total		Overall	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Sub-Saharan Africa																
Ghana98									62%	40%	38%	60%	100%	100%	69%	31%
Malawi04	12%	3%	1%	1%	17%	7%	69%	89%	30%	10%	70%	90%	100%	100%	62%	38%
Nigeria04									72%	69%	28%	31%	100%	100%	74%	26%
South & East Asia																
Bangladesh00	73%	71%	8%	8%	14%	15%	5%	6%	87%	86%	13%	14%	100%	100%	51%	49%
Indonesia00	36%	30%	12%	15%	35%	30%	17%	25%	72%	60%	28%	40%	100%	100%	68%	32%
Nepal03	16%	16%	8%	8%	30%	29%	45%	47%	47%	45%	53%	55%	100%	100%	47%	53%
Vietnam98	13%	12%	8%	7%	56%	51%	23%	30%	69%	63%	31%	37%	100%	100%	60%	40%
Eastern Europe & Central Asia																
Albania05	49%	48%	2%	7%	42%	38%	7%	7%	91%	86%	9%	14%	100%	100%	84%	16%
Bulgaria01									85%	84%	15%	16%	100%	100%	51%	49%
Tajikistan03	10%	8%	41%	37%	9%	10%	40%	45%	19%	18%	81%	82%	100%	100%	59%	41%
Latin America & the Caribbean																
Ecuador95	35%	29%	16%	14%	30%	36%	19%	21%	65%	65%	35%	35%	100%	100%	77%	23%
Guatemala00	40%	28%	9%	17%	46%	47%	5%	7%	86%	76%	14%	24%	100%	100%	81%	19%
Nicaragua01	35%	37%	7%	9%	44%	44%	14%	10%	79%	81%	21%	19%	100%	100%	76%	24%
Panama03	38%	43%	10%	11%	41%	39%	11%	7%	79%	82%	21%	18%	100%	100%	75%	25%

Notes: (1) It is not possible to classify Ghana98, Nigeria04, & Bulgaria01 according to 4 time categories because of insufficient information.

Source: Authors' calculations using the RIGA database

Table 36. The percentage of agricultural and non-agricultural income in total rural household income, over time.

RIGA countries

	Albania		Bulgaria		Ecuador		Ghana		Indonesia	
	2002	2005	1995	2001	1995	1998	1992	1998	1993	2000
Agricultural	51	43	47	25	52	54	71	61	50	36
Non-Agricultural	49	57	53	75	48	46	29	39	50	64

	Nepal		Nicaragua		Pakistan		Panama		Vietnam	
	1996	2003	1998	2001	1991	2001	1997	2003	1992	1998
Agricultural	62	48	58	57	51	44	41	41	62	62
Non-Agricultural	38	52	42	43	49	56	59	59	38	38

Source: FAO-RIGA dataset

Non RIGA countries

	Bangladesh		Chile		China		Mexico		Philippines	
	1988	2004	1990	1996	1987	1999	1992	2002	1986	1994
Agricultural	58	44	70	59	53	32	51	24	62	49
Non-Agricultural	42	56	30	41	47	68	49	76	38	51

Source: *Bangladesh*: Nargis and Hossain (2006); *Chile*: Berdegù, Ramirez, and Reardon (2001); *China*: Benjamin, Brant and Giles (2005); *Mexico*: World Bank (2005); *Philippines*: Estudillo and Otsuka (1999).

Table 37. Relationship between income shares and level of income, multivariate analysis

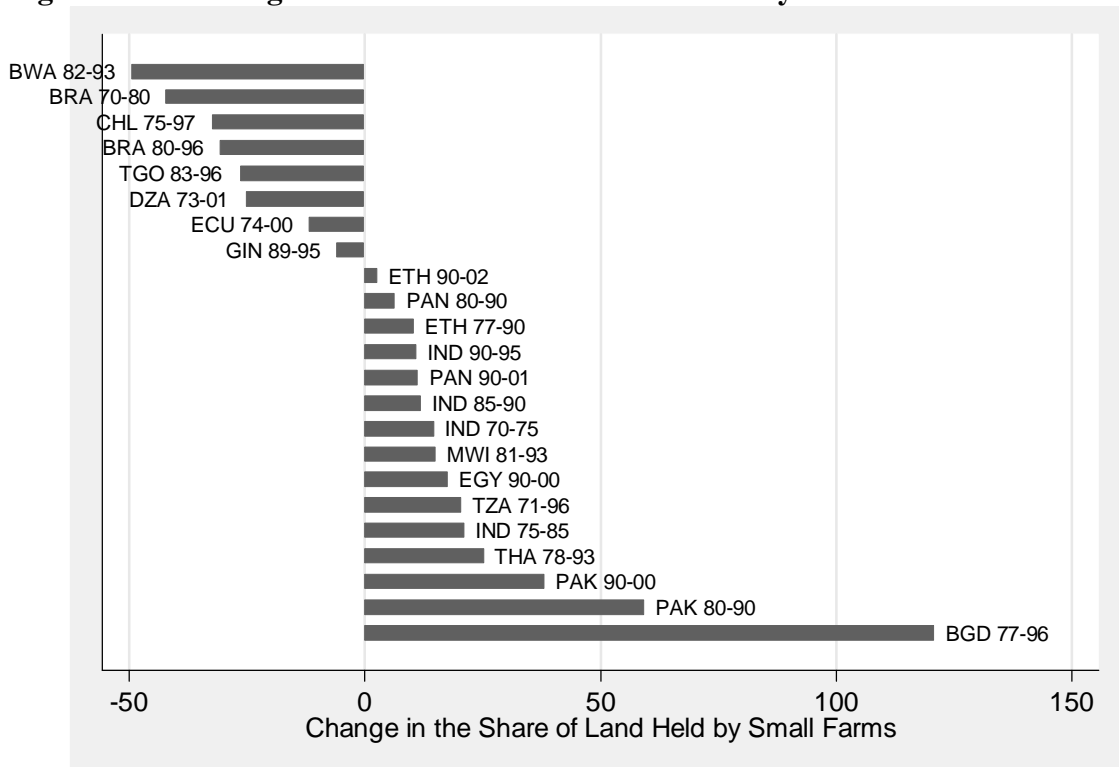
Country		Ag Wage		Non-Ag Wage		Ag Production		Self Employment		Transfers/Other	
		OLS	Censored	OLS	Censored	OLS	Censored	OLS	Censored	OLS	Censored
Megadata	lnpcincome	-0.0125	0.002	0.0854	0.046	-0.0872	-0.041	0.0771	0.0397	-0.1169	-0.0477
	t-stat	-7.00	1.79	45.30	50.16	-33.86	38.92	43.70	48.52	-40.00	30.77
	n	68,881	68,881	68,881	68,881	68,881	68,881	68,881	68,881	68,881	68,881
Ghana	lnpcincome	0.01	-0.062	0.0581	0.0423	-0.0451	-0.0629	0.1024	0.0603	-0.2493	0.1273
	t-stat	3.23	10.25	10.50	8.92	-4.91	16.31	9.38	12.42	-10.47	8.00
	n	3,646	5,030	3,646	5,030	3,646	5,030	3,646	5,030	3,646	5,030
Madagascar	lnpcincome	-0.0419	-0.0247	-0.1268	-0.0533	0.0383	0.0205	0.1354	0.0732	-0.201	-0.0931
	t-stat	-2.44	1.80	-7.02	5.04	2.98	3.74	7.32	8.46	-5.03	5.72
	n	2,628	2,628	2,628	2,628	2,628	2,628	2,628	2,628	2,628	2,628
Malawi	lnpcincome	-0.1005	-0.0417	0.072	0.041	0.0816	0.0404	0.0389	0.0363	-0.5525	-0.2943
	t-stat	-16.06	11.23	21.67	22.07	16.82	17.77	9.38	13.80	-36.05	54.63
	n	9,822	9,822	9,822	9,822	9,822	9,822	9,822	9,822	9,822	9,822
Nigeria	lnpcincome	0.0274	0.0392	0.0472	0.0262	-0.0761	-0.0251	0.0453	0.0228	-0.0351	-0.003
	t-stat	11.25	14.14	20.59	19.60	-25.88	28.23	15.88	17.65	-6.75	0.74
	n	12,658	12,658	12,658	12,658	12,658	12,658	12,658	12,658	12,658	12,658
Bangladesh	lnpcincome	-0.1193	-0.047	0.0748	0.0349	-0.3701	-0.1919	0.1183	0.0485	0.1049	0.0741
	t-stat	-9.57	10.25	9.37	8.92	-14.03	16.31	11.97	12.42	5.01	8.00
	n	5,030	5,030	5,030	5,030	5,030	5,030	5,030	5,030	5,030	5,030
Indonesia	lnpcincome	0.0254	0.0168	0.1131	0.0635	-0.0586	-0.0137	0.0815	0.0514	-0.3507	-0.227
	t-stat	6.19	6.11	15.23	23.04	-6.38	4.94	13.06	16.83	-21.67	32.65
	n	5,204	5,204	5,204	5,204	5,204	5,204	5,204	5,204	5,204	5,204
Nepal	lnpcincome	-0.0788	-0.0368	0.1188	0.0691	-0.1967	-0.1084	0.1187	0.0743	0.1013	0.0889
	t-stat	-4.52	3.91	8.00	7.97	-11.02	11.96	7.50	8.25	5.26	7.68
	n	2,643	2,643	2,643	2,643	2,643	2,643	2,643	2,643	2,643	2,643
Pakistan	lnpcincome	-0.0278	0.0011	-0.0077	0.0049	0.0148	0.0016	0.0537	0.0258	-0.0484	-0.0172
	t-stat	-5.48	0.34	-1.07	2.28	1.35	0.65	11.10	11.23	-7.06	4.95
	n	9,746	9,746	9,746	9,746	9,746	9,746	9,746	9,746	9,746	9,746
Vietnam	lnpcincome	-0.0562	-0.0321	0.0115	0.0386	-0.3489	-0.2141	0.3926	0.1981	-0.0723	-0.0148
	t-stat	-6.03	4.42	1.38	4.88	-34.45	37.95	40.55	40.77	-5.28	1.63
	n	4,220	4,220	4,220	4,220	4,220	4,220	4,220	4,220	4,220	4,220
Albania	lnpcincome	0.034	0.0393	0.1477	0.0781	-0.3635	-0.2593	0.1628	0.0987	-0.0844	-0.0405
	t-stat	3.43	3.91	9.22	10.37	-17.79	20.04	10.95	11.57	-3.75	2.85
	n	1,636	1,636	1,636	1,636	1,636	1,636	1,636	1,636	1,636	1,636
Bulgaria	lnpcincome	0.1431	0.0854	0.1428	0.1041	-0.0433	0.0092	0.0143	n.a.	-0.2386	-0.1472
	t-stat	7.44	7.88	7.45	8.42	-0.70	0.42	1.57	n.a.	-5.98	13.81
	n	861	861	861	861	861	861	861	861	861	861
Ecuador	lnpcincome	0.0308	0.0181	0.0558	0.0371	-0.1574	-0.0716	0.083	0.0453	-0.0683	-0.0072
	t-stat	3.06	4.19	6.48	7.71	-7.99	10.52	6.41	7.74	-2.65	0.64
	n	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450
Guatemala	lnpcincome	0.0192	0.0101	0.1693	0.0785	-0.3576	-0.2021	0.1358	0.0878	-0.1623	-0.0774
	t-stat	1.87	1.98	16.97	16.80	-20.66	21.42	11.96	13.39	-7.65	7.65
	n	3,814	3,814	3,814	3,814	3,814	3,814	3,814	3,814	3,814	3,814
Nicaragua	lnpcincome	-0.0032	0.0022	0.0867	0.0365	-0.2103	-0.1027	0.1059	0.0665	0.0091	0.0262
	t-stat	-0.23	0.35	6.45	5.99	-10.52	10.59	6.93	7.95	0.41	1.85
	n	1,824	1,824	1,824	1,824	1,824	1,824	1,824	1,824	1,824	1,824
Panama	lnpcincome	0.0554	0.0243	0.1529	0.0784	-0.3795	-0.2206	0.0668	0.0406	-0.1379	-0.045
	t-stat	7.21	6.12	18.92	18.31	-24.25	26.03	7.83	8.84	-6.51	4.53
	n	2,916	2,916	2,916	2,916	2,916	2,916	2,916	2,916	2,916	2,916

Notes: Tests of significance based on robust standard errors in all cases. Elasticities reported instead of coefficients.

Source: Authors' calculations using the RIGA database

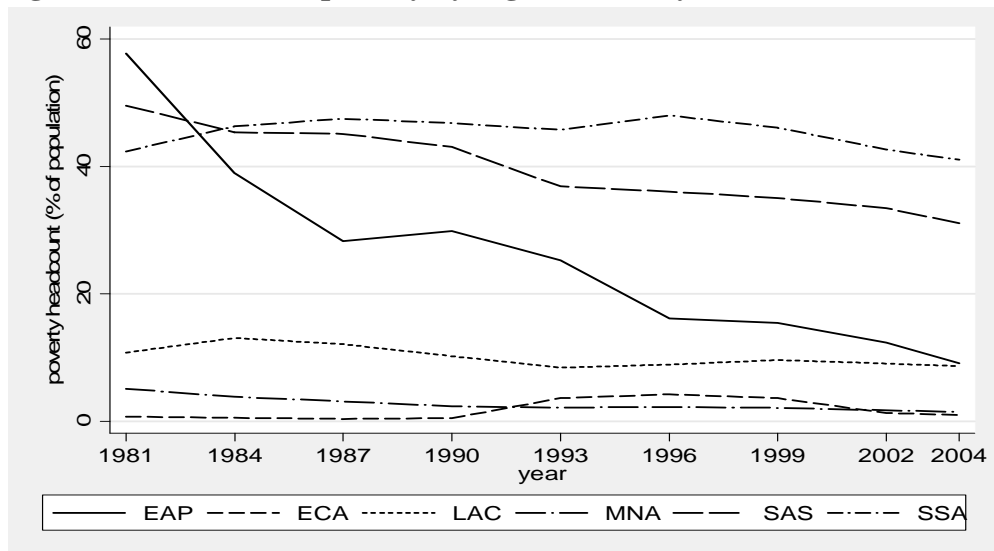
Figures

Figure 1. The change in the share of all farm land held by small holders



Source: Anriquez and Bonomi (2007)

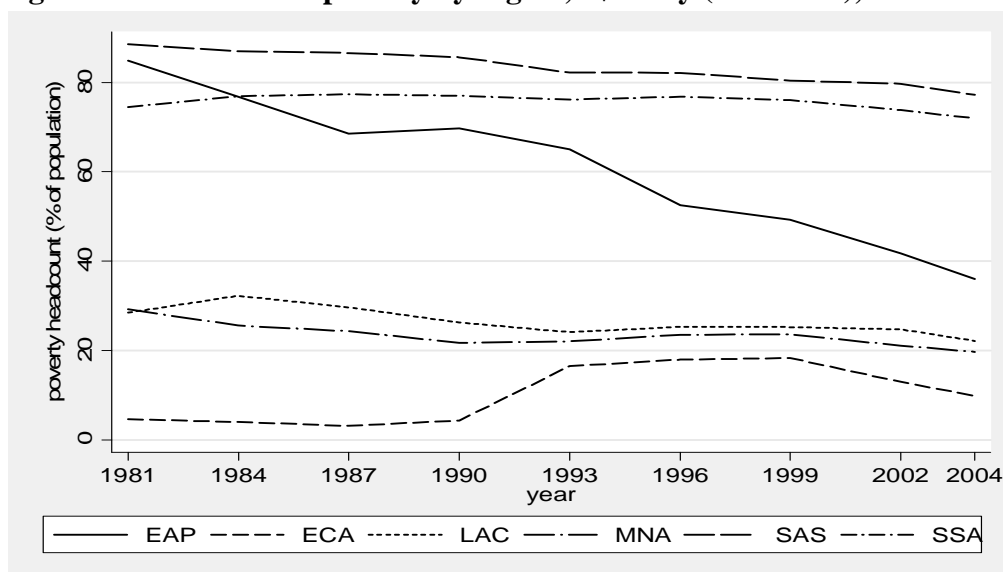
Figure 2a. Incidence of poverty by region, 1\$ a day (1993 PPP), 1981-2004



Sources: Ravallion et al. (2007) and Chen and Ravallion (2007)

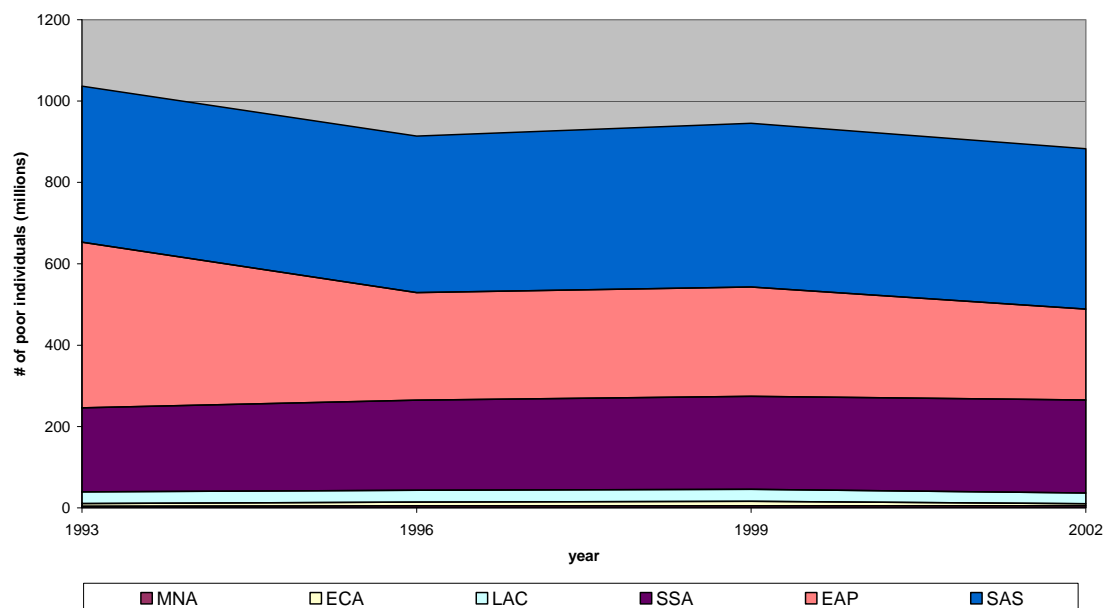
Note: EAP = East Asia and the Pacific, ECA = Eastern Europe and Central Asia, LAC = Latin America and the Caribbean, MNA= Middle East and North Africa, SAS = South Asia, SSA = Sub-Saharan Africa.

Figure 2b. Incidence of poverty by region, 2\$ a day (1993 PPP), 1981-2004



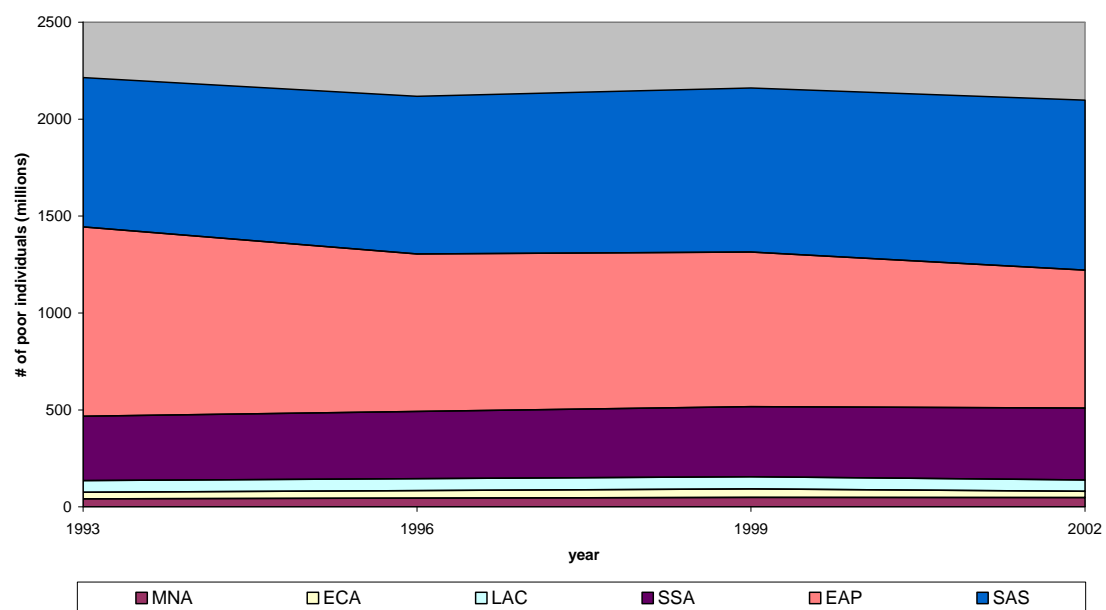
Sources: Ravallion et al. (2007) and Chen and Ravallion (2007)

Figure 3a. Number of rural poor, by region, \$1 day, 1993-2002



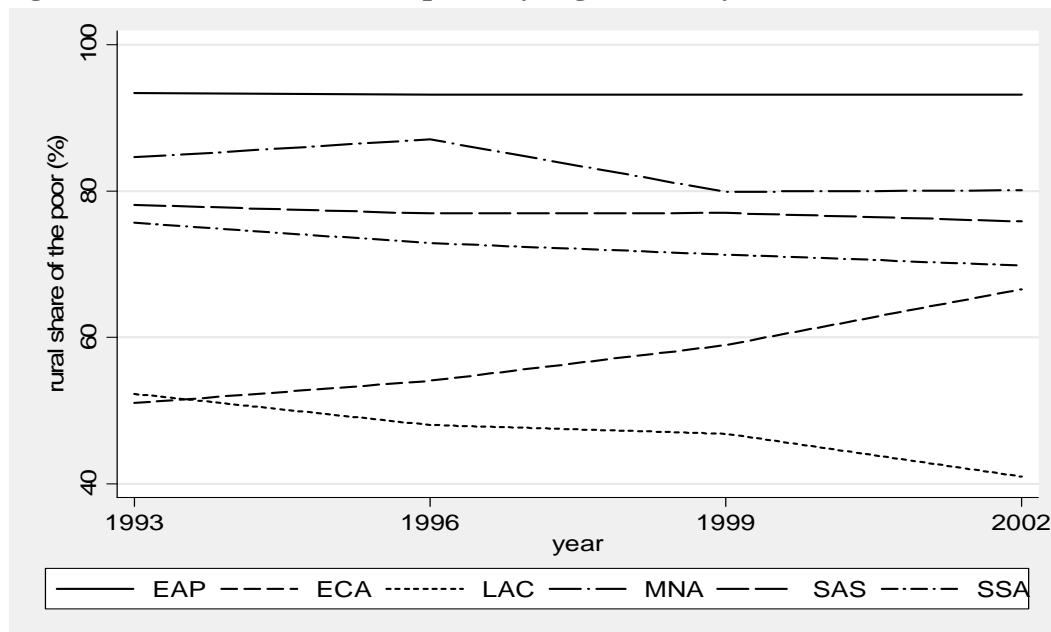
Sources: Ravallion et al. (2007) and Chen and Ravallion (2007).

Figure 3b. Number of rural poor, by region, \$2 day, 1993-2002



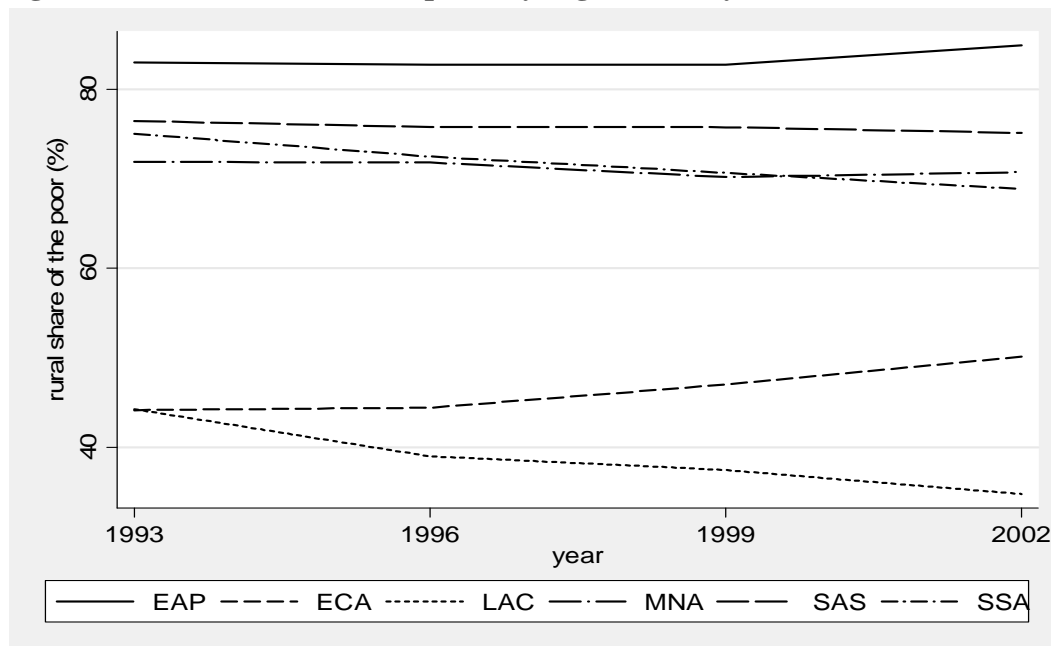
Sources: Ravallion et al. (2007) and Chen and Ravallion (2007).

Figure 4a. Rural share of total poor, by region, 1\$ day, 1993-2002



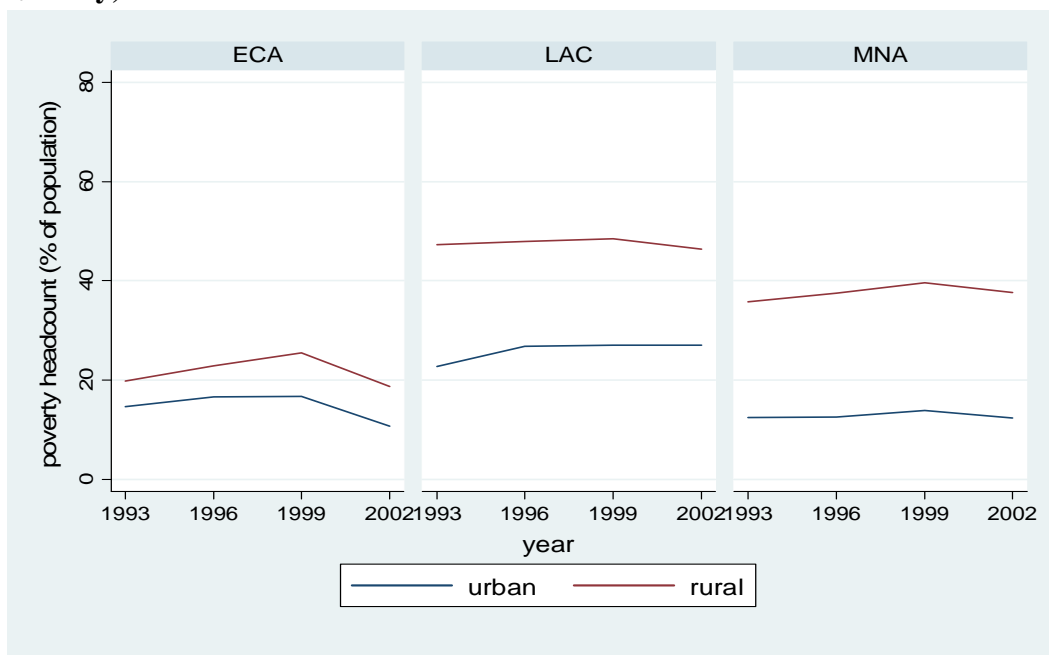
Sources: Ravallion et al. (2007) and Chen and Ravallion (2007)

Figure 4b. Rural share of total poor, by region, 2\$ day, 1993-2002



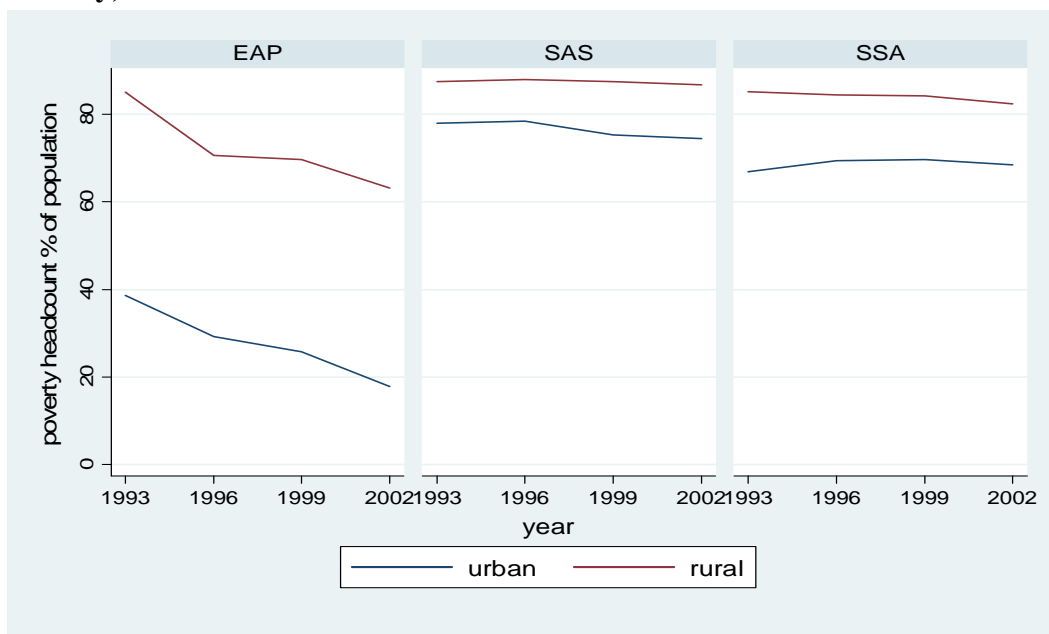
Sources: Ravallion et al. (2007) and Chen and Ravallion (2007).

Figure 5a. Incidence of poverty by region (ECA, LAC and MNA) and by urban/rural, 1\$ a day, 1993-2002



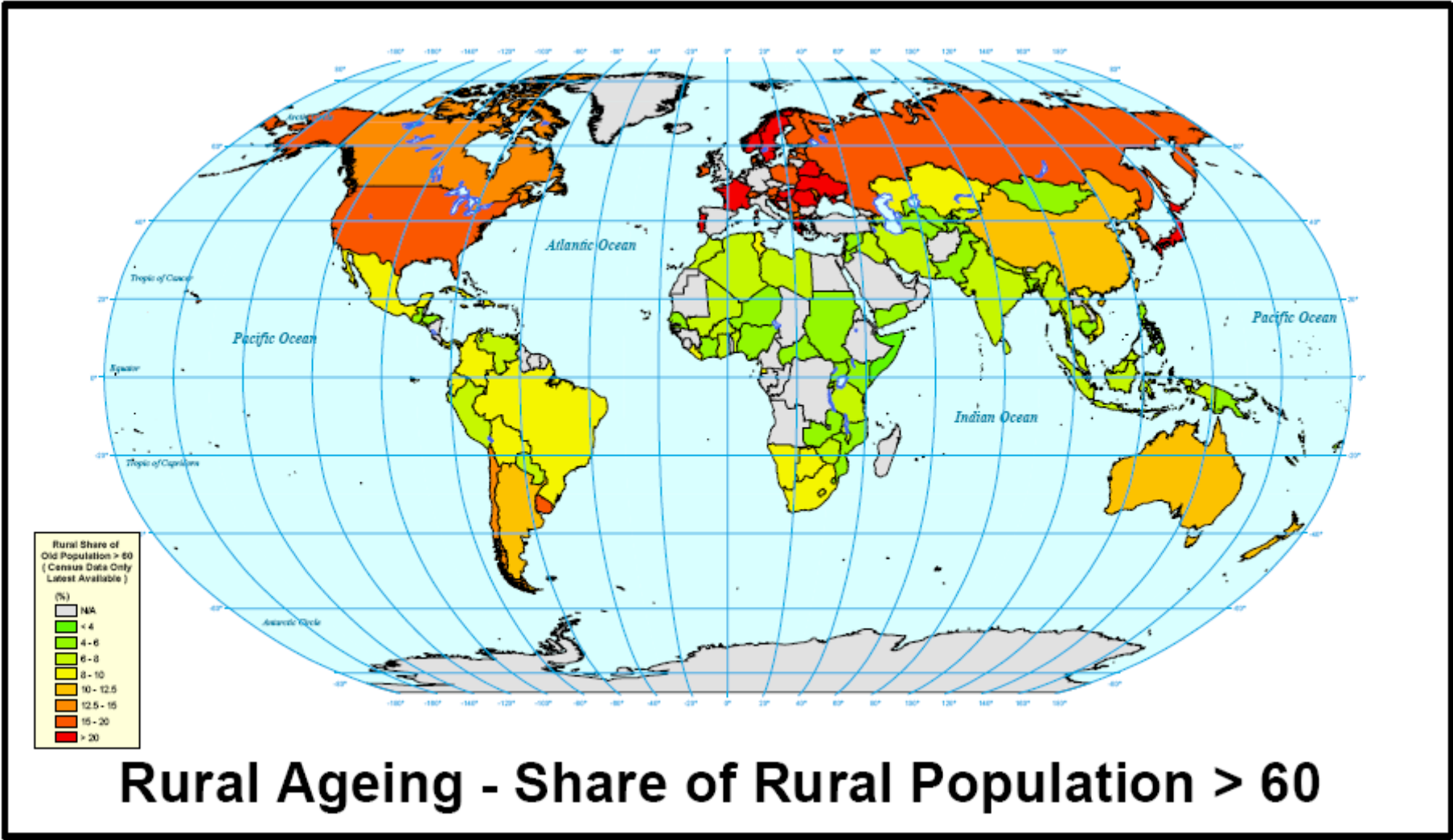
Sources: Ravallion et al. (2007) and Chen and Ravallion (2007)

Figure 5b. Incidence of poverty by region (EAP, SAS and SSA) and by urban/rural, 2\$ a day, 1993-2002



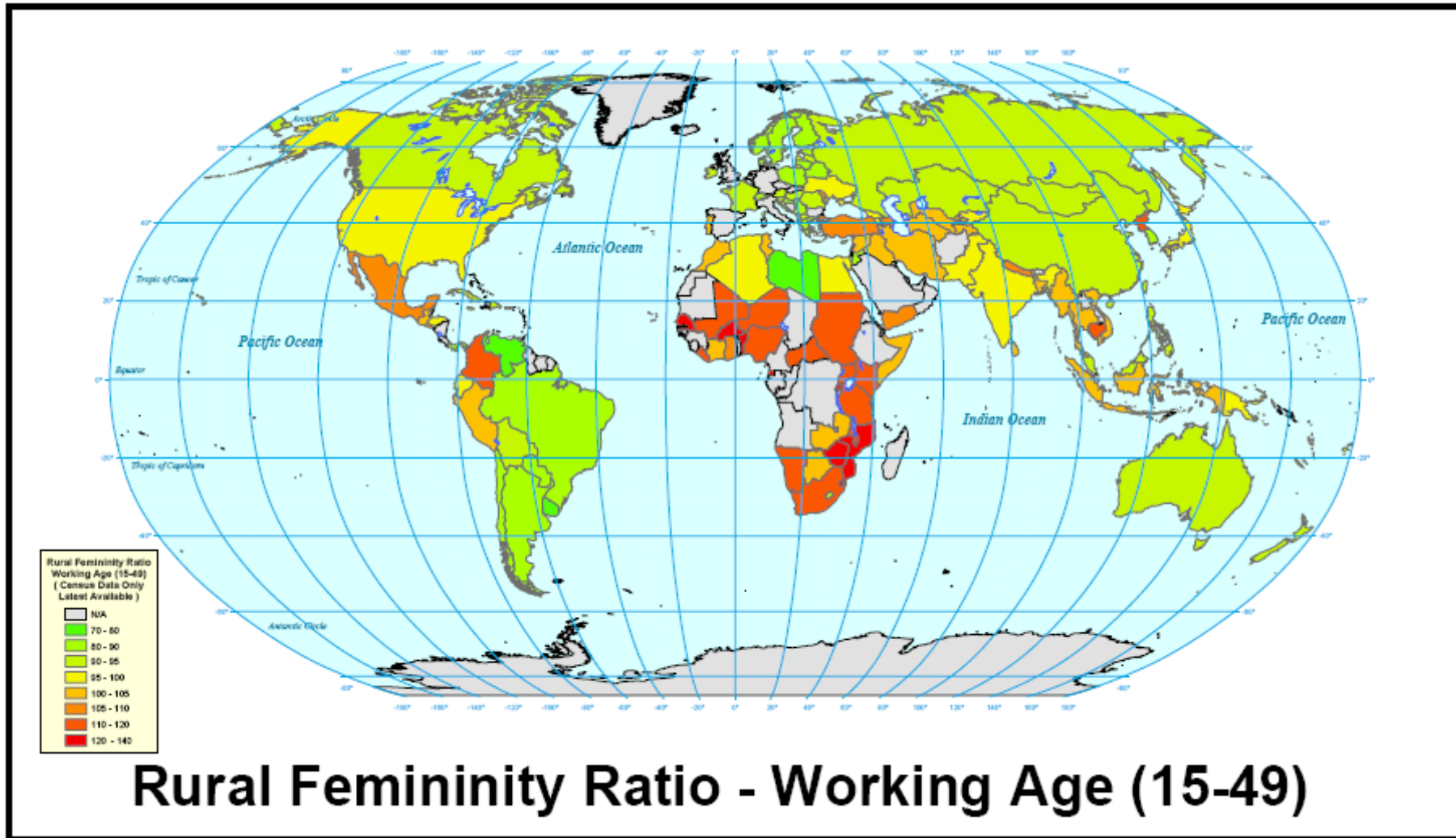
Sources: Ravallion et al. (2007) and Chen and Ravallion (2007).

Figure 6. Share of country populations older than 60 years.



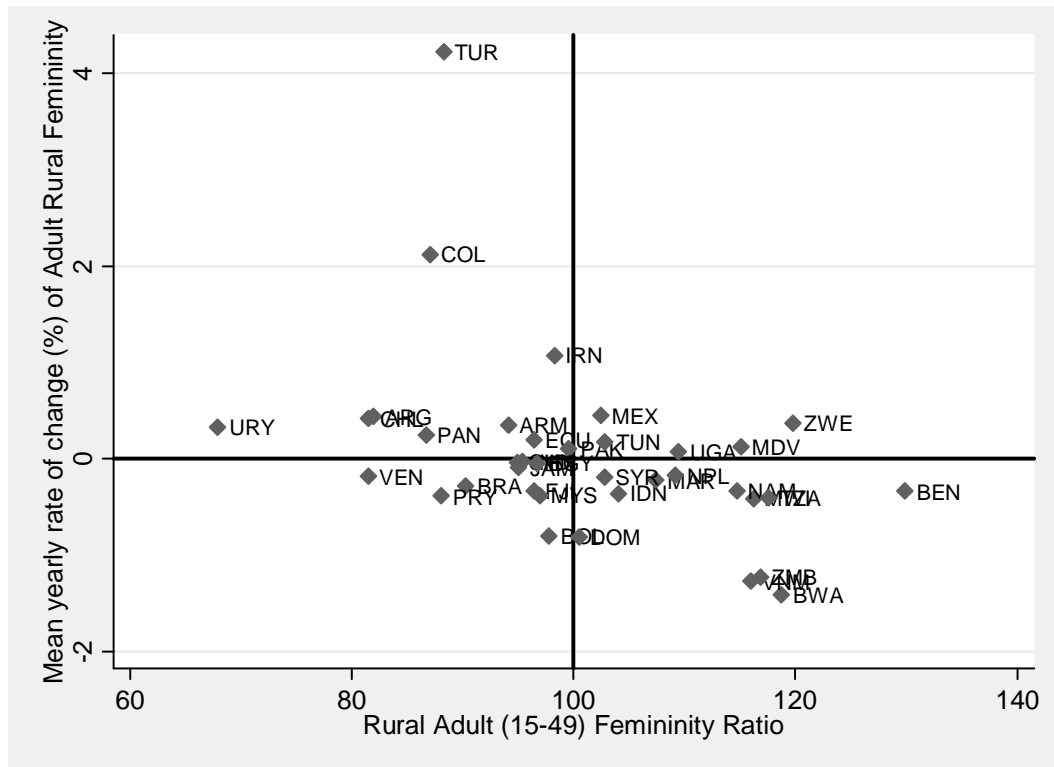
Source: Anríquez (2007)

Figure 7. Ratio of females to males by country, working age 15-49 years



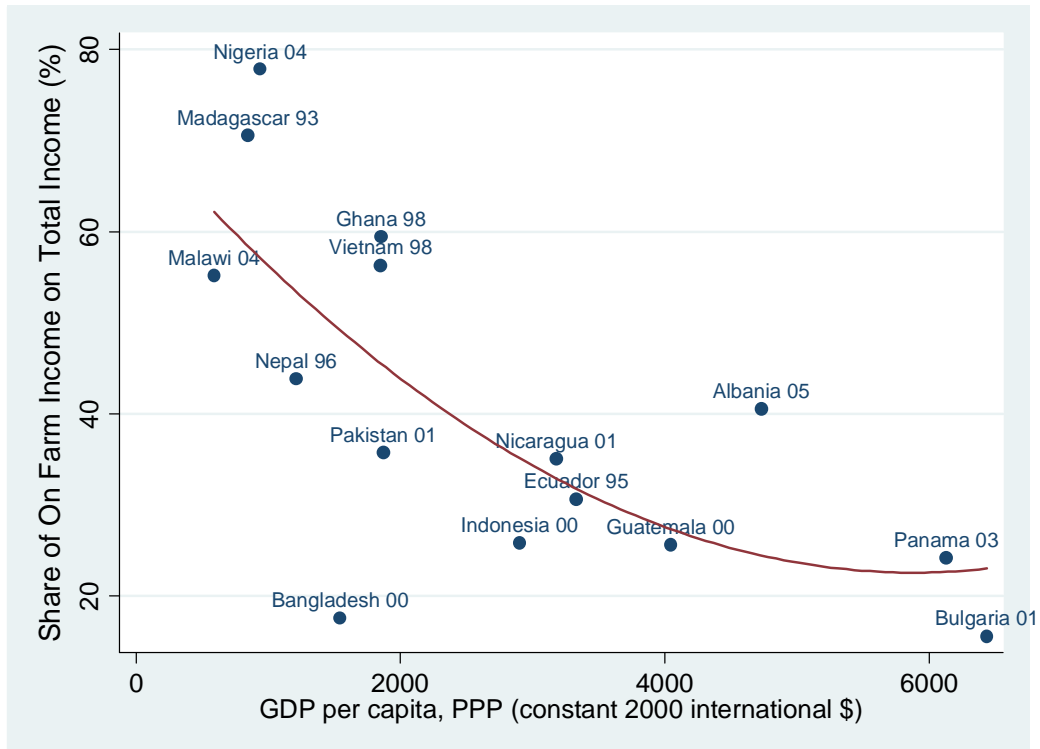
Source: Anríquez (2007)

Figure 8. Changes in female-to-male ratio by initial ratio



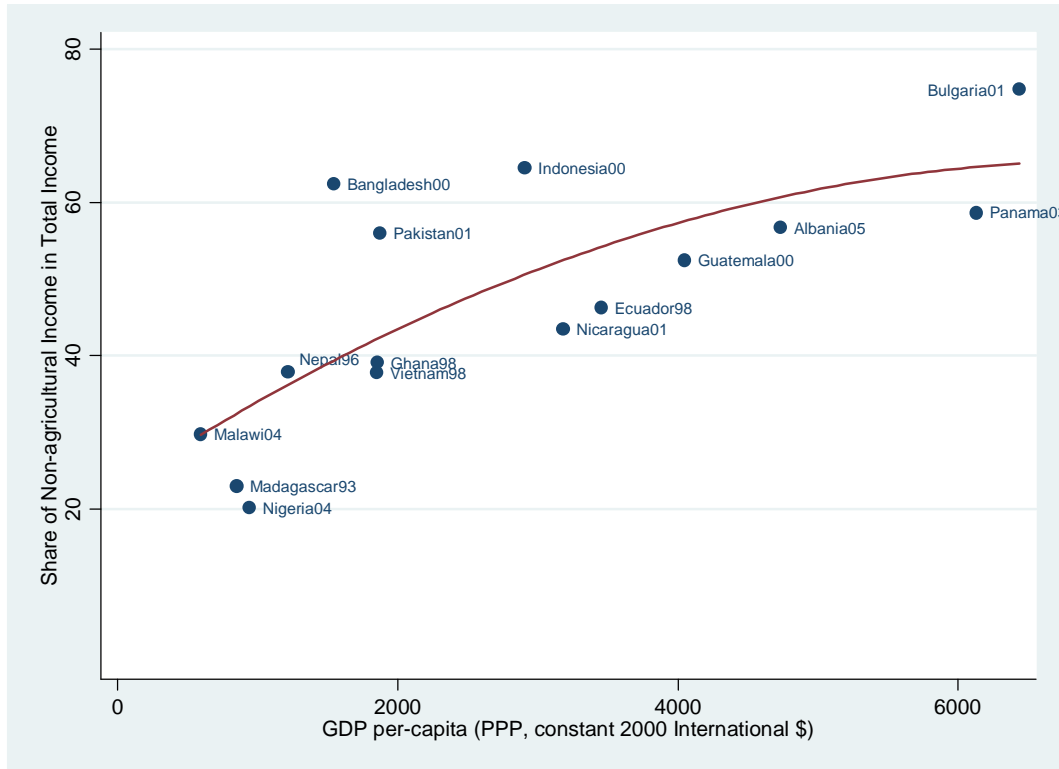
Source: Anríquez (2007)

Figure 9a. Share of rural on-farm income by country per capita GDP



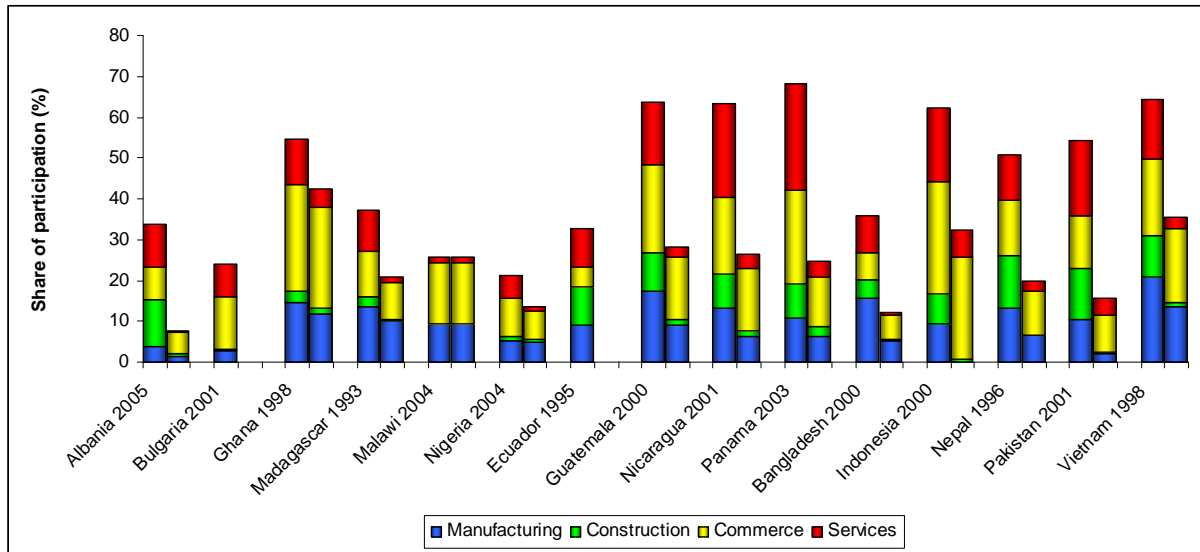
Source: Authors' calculations using the RIGA database

Figure 9b. Share of rural non-agricultural income by country per capita GDP



Source: Authors' calculations using the RIGA database

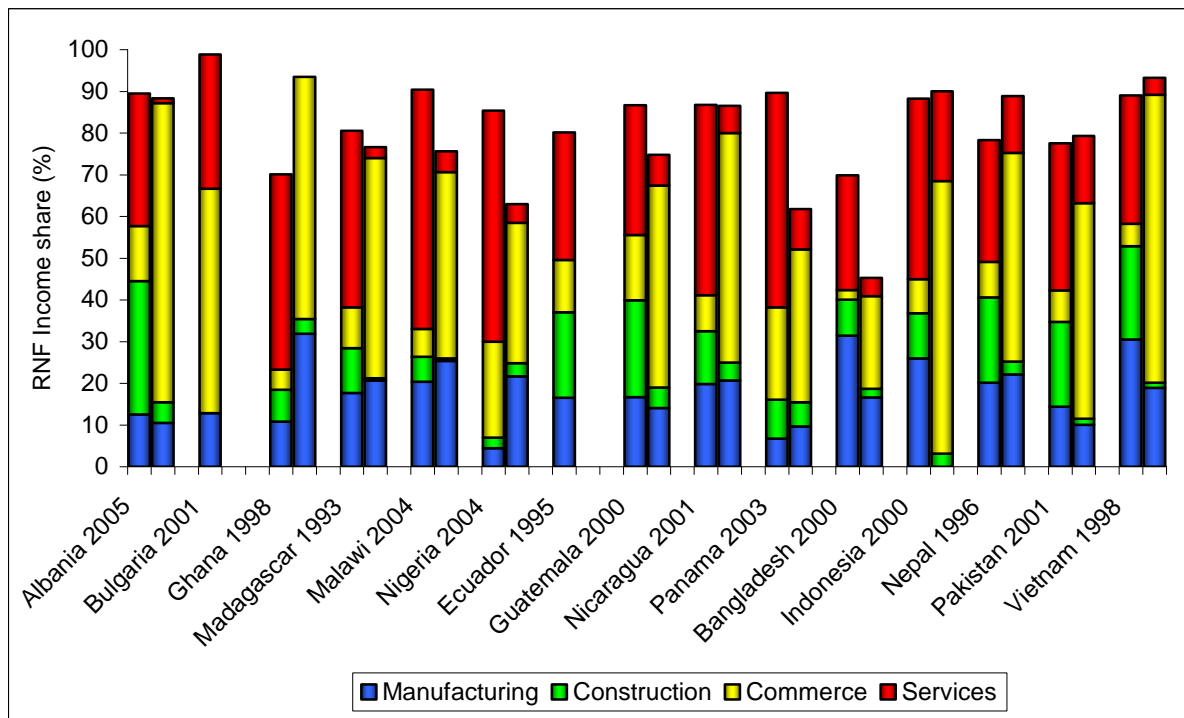
Figure 10. Participation in rural non-farm wage and self-employment activities



Source: Authors' calculations using the RIGA database.

Notes: For each country the figure shows participation in wage (first column) and self-employment (second column) rural non-farm activities. For Bulgaria and Ecuador participation in self-employment is missing.

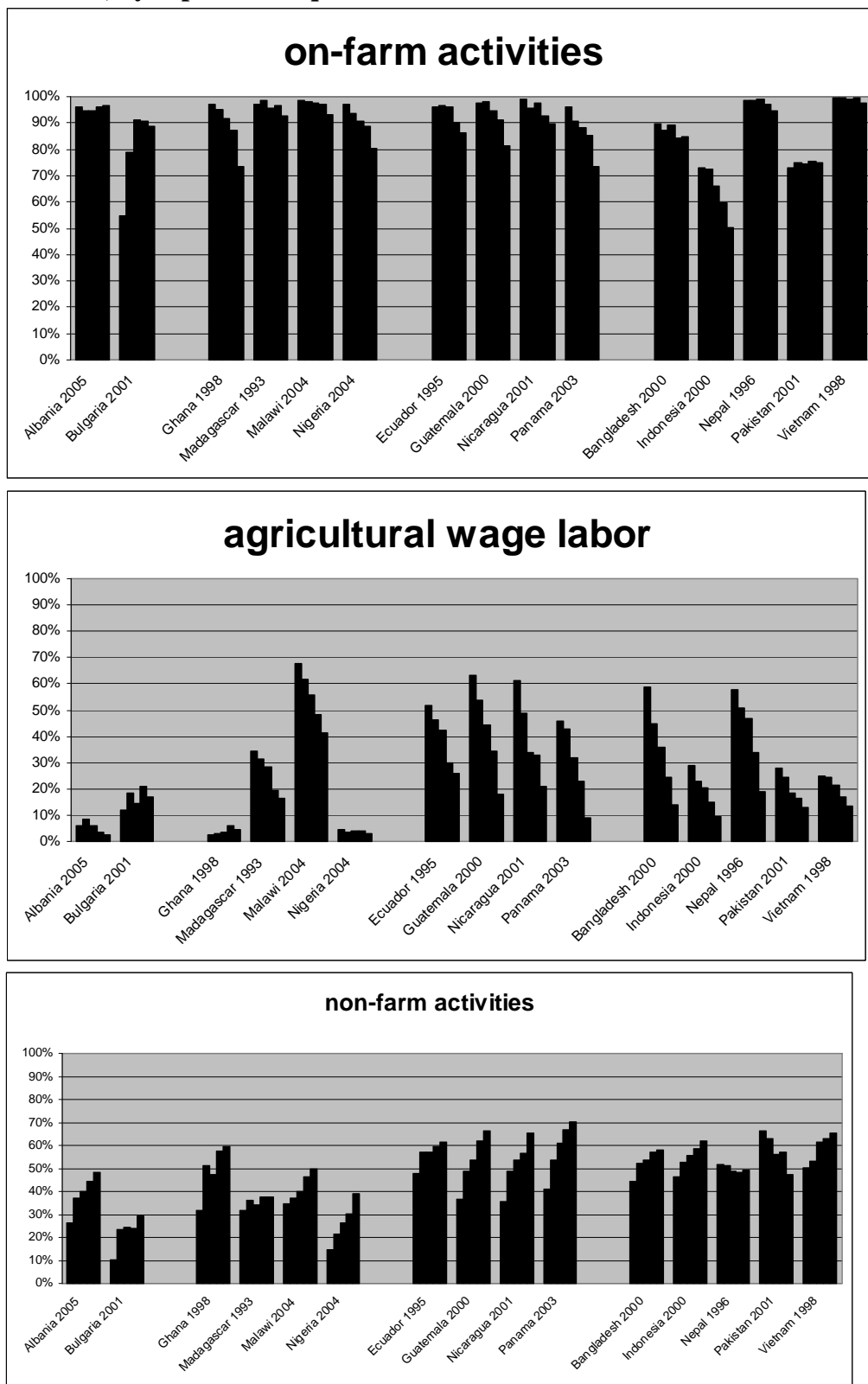
Figure 11. Rural non-farm income shares from wage and self-employment sources



Source: Authors' calculations using the RIGA database

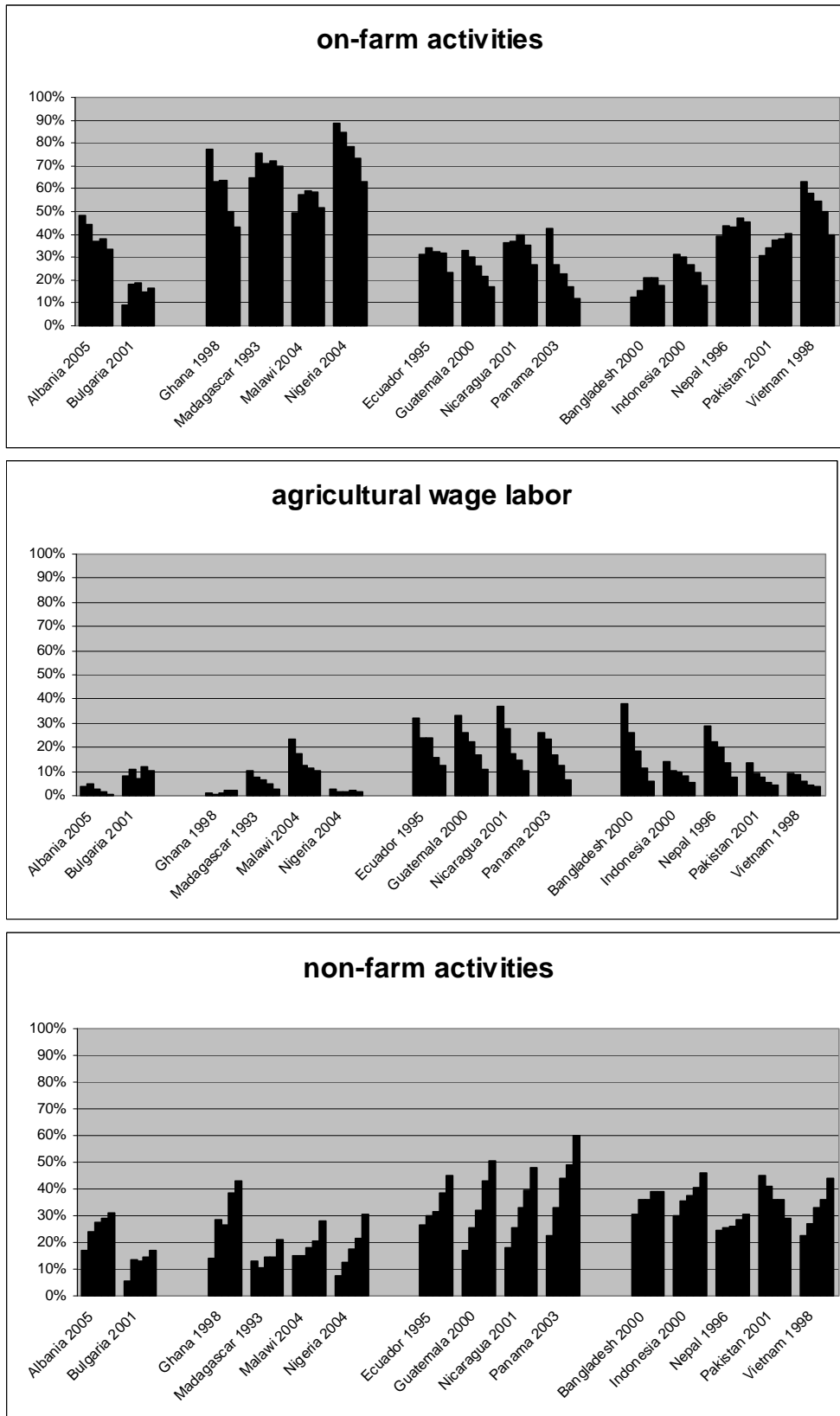
Notes: For each country the figure shows the income shares from wage (first column) and self-employment (second column) rural non-farm activities. For Bulgaria and Ecuador self-employment income shares are missing.

Figure 12. Percent of households participating in main income generating activities, by expenditure quintile



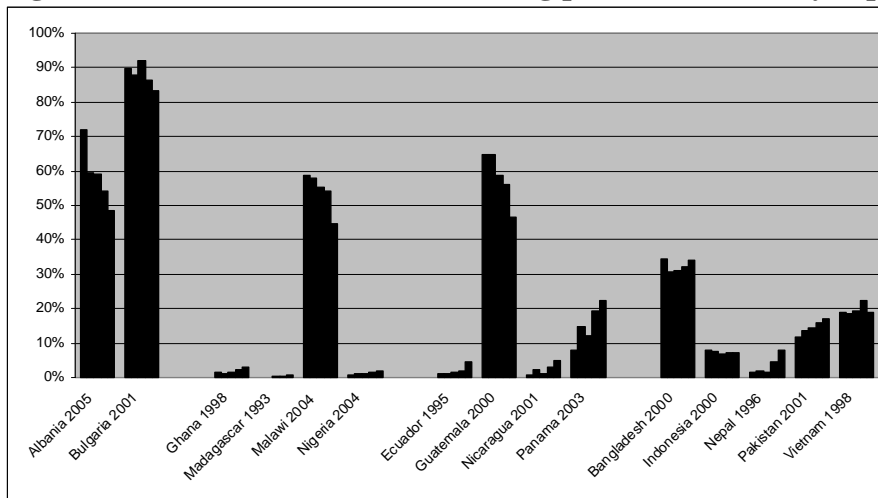
Source: Authors' calculations using the RIGA database
 Note: expenditure quintiles move from poorer to richer.

Figure 13. Percent of total income from main income generating activities, by expenditure quintile



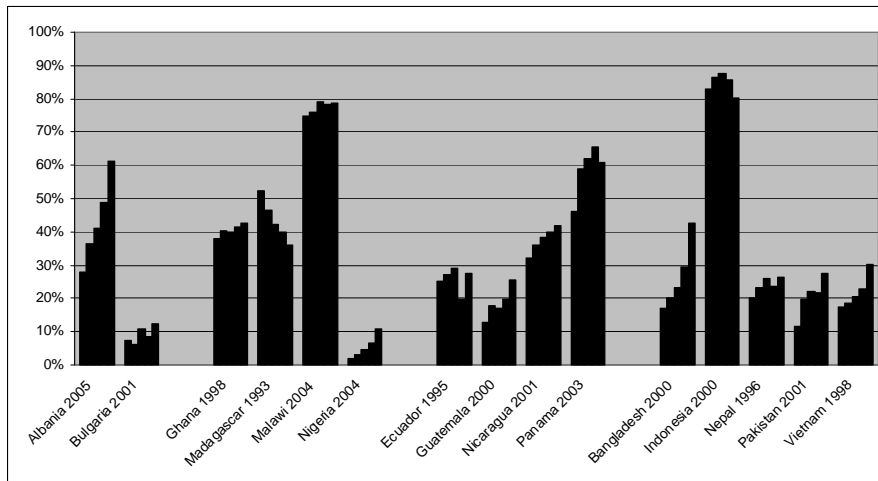
Source: Authors' calculations using the RIGA database

Figure 14. Share of households receiving public transfers, by expenditure quintile.



Source: Authors' calculations using the RIGA database

Figure 15. Share of households receiving private transfers, by expenditure quintile.



Source: Authors' calculations using the RIGA database

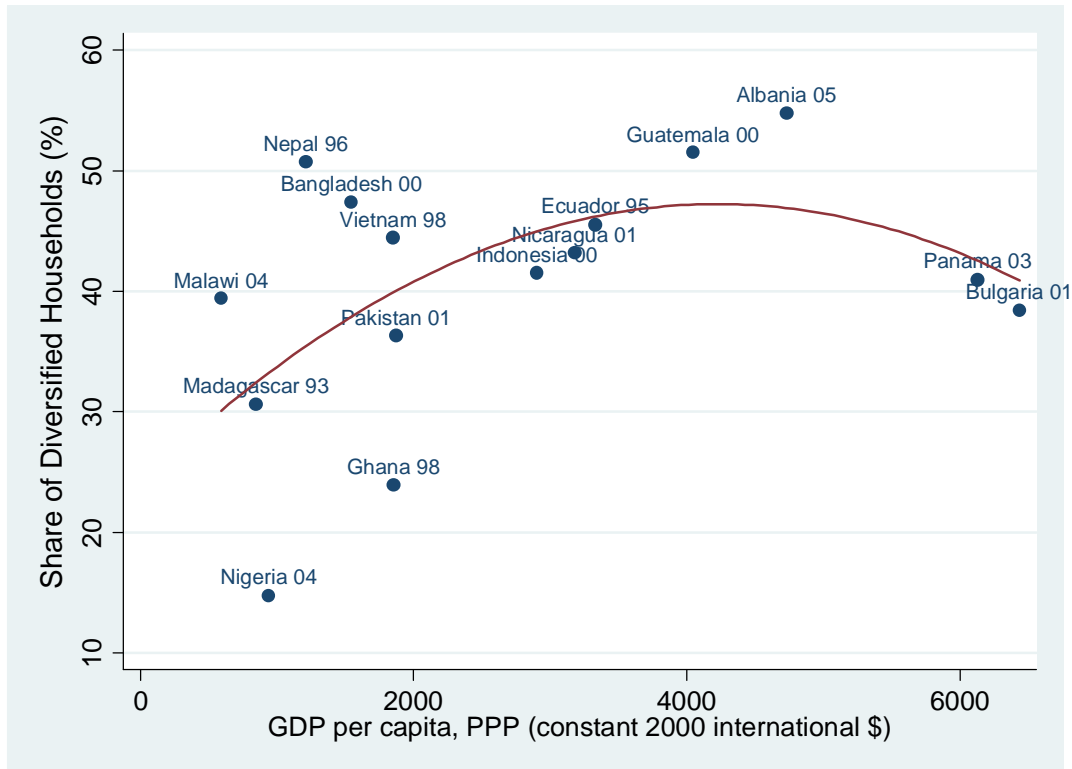
Figure 16. Household livelihoods by expenditure quintiles



Source: Authors' calculations using the RIGA database

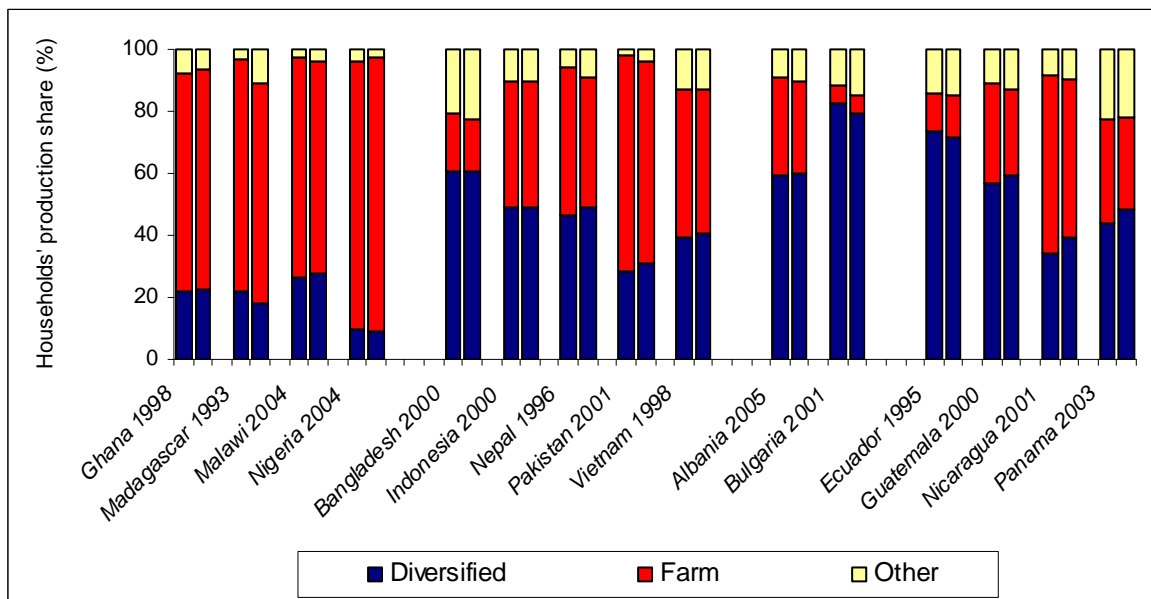
Note: Households are characterized by the main (>75%) source of income. Diversified households do not have one main source. 'Farm' aggregate includes crop and livestock income. 'Other' is composed of non-agricultural wage and self-employment; transfers, including remittances; and other minor sources. Quintiles are sorted from poorest to richest.

Figure 17. Share of diversified rural households by national per capita GDP



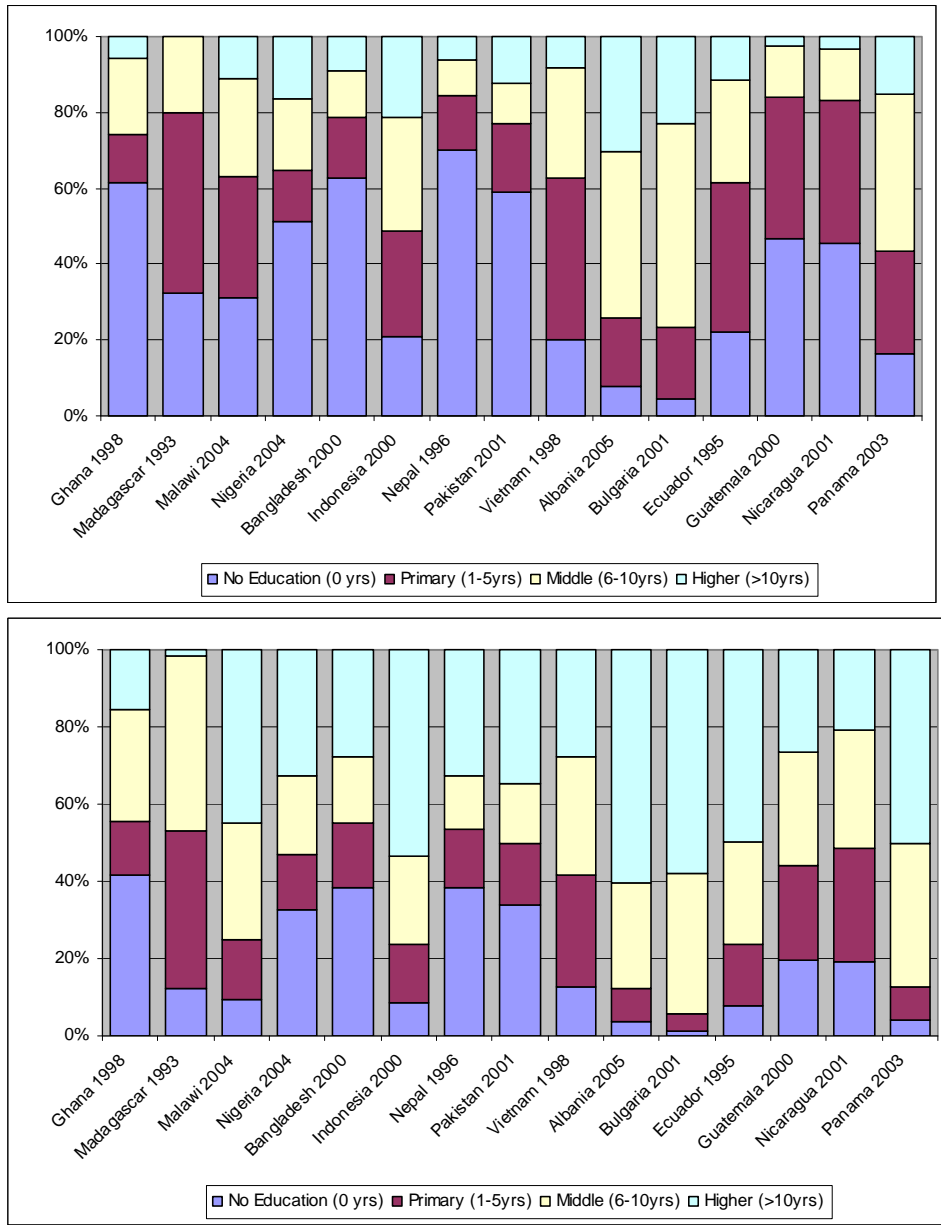
Source: Authors' calculations using the RIGA database

Figure 18. Share of agricultural production by household livelihood strategy.



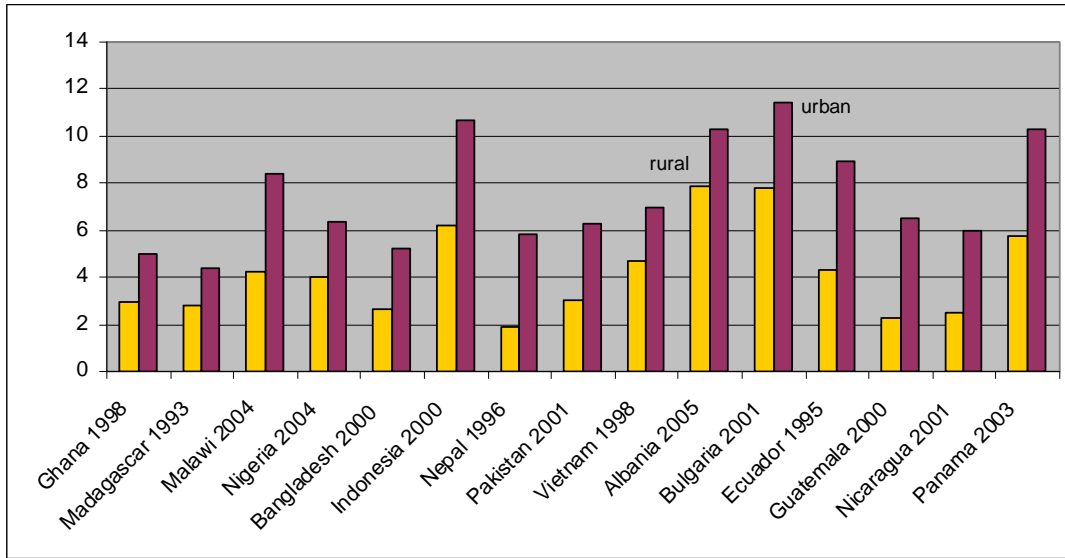
Source: Authors' calculations using the RIGA database. Notes: For each country the figure shows the share of marketed production (first column) and total value of agricultural production (second column) by household livelihood strategy.

Figure 19. Educational achievement, urban and rural heads of household



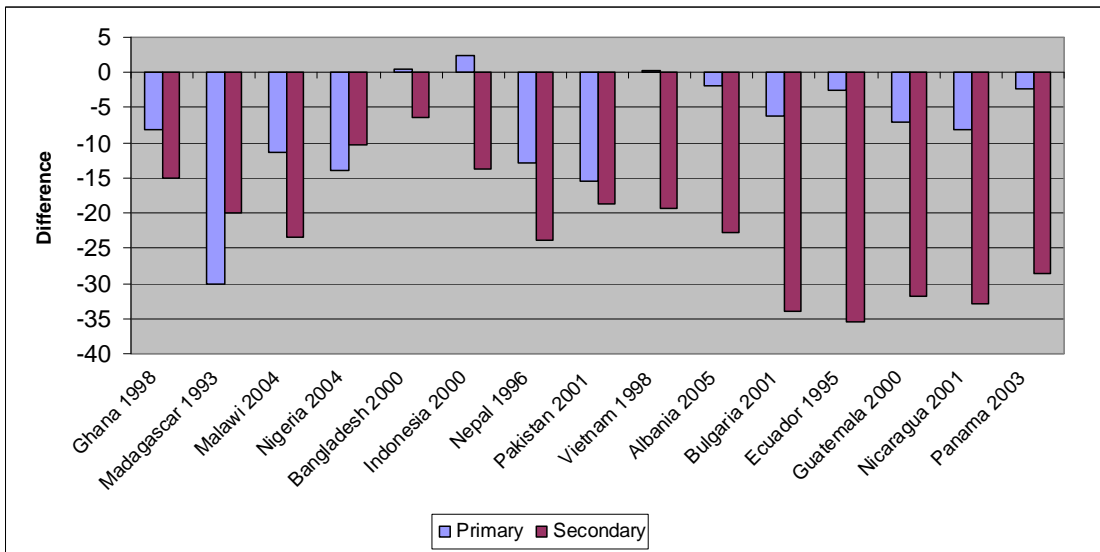
Source: Zezza, et al (2007)

Figure 20. Average years of education, overall and rural heads of households



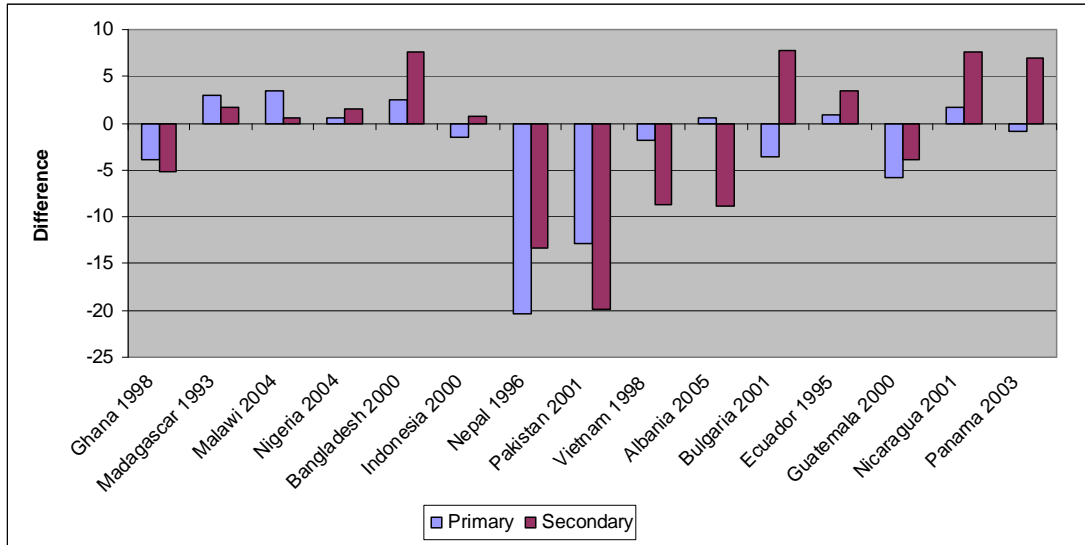
Source: Zezza, et al (2007)

Figure 21. Percentage difference in rural-urban net primary and secondary school attendance rates



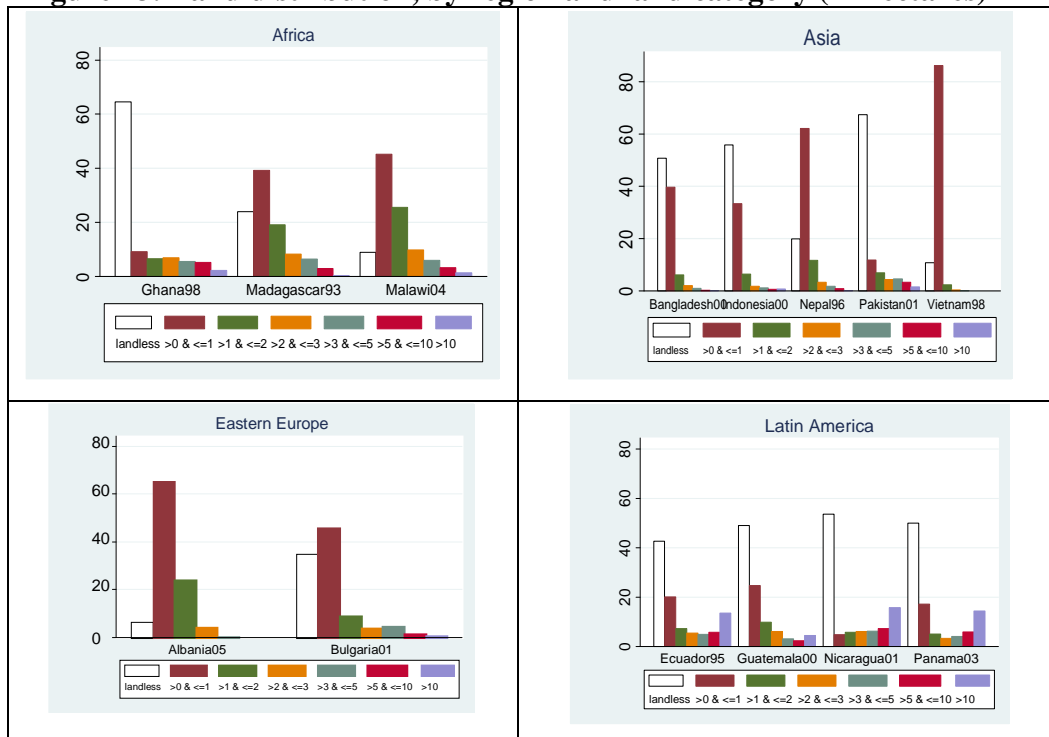
Source: Zezza, et al (2007)

Figure 22. Percentage difference in rural female-male net primary and secondary school attendance rates



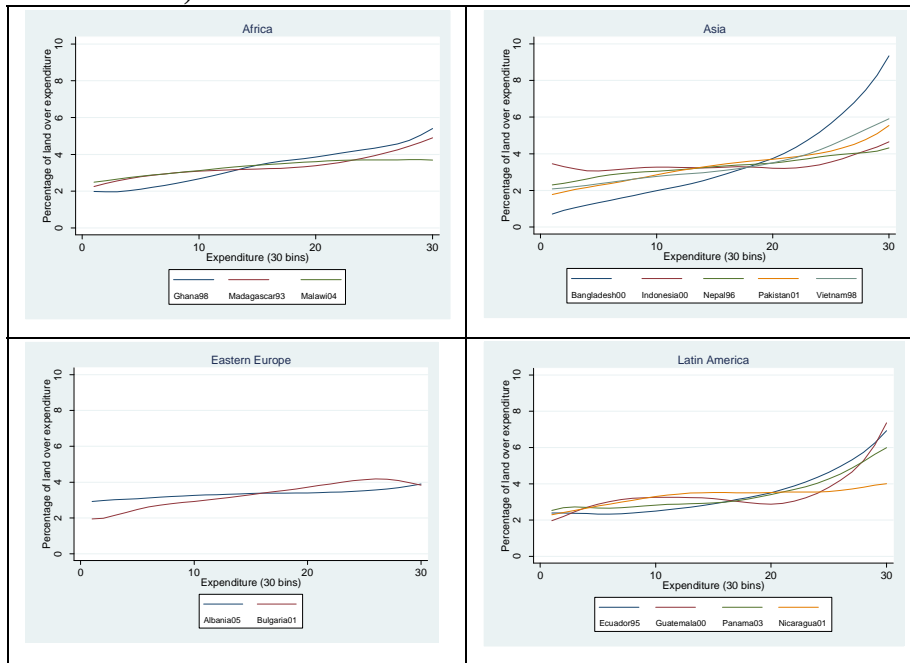
Source: Zezza, et al (2007)

Figure 23. Land distribution, by region and land category (in hectares)



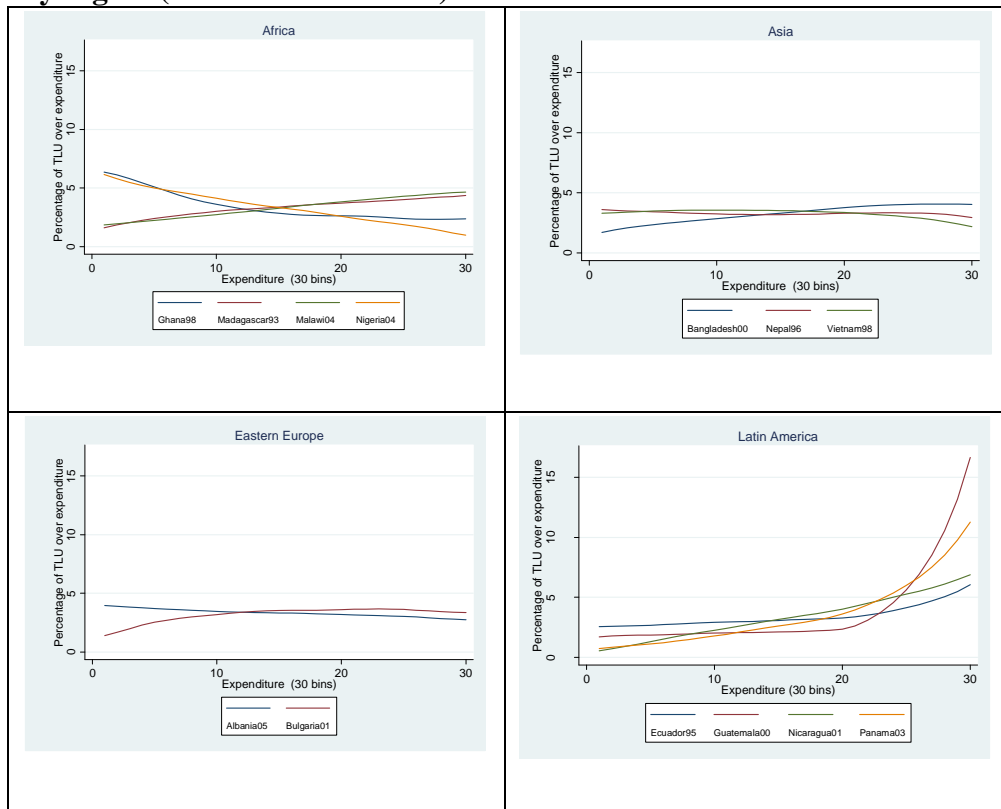
Source: Zezza, et al (2007)

Figure 24. Land concentration by expenditure (30 bins), by region (Lowess distribution)



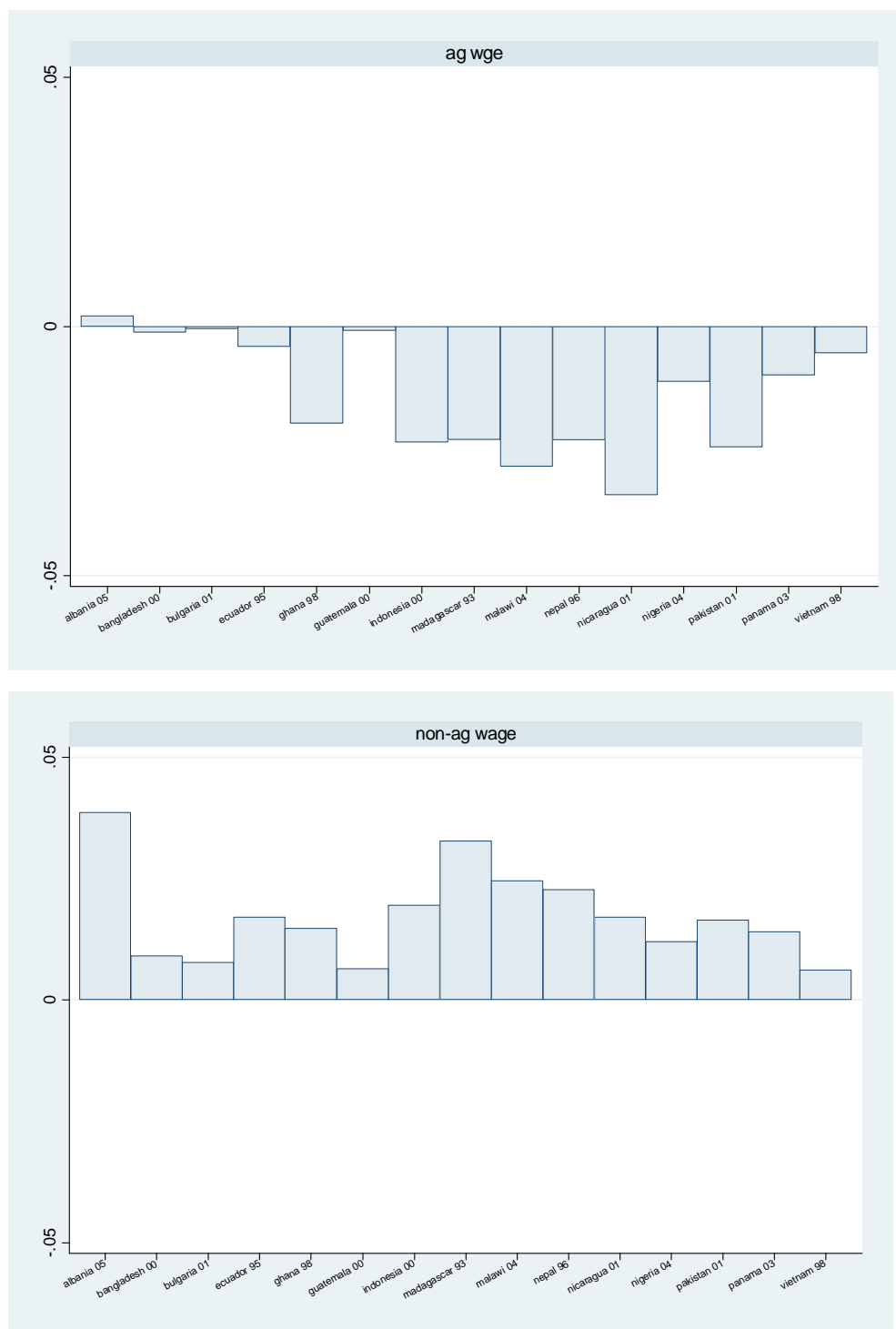
Source: Zezza, et al (2007)

Figure 25. Livestock concentration across the expenditure distribution (30 bins), by region (Lowess distribution)



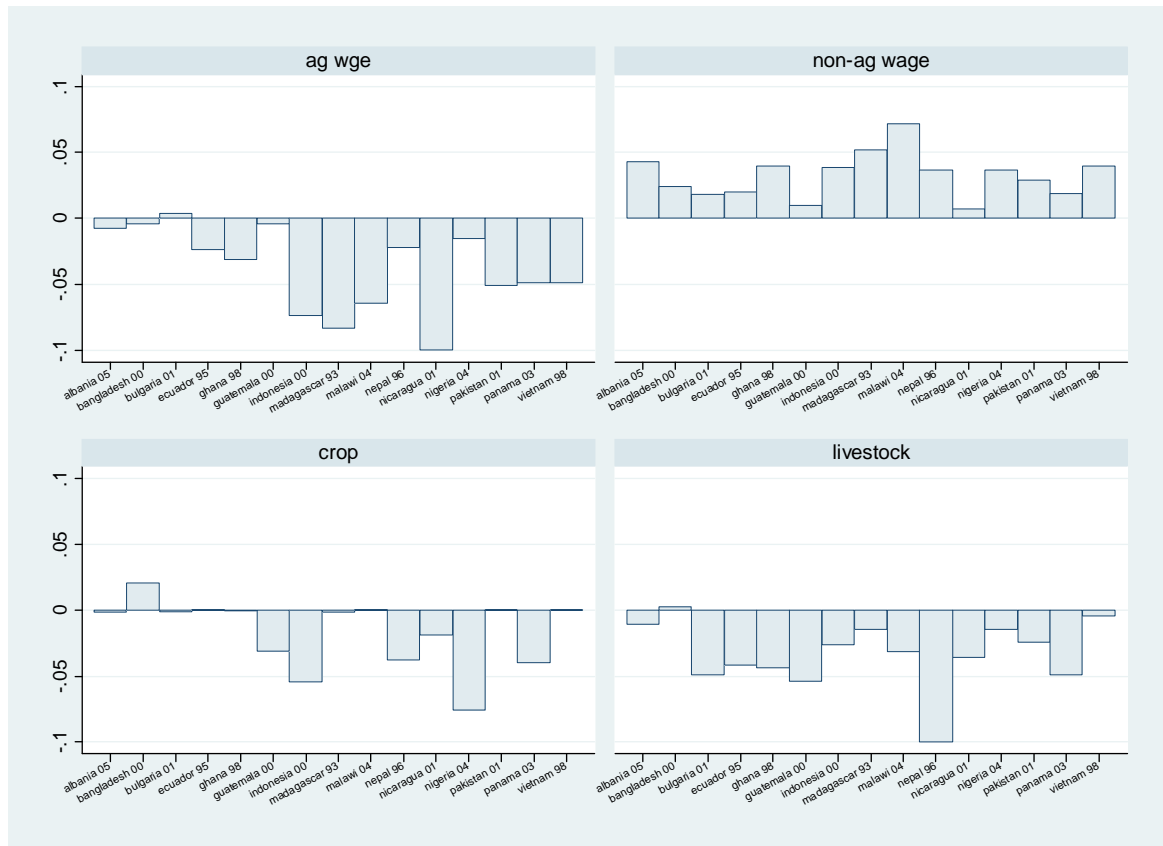
Source: Zezza, et al (2007)

Figure 26a. Correlation of schooling with participation in agricultural and non agricultural wage employment



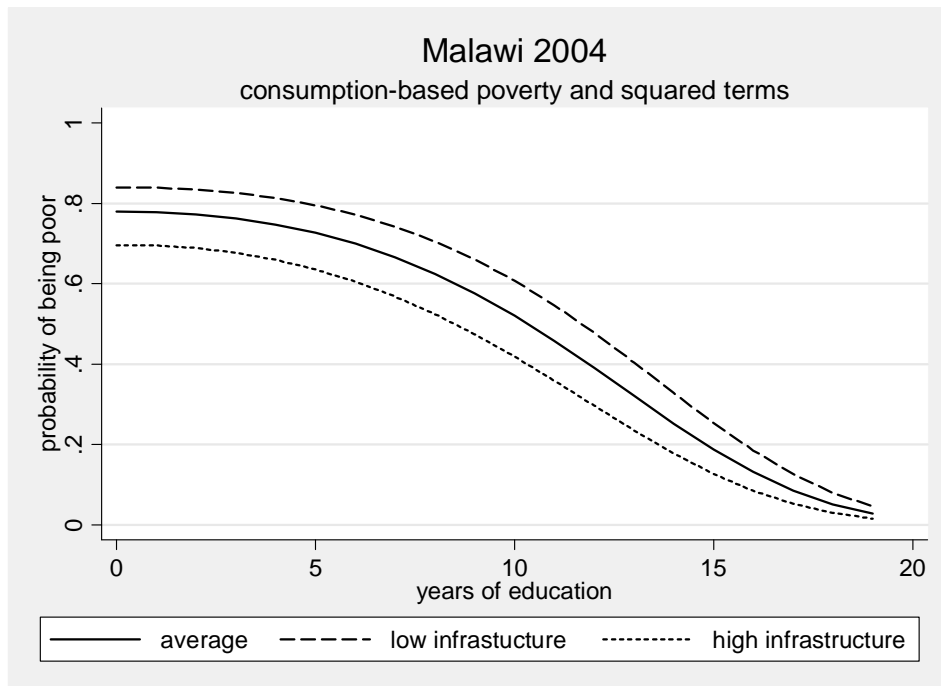
Source: Winters, et al (2007)

Figure 26b. Correlation of infrastructure with participation in income-generating categories



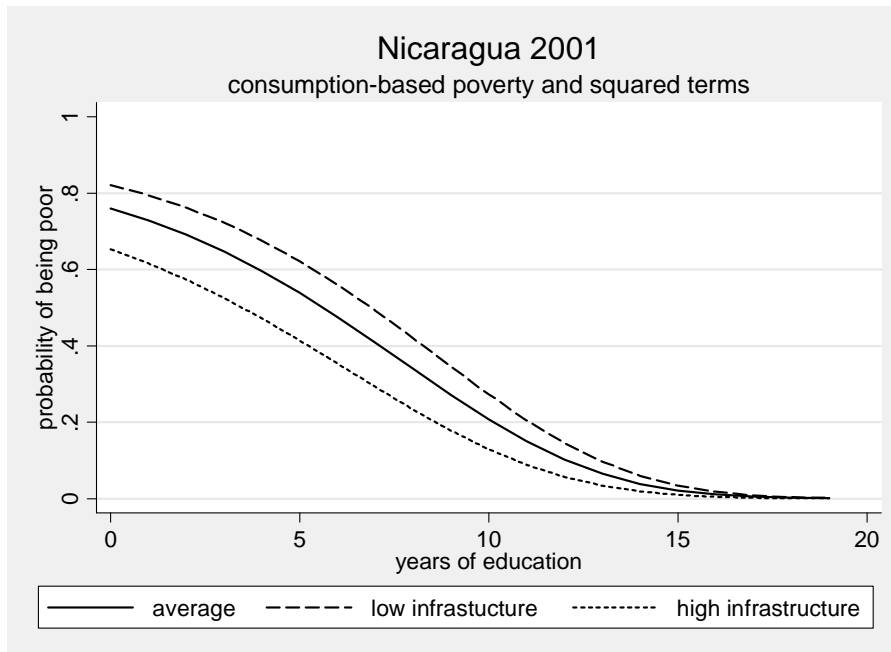
Source: Winters, et al (2007)

Figure 27a. Estimated probabilities of being poor (\$2/day) as a function of the schooling of a rural household head, simulated low and high values of infrastructure, Malawi.



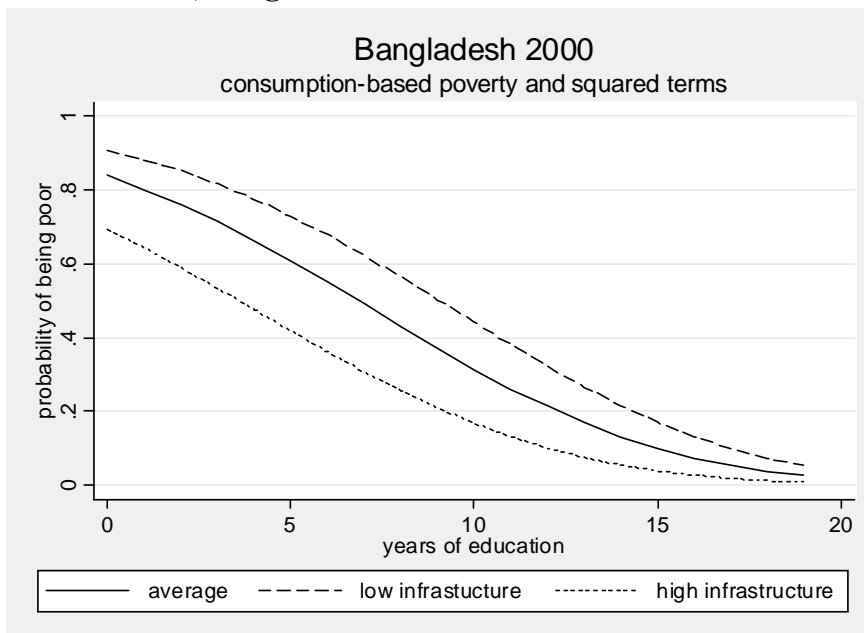
Source: Authors' calculations using the RIGA database

Figure 27b. Estimated probabilities of being poor (\$2/day) as a function of the schooling of a rural household head, simulated low and high values of infrastructure, Nicaragua.



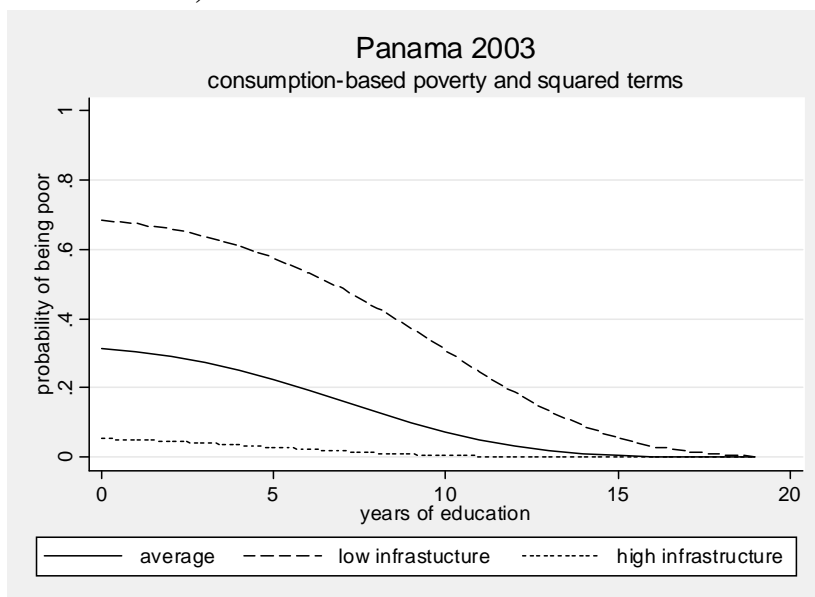
Source: Authors' calculations using the RIGA database

Figure 27c. Estimated probabilities of being poor (\$2/day) as a function of the schooling of a rural household head, simulated low and high values of infrastructure, Bangladesh.



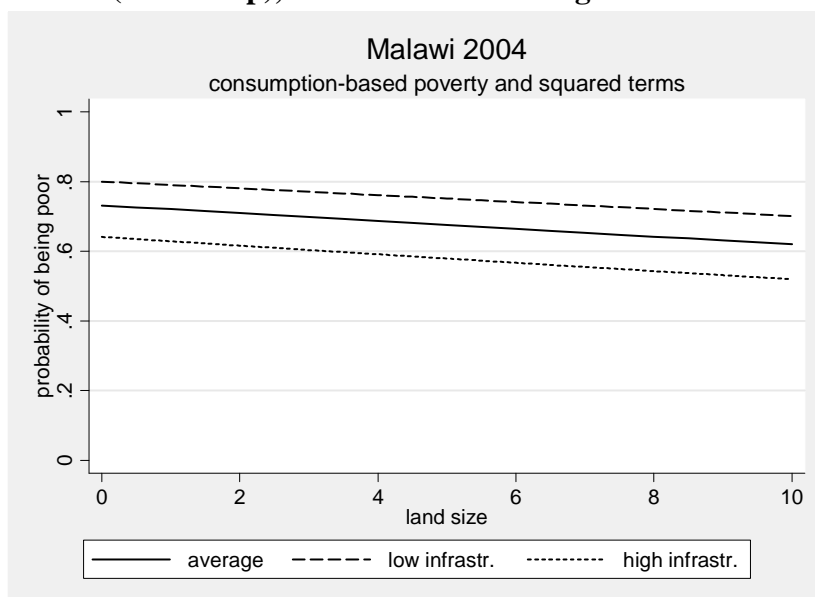
Source: Authors' calculations using the RIGA database

Figure 27d. Estimated probabilities of being poor (\$2/day) as a function of the schooling of a rural household head, simulated low and high values of infrastructure, Panama.



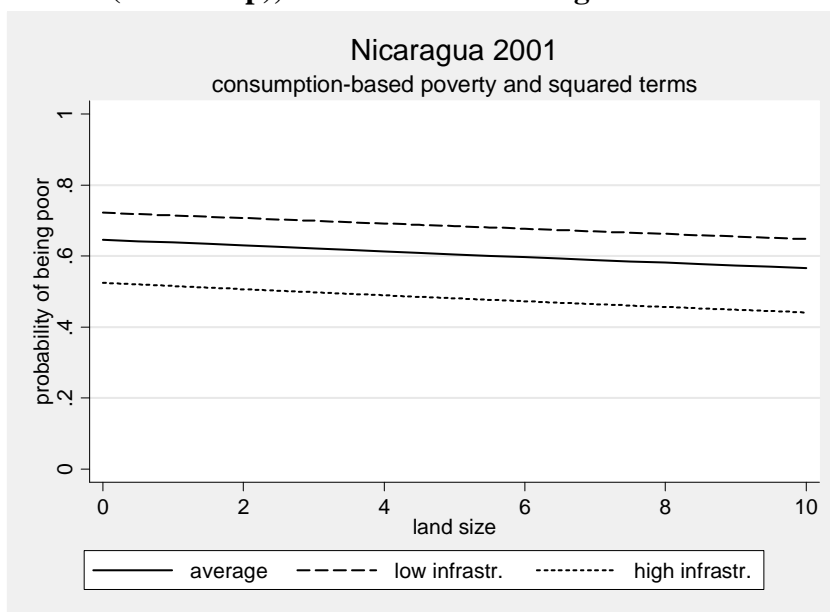
Source: Authors' calculations using the RIGA database

Figure 28a. Estimated probabilities of being poor (\$2/day) as a function of the size of farm (ownership), simulated low and high values of infrastructure, Malawi



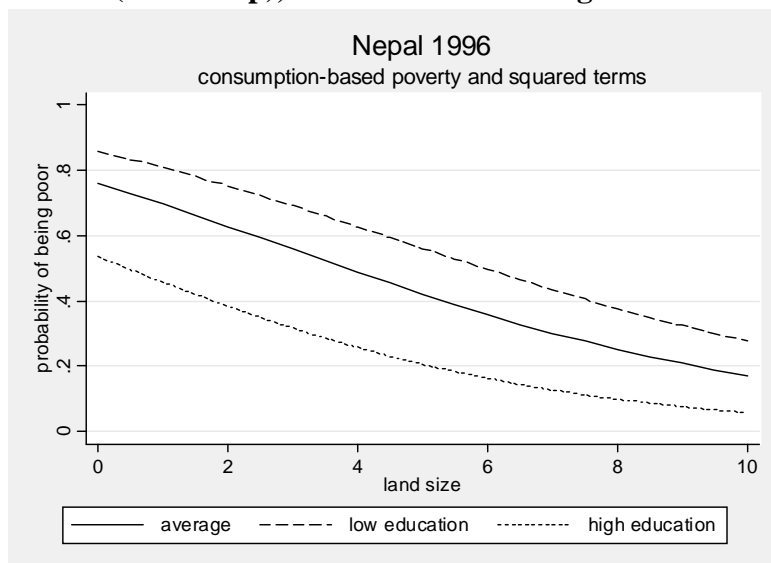
Source: Authors' calculations using the RIGA database

Figure 28b. Estimated probabilities of being poor (\$2/day) as a function of the size of farm (ownership), simulated low and high values of infrastructure, Nicaragua.



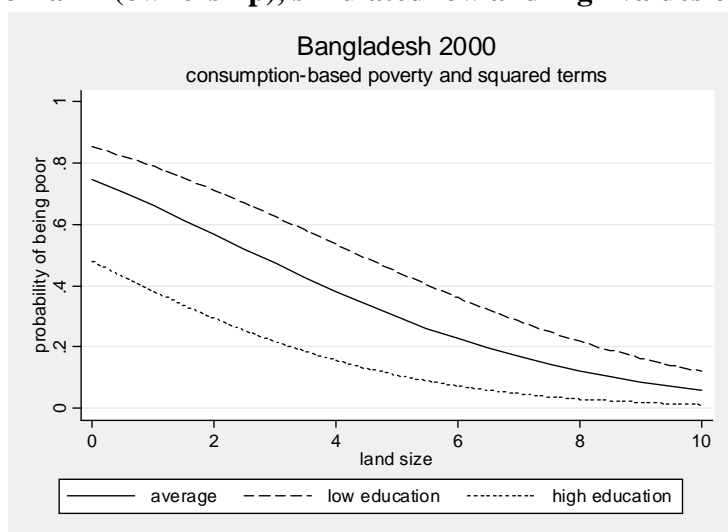
Source: Authors' calculations using the RIGA database

Figure 28c. Estimated probabilities of being poor (\$2/day) as a function of the size of farm (ownership), simulated low and high values of infrastructure, Nepal.



Source: Authors' calculations using the RIGA database

Figure 28d. Estimated probabilities of being poor (\$2/day) as a function of the size of farm (ownership), simulated low and high values of infrastructure, Bangladesh.

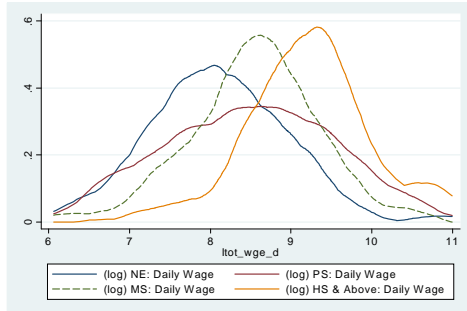


Source: Authors' calculations using the RIGA database

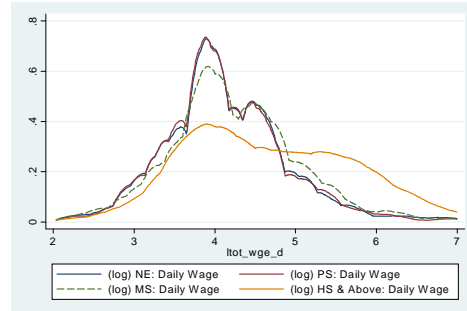
Figure 29. Daily rural wage distributions by levels of education (for participants only)

Sub-Saharan Africa

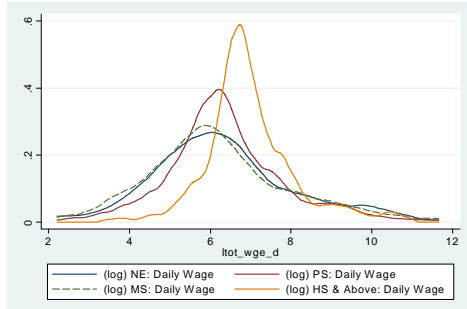
Ghana98:



Malawi04:

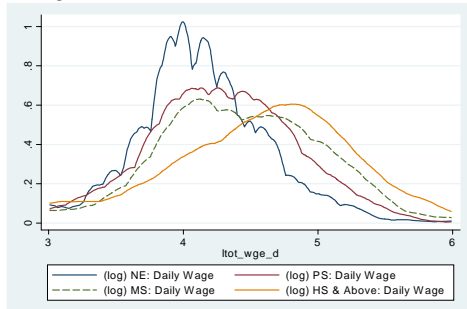


Nigeria04:

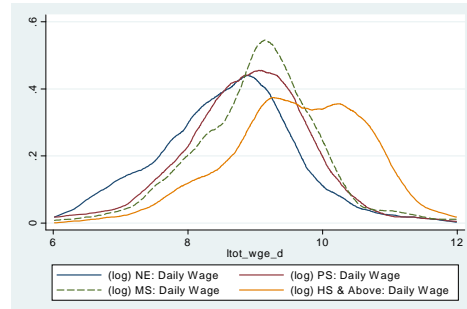


South & East Asia

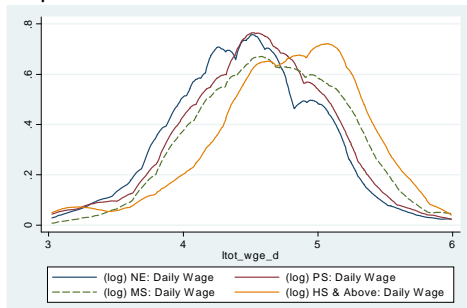
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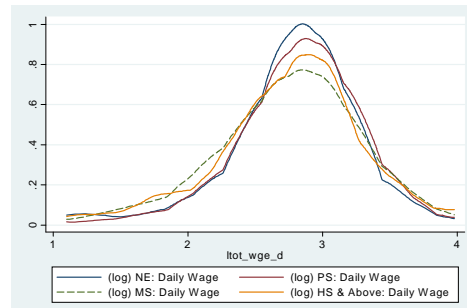
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Nepal03:

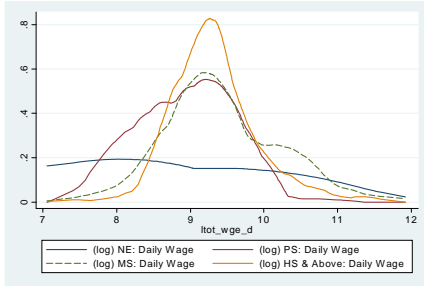


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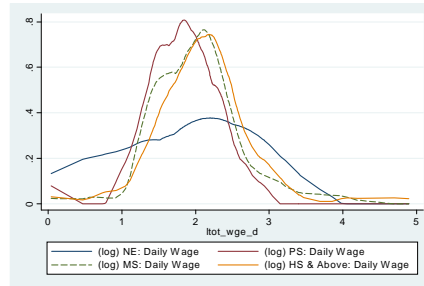


Eastern Europe & Central Asia

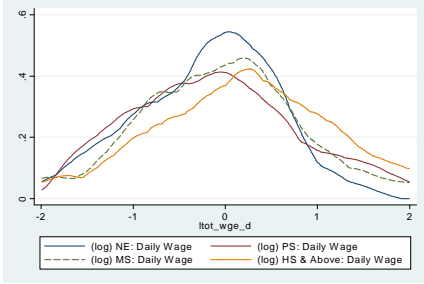
Albania05:



Bulgaria01:

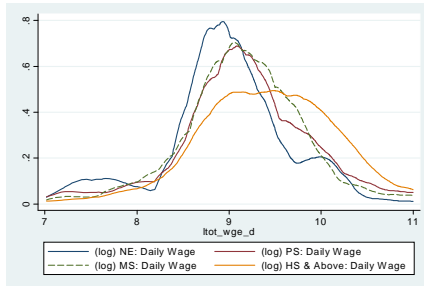


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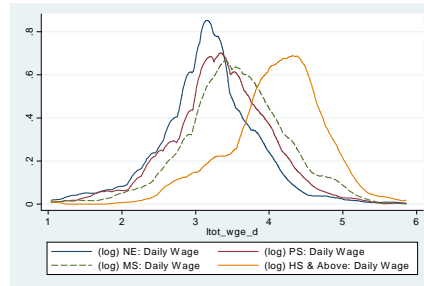


Latin America & the Caribbean

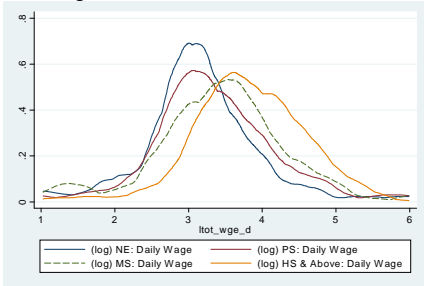
Ecuador95:



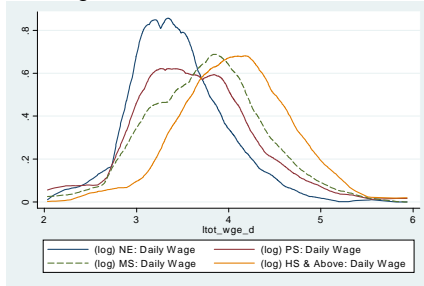
Guatemala00:



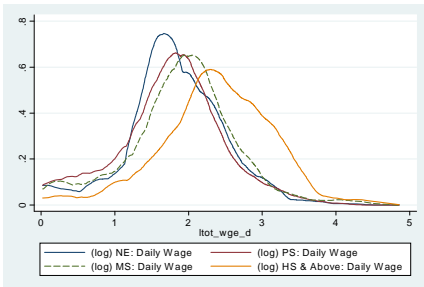
Nicaragua98



Nicaragua01



Panama03

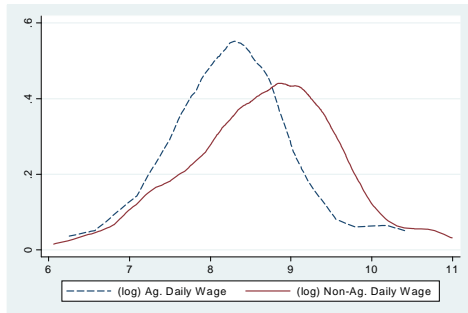


Source: Authors' calculations using the RIGA database

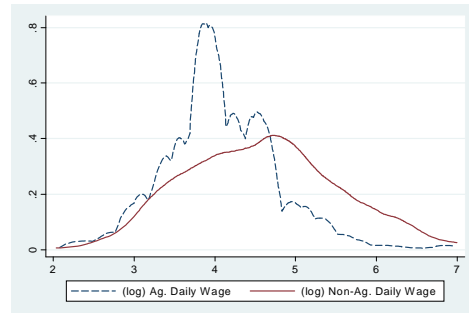
Figure 30. Daily rural wage distributions by agricultural vs. non-agricultural sector (for participants only)

Sub-Saharan Africa:

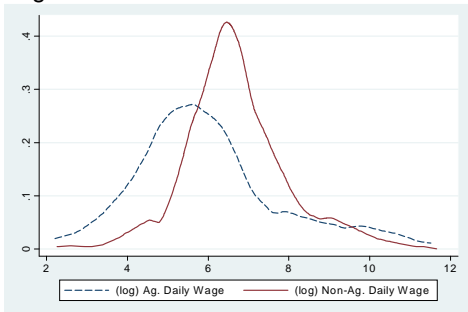
Ghana98:



Malawi04:

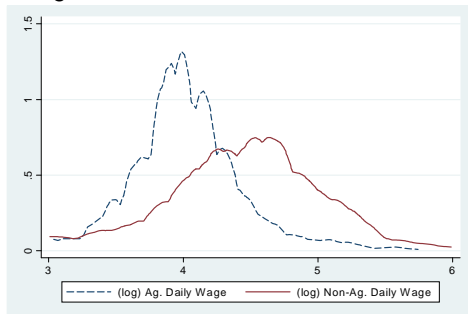


Nigeria04:

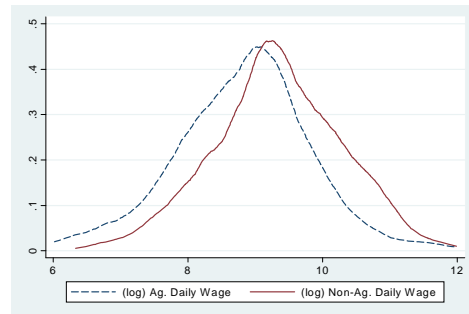


South & East Asia:

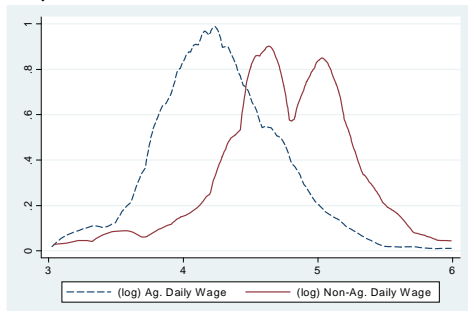
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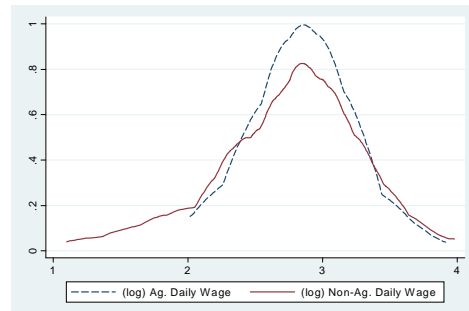
Indonesia00:



Nepal03:

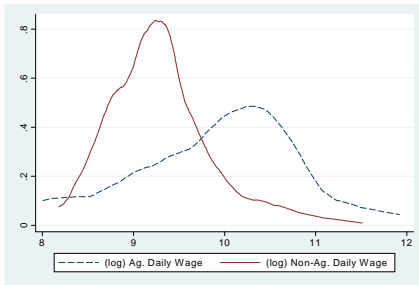


Vietnam98:

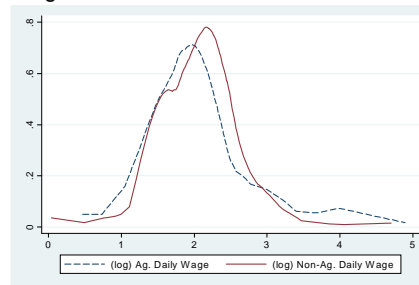


Eastern Europe & Central Asia:

Albania05:



Bulgaria01:

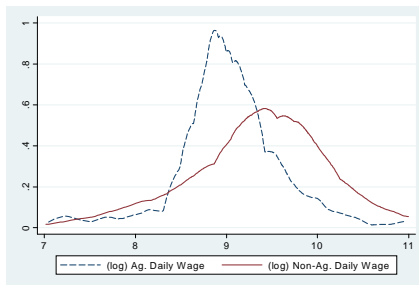


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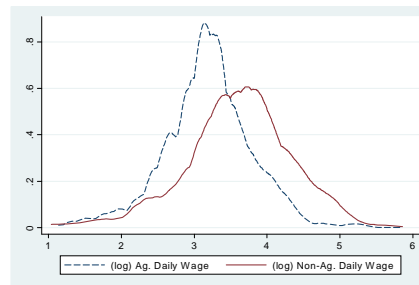


Latin American & Caribbean

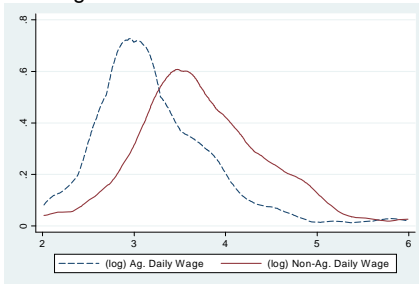
Ecuador95:



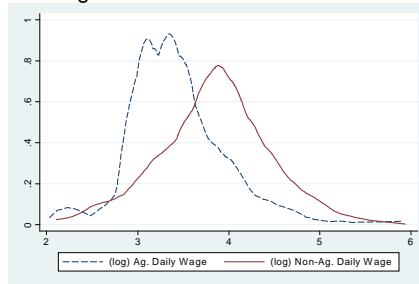
Guatemala00:



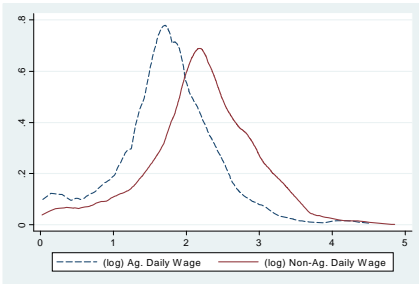
Nicaragua98:



Nicaragua01:



Panama03:

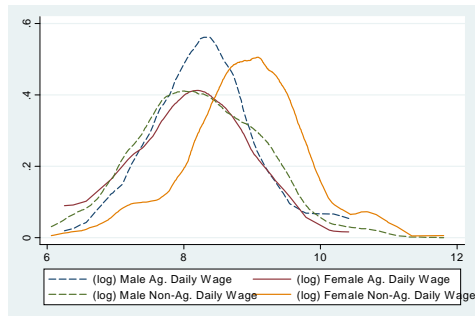


Source: Authors' calculations using the RIGA database

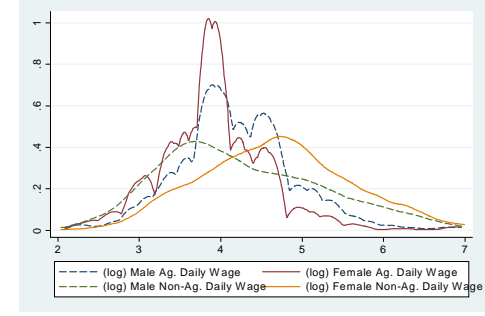
Figure 31. Daily rural wage by sector and gender (participants only)

Sub-Saharan Africa

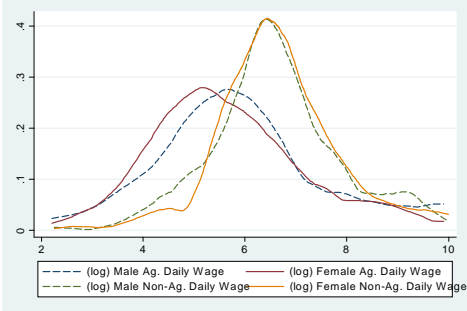
Ghana98



Malawi04

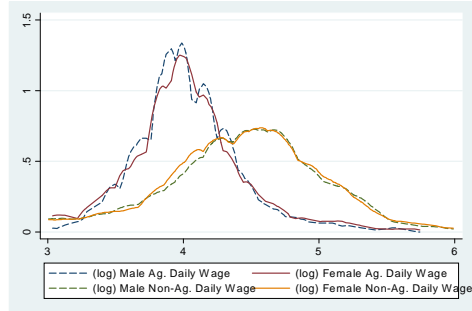


Nigeria04

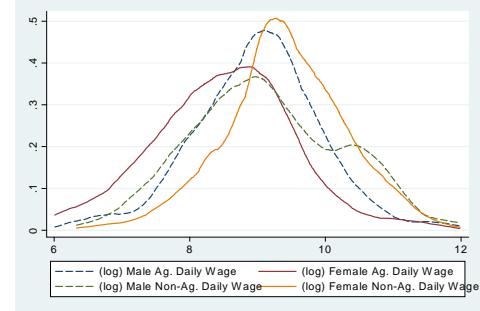


South & East Asia

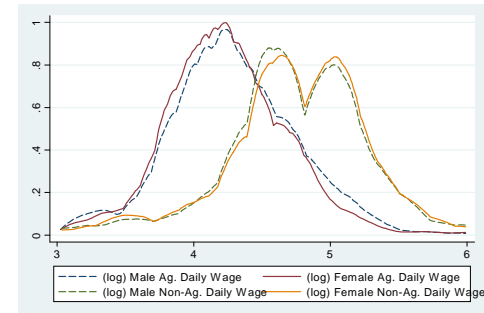
Bangladesh00



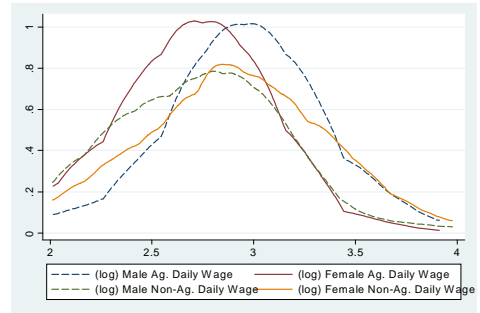
Indonesia00



Nepal03

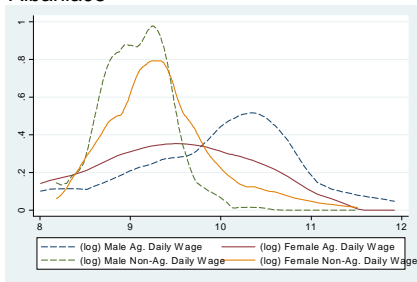


Vietnam98

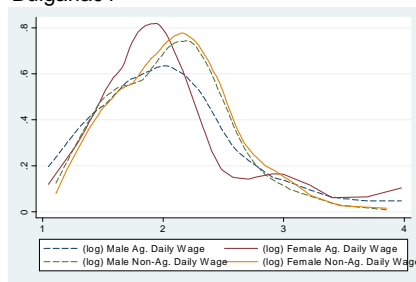


Eastern Europe & Central Asia

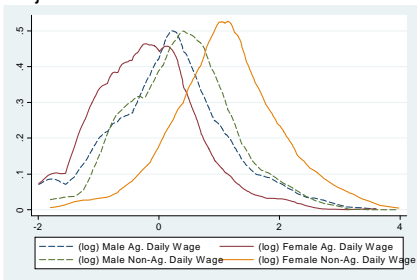
Albania05



Bulgaria01



Tajikistan03

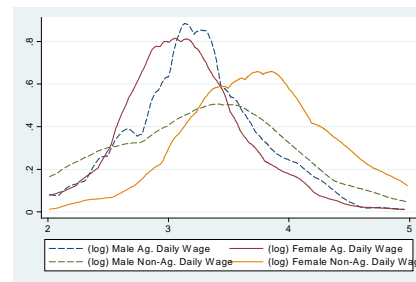


Latin America & the Caribbean

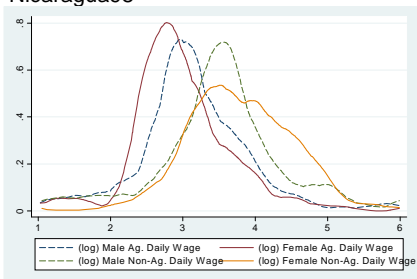
Ecuador95



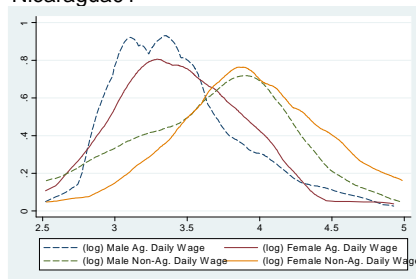
Guatemala00



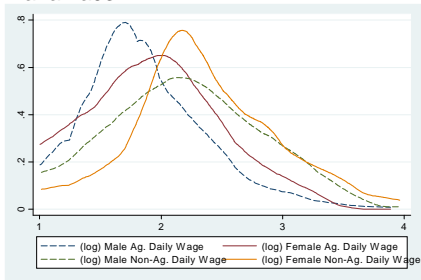
Nicaragua98



Nicaragua01



Panama03

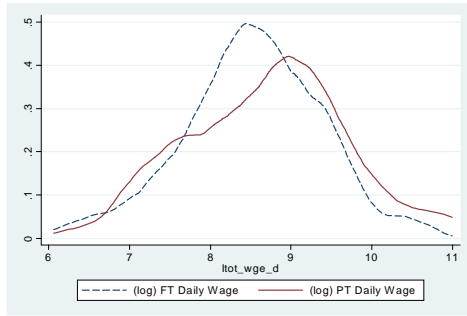


Source: Authors' calculations using the RIGA database

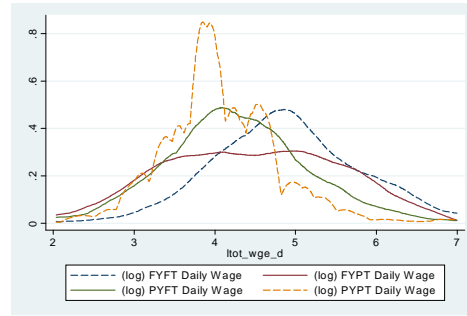
Figure 32. Daily rural wage distributions by time categories (for participants only)

Sub-Saharan Africa:

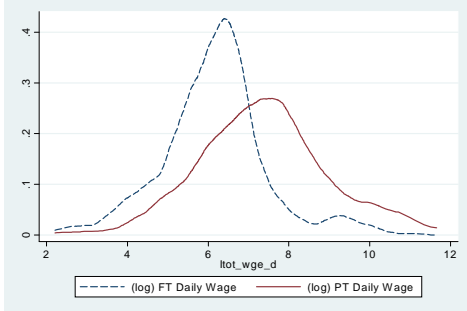
Ghana98:



Malawi04:

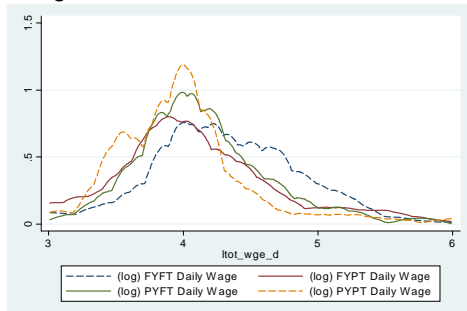


Nigeria04:

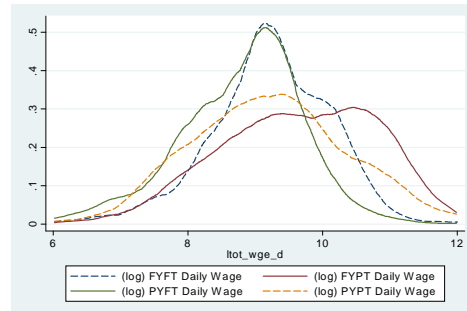


South & East Asia:

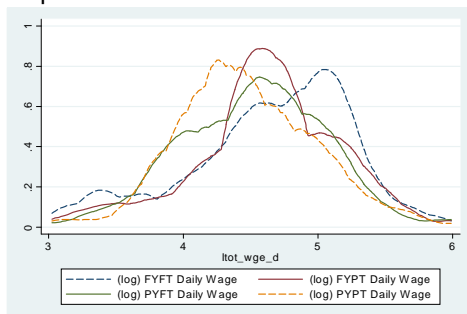
Bangladesh00:



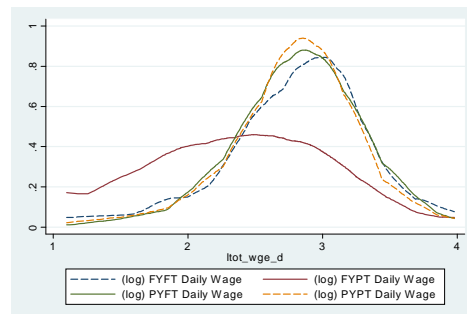
Indonesia00:



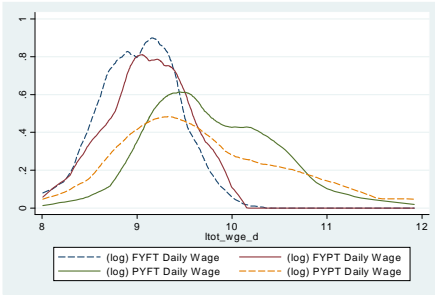
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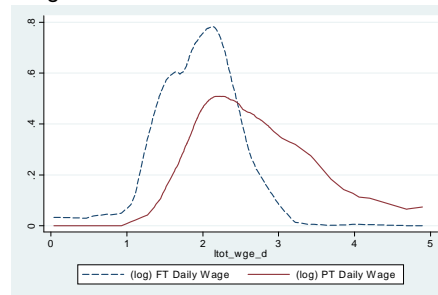
Vietnam98:



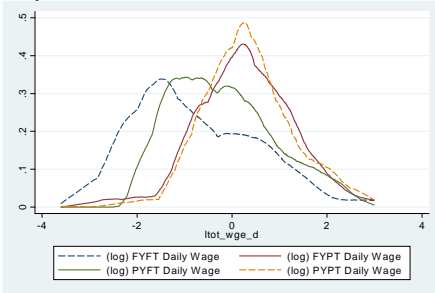
Eastern Europe & Central Asia:
Albania05:



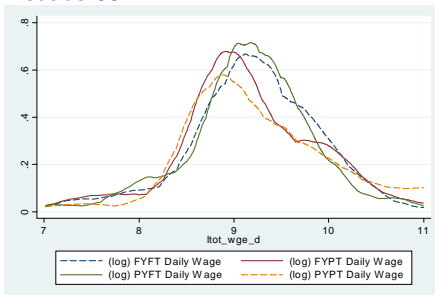
Bulgaria01:



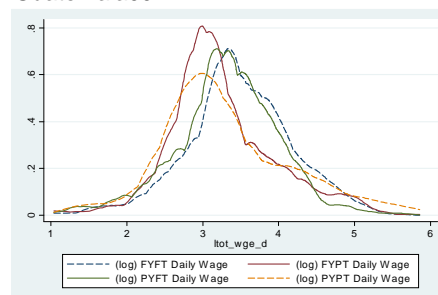
Tajikistan03



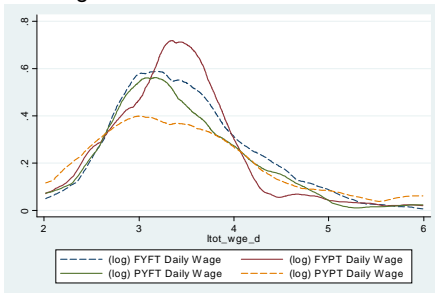
Latin American & Caribbean
Ecuador95:



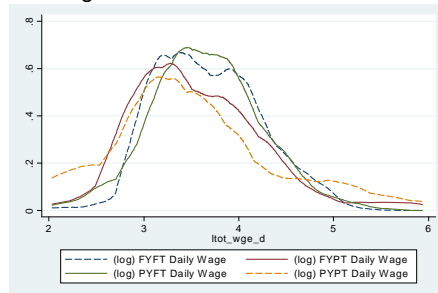
Guatemala00:



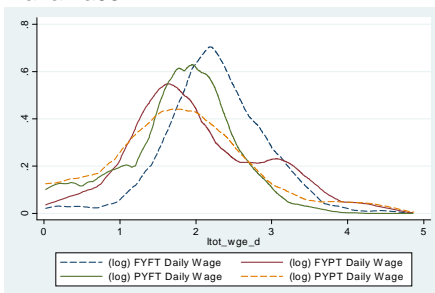
Nicaragua98:



Nicaragua01

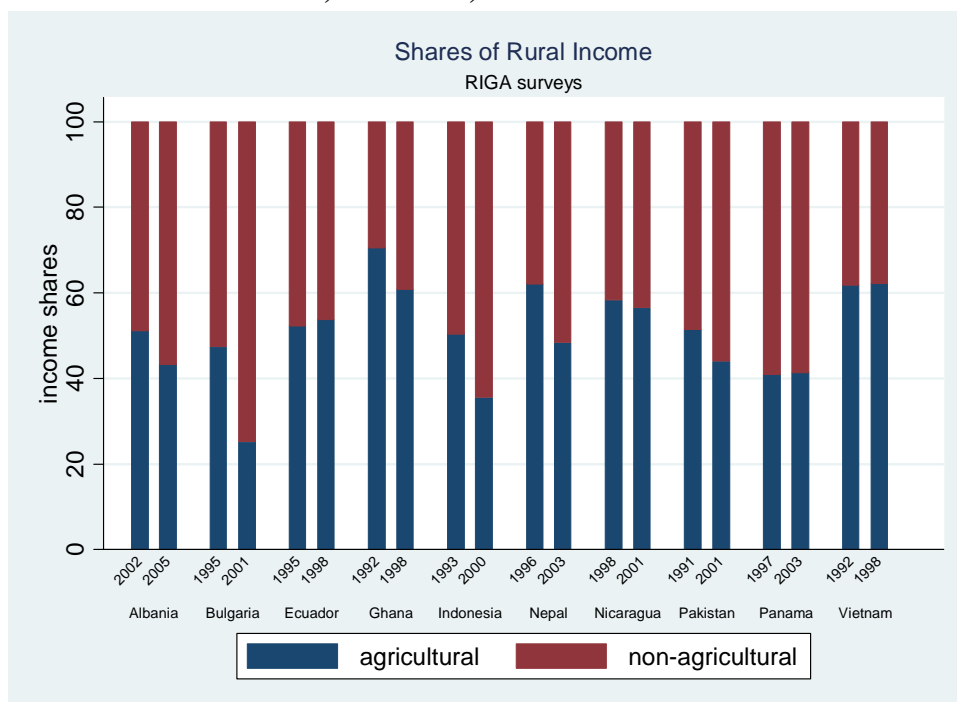


Panama03



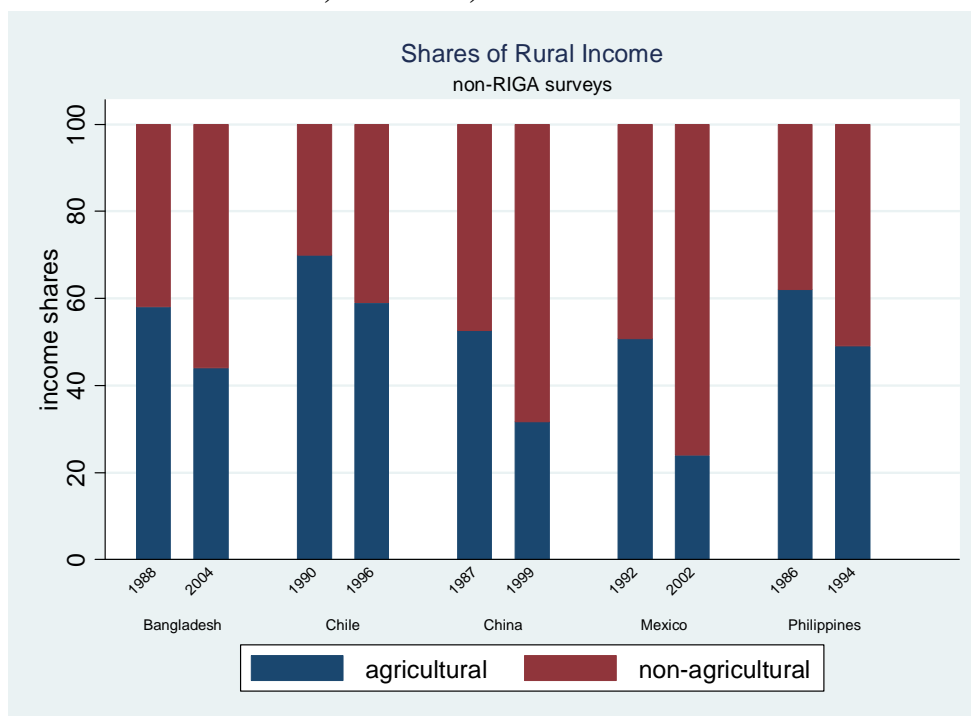
Source: Authors' calculations using the RIGA database

Figure 33. The percentage of agricultural and non-agricultural income in total rural household income, over time, RIGA countries.



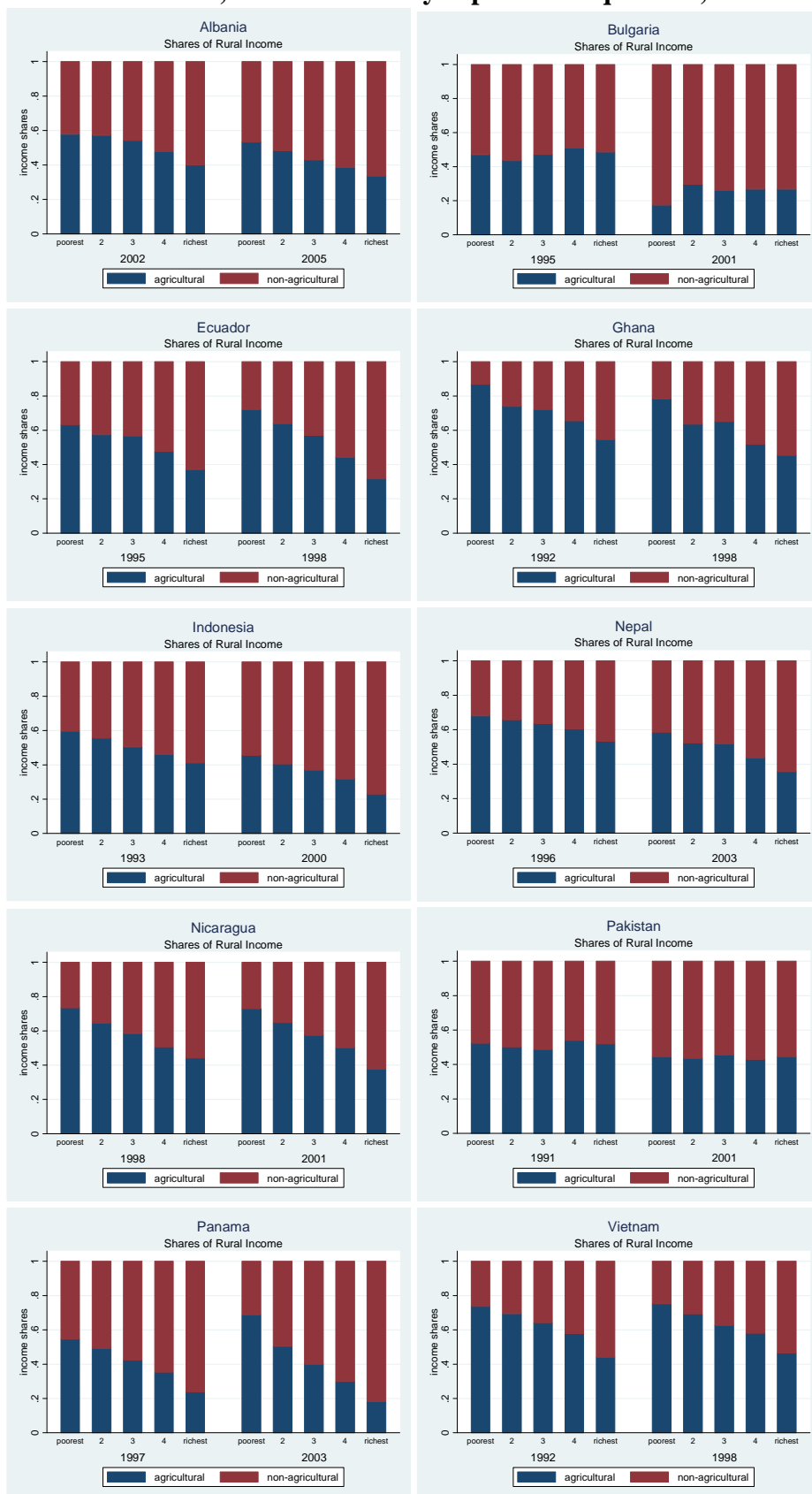
Source: Authors' calculations using the RIGA database

Figure 34. The percentage of agricultural and non-agricultural income in total rural household income, over time, RIGA countries.



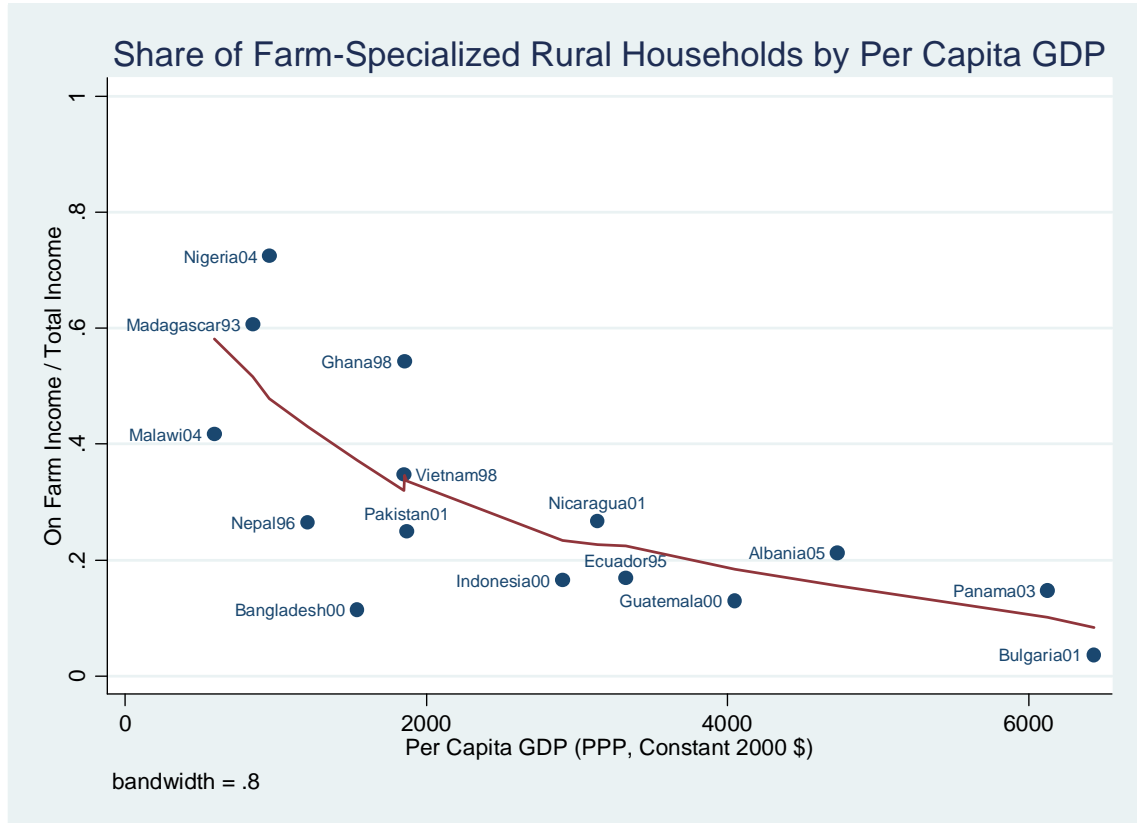
Source: *Bangladesh*: Nargis and Hossain (2006); *Chile*: Berdegù, Ramirez, and Reardon (2001); *China*: Benjamin, Brant and Giles (2005); *Mexico*: World Bank (2005); *Philippines*: Estudillo and Otsuka (1999).

Figure 35. Percentage of agricultural and non-agricultural income in total rural household income, over time and by expenditure quintiles, RIGA countries.



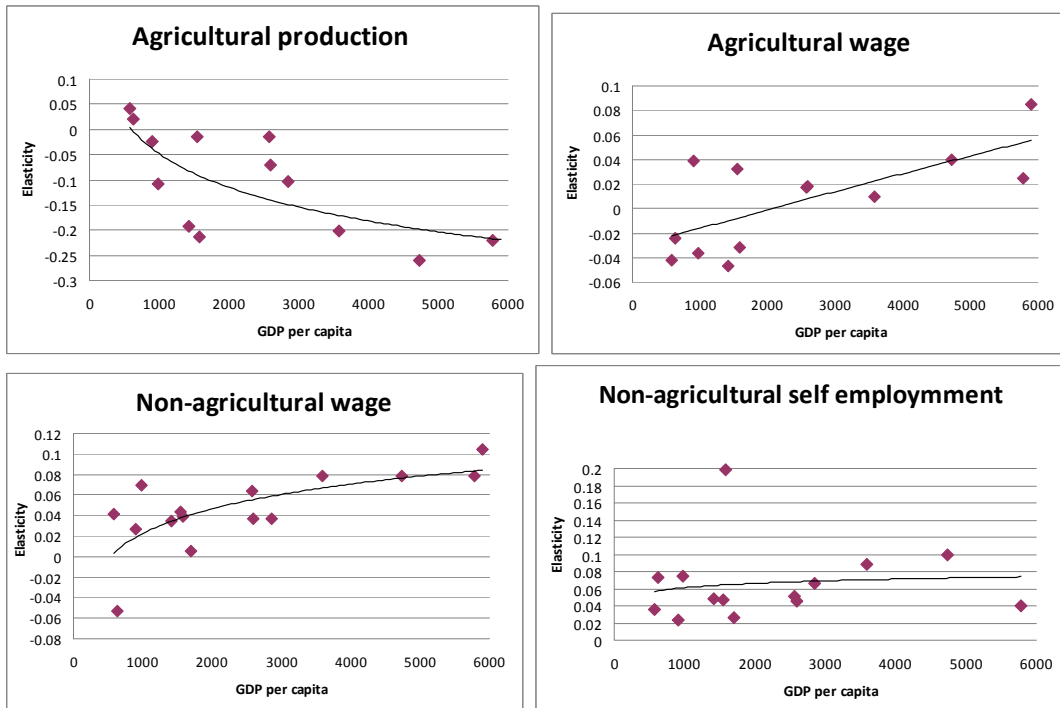
Source: Authors' calculations using the RIGA database

Figure 36. Share of on-farm specializing households, by per capita GDP



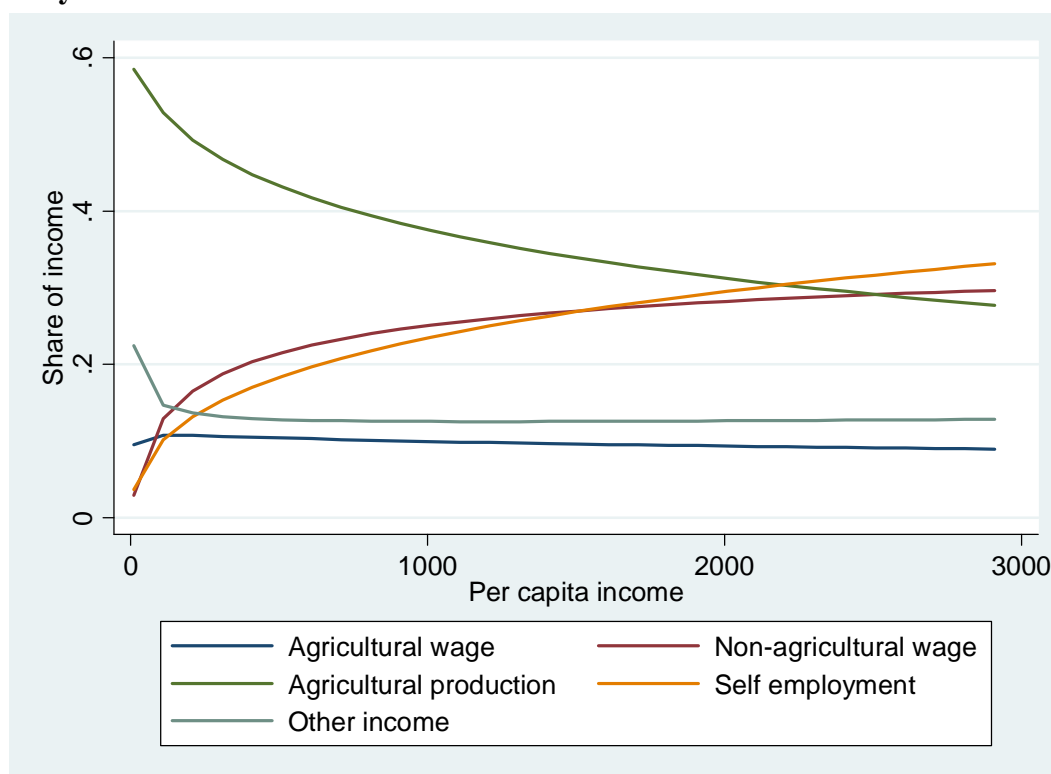
Source: Authors' calculations using the RIGA database

Figure 37. Elasticity of income sources from a given source with respect to changes in household income, by per capita GDP, for each country in the RIGA dataset.



Source: Authors' calculations using the RIGA database

Figure 38. The patterns of rural development; predicted shares from different income generating activities, by per capita income, using results from megadata analysis



Source: Authors' calculations using the RIGA database

Appendix I

In providing a detailed analysis of labour markets, there are two areas of particular importance to consider in the creation of variables: i) how to categorize the time spent working in labour activities, and ii) how to determine wages from those activities. For each of these, definitions must be identified in a manner that considers the way in which employment questions are asked in the surveys and that allow comparisons across industries for individuals within countries and across individuals living in different countries.

In categorizing the labour time dimension beyond simple participation in labour markets, we are particularly interested in duration and frequency which helps get at the distinction between permanent, casual and seasonal workers. *Duration* is the length of time that a job has continuously been worked at by a specific person in a given time span, such as the number of months worked in the last year. The duration of a job can be considered as short as one day to as long as one year. *Frequency* refers to how often a job is worked at by an individual in a given time span, such as the number of hours per week during the duration of a particular job. Frequency can include a few hours per day or a few days a week up to a full day and a full week's work. The duration of a job is an important issue to consider because it provides an understanding about the stability of the employment, as well as the continued opportunity it provides the employee to earn income over time. Both the duration of a job and the frequency of work may also influence the level of wage compensation provided in return for supplying labour. To operationalize this distinction in a manageable framework, when complete data is available, all employment is categorized into one of the following four classifications: i) Full Year-Full Time (FYFT), ii) Full Year-Part Time (FYPT), iii) Part Year-Full Time (PYFT), and iv) Part Year-Part Time (PYPT).⁴¹ These groups are intended to capture the labour time characteristics of each employment and reflect the predominant types of jobs that exist by distinguishing between full time, part time, seasonal, and casual labour, which is essential in this case, because each type of work presents a unique set of opportunities and challenges.

Having categorized employment on the basis of labour time characteristics, we develop a methodology for determining earnings from those activities. This allows an understanding of which jobs provide employees with more lucrative opportunities. To get at the return to employment, earnings per a specific unit of time is required. While hourly earnings are often considered an ideal measure, choosing the best option requires considering the time units reported in each survey. For the purposes of this study, amount earned per day has been chosen as the standard wage estimate. This is due to the fact that days worked per month is a more common labour time measurement in surveys than hours per day or week. Furthermore, converting income earned to daily rates when it is reported per month requires clearer assumptions than converting to hourly wages which would require assumptions about the amount worked per day. That is, assumptions regarding days per month are less prone to create errors than hours per day which is more likely to vary. The common practice of asking about days per month and the easier conversion make daily wage the ideal measure of this study.

⁴¹ The precise definitions of these variables can be found in Quiñones et al (2008).

Daily wages are reported in local currency units and reporting basic comparisons is not particularly useful. Note, however, that examination of the daily wage data clearly shows that wage rates are generally skewed toward zero with a long right tail. Following standard convention, the natural log of daily wages is taken when reporting distributions as this mirrors a normal distribution. Since this is the case, in comparing wage distributions below the distribution of the natural log of wages is reported.

Appendix II

We use Working's (1943) semi-log approach and Leser's (1963) modification to test our hypothesis regard the patterns of development. The Working-Leser approach relies on the assumption that expenditure shares are a function of the logarithm of total income. Our primary hypothesis is nearly the inverse of Engel's law so it closely parallels the logic underlying the law. We assume that income shares are a function of the logarithm of household per capita income. Moreover, the similarity of our variables to those used in testing Engel's law (income shares to expenditures shares, household per capita income to total income), naturally suggest the use of a modified Working-Leser model. Building on this basic approach, we borrow from Deaton and Muellbauer (1986) by incorporating demographic effects into the system. The resulting model is

$$S_f = \alpha + \beta \ln\left(\frac{x}{n}\right) + \sum_{j=1}^J \delta_j n_j + \varepsilon \quad (1)$$

where income shares are assumed to be a function of the logarithm of household per capita income and demographic variables. S_f is the share of income earned from activity f (agricultural production, agricultural wage, non-farm wage, non-farm self employment, and other), n_j is the number of persons in demographic category j ($j = 1, \dots, J$), n is the number of people per household, x is total income, and ε is a stochastic term, and α , β , and δ are terms to be estimated. Household demographic categories include household labour, female or male head of household, age and age squared of the head of household, religious and indigenous categories, and education disaggregated into four categories (less than primary school (baseline), primary school, secondary school, and high school or greater). As per capita income captures many features of wealth, such as infrastructure or productive assets, we have not included any other control variables. To account for heteroskedasticity, all reported coefficients are computed using robust standard errors. Since our econometric approach is essentially a semi-log model and we are primarily interested in the relationship between household per capita income and income shares, all reported income coefficients are transformed into elasticities. Finally, since the dependent variables may be censored due to the fact that some households do not participate in certain activities and are censored at share zero, results for both an ordinary least squares and censored regression model are reported.

Data Appendix

Table A1. Poverty headcount rates, urban and rural, for selected countries

Country Code	Country	Year	National	Urban	Rural	Source
Near East and North Africa						
DZA	Algeria	1988	12	7	17	1,3
DZA	Algeria	1995	23	15	30	1,3
EGY	Egypt, Arab Rep.	1996	23	23	23	3
EGY	Egypt, Arab Rep.	2000	17			3
JOR	Jordan	1997	21	20	27	3
JOR	Jordan	2002	14	13	19	3
MAR	Morocco	1984		17	33	1
MAR	Morocco	1990		8	18	1
MAR	Morocco	1991	13	8	18	3
MAR	Morocco	1999	19	12	27	3
TUN	Tunisia	1985		12	29	1
TUN	Tunisia	1990		9	22	1
TUN	Tunisia	1990	7	4	13	3
TUN	Tunisia	1995	8	4	14	3
TUR	Turkey	1994	28			3
TUR	Turkey	2002	27	22	34	3
YEM	Yemen, Rep.	1992		19	19	1
YEM	Yemen, Rep.	1998	42	31	45	3
West and Central Africa						
BEN	Benin	1995	26	29	25	3
BEN	Benin	1999	29	23	33	3
BFA	Burkina Faso	1994		10	51	1
BFA	Burkina Faso	1998		16	51	1
BFA	Burkina Faso	1998	55	22	61	3
BFA	Burkina Faso	2003	46	19	52	3
CMR	Cameroon	1984		44	32	1
CMR	Cameroon	1996	53	41	60	3
CMR	Cameroon	2001	40	22	50	3
TCD	Chad	1985		63	67	1
TCD	Chad	1996	64	63	67	3
GMB	Gambia, The	1992	64			3
GMB	Gambia, The	1998	58	48	61	3
GHA	Ghana	1987		27	42	1
GHA	Ghana	1992		27	34	1
GHA	Ghana	1992	50			3
GHA	Ghana	1992	63	44	72	a
GHA	Ghana	1998	29	37	26	2
GHA	Ghana	1998	55	32	66	a
GHA	Ghana	1999	40	19	50	3
GIN	Guinea	1994	40			3
GNB	Guinea-Bissau	1991		24	61	1
MLI	Mali	1998	64	30	76	3
MRT	Mauritania	1987		44	72	1
MRT	Mauritania	1996		19	59	1
MRT	Mauritania	1996	50	30	66	3
MRT	Mauritania	2000	46	25	61	3
NER	Niger	1990		52	66	1
NER	Niger	1993	63	52	66	3
NGA	Nigeria	1985		30	45	1
NGA	Nigeria	1985	43	32	50	1,3
NGA	Nigeria	1985		5	16	1
NGA	Nigeria	1992		58	68	1
NGA	Nigeria	1992		30	36	1
NGA	Nigeria	1992		11	15	1
NGA	Nigeria	1993	34	30	36	3
NGA	Nigeria	2004	52	41	61	a
SEN	Senegal	1991		16	40	1
SEN	Senegal	1992	33	24	40	3
SEN	Senegal	2001	26	40	25	2
SLE	Sierra Leone	1989		53	76	1
SLE	Sierra Leone	1989	83			3
SLE	Sierra Leone	2004	70	56	79	3
TGO	Togo	1989	32			3

Country Code	Country	Year	National	Urban	Rural	Source
East and Southern Africa						
BDI	Burundi	1990	36	43	36	3
BDI	Burundi	1998	50	52	14	2
ETH	Ethiopia	1990		41	61	1
ETH	Ethiopia	1995		39	46	1
ETH	Ethiopia	1996	46	33	47	3
ETH	Ethiopia	2000	44	37	45	3
KEN	Kenya	1992		29	46	1
KEN	Kenya	1994	40	29	47	1,3
KEN	Kenya	1997	52	49	53	3
KEN	Kenya	1997	16	19	4	2
LSO	Lesotho	1993		28	54	1
MDG	Madagascar	1993	73	54	78	a
MDG	Madagascar	1993		47	77	1
MDG	Madagascar	1997	73	63	76	3
MDG	Madagascar	1999	71	52	77	3
MDG	Madagascar	2001	70	41	77	a
MWI	Malawi	1991	54			3
MWI	Malawi	1996	40	44	8	2
MWI	Malawi	1997	54	20	58	a
MWI	Malawi	1998	65	55	67	3
MWI	Malawi	2004	52	25	56	a
MOZ	Mozambique	1996	45	52	42	2
MOZ	Mozambique	1997	69	62	71	3
RWA	Rwanda	1993	51			3
RWA	Rwanda	2000	60	14	66	3
RWA	Rwanda	2000	70	76	35	2
TZA	Tanzania	1991	39	31	41	3
TZA	Tanzania	2001	36	29	39	3
UGA	Uganda	1992		29	59	1
UGA	Uganda	1997		16	48	1
UGA	Uganda	2000	34	10	37	3
UGA	Uganda	2003	38	12	42	3
ZMB	Zambia	1991		46	88	1
ZMB	Zambia	1991		27	79	1
ZMB	Zambia	1996		34	75	1
ZMB	Zambia	1996	63	78	59	2
ZMB	Zambia	1998	73	56	83	3
ZMB	Zambia	2004	68	53	78	3
ZWE	Zimbabwe	1990		10	31	1
ZWE	Zimbabwe	1991		6	52	1
ZWE	Zimbabwe	1991	26	3	36	3
ZWE	Zimbabwe	1996	35	8	48	3
ZWE	Zimbabwe	1996		15	63	1

Country Code	Country	Year	National	Urban	Rural	Source
East and South Asia						
BGD	Bangladesh	1983		41	54	1
BGD	Bangladesh	1991		34	53	1
BGD	Bangladesh	1991	43	23	46	1
BGD	Bangladesh	1991	59	45	61	a
BGD	Bangladesh	1995		14	40	1
BGD	Bangladesh	1996	51	29	55	3
BGD	Bangladesh	2000	50	37	53	3
BGD	Bangladesh	2000	50	55	46	2
BGD	Bangladesh	2000	53	36	56	a
KHM	Cambodia	1993		25	43	1
KHM	Cambodia	1997	36	21	40	1,3
KHM	Cambodia	2004	35	18	38	3
CHN	China	1978		4	33	1
CHN	China	1988		3	23	1
CHN	China	1990		0	12	1
CHN	China	1994		<2	12	1
CHN	China	1995		4	17	1
CHN	China	1996	6	<2	8	1,3
CHN	China	1998	5	<2	5	1,3
IND	India	1957		48	55	1
IND	India	1977		41	51	1
IND	India	1987		36	39	1
IND	India	1990		33	36	1
IND	India	1992		34	44	1
IND	India	1994		28	34	1
IND	India	1994	36	32	37	1,3
IND	India	1995		27	35	1
IND	India	1997		28	34	1
IND	India	1999	31	37	31	2
IND	India	2000	29	25	30	3
IDN	Indonesia	1984		16	46	1
IDN	Indonesia	1987		20	16	1
IDN	Indonesia	1990		17	14	1
IDN	Indonesia	1990		11	27	1
IDN	Indonesia	1996		10	12	1
IDN	Indonesia	1996	16			3
IDN	Indonesia	1998		18	22	1
IDN	Indonesia	1999	27	16	34	3
IDN	Indonesia	2000	15	11	18	a
LAO	Lao PDR	1993		24	53	1
LAO	Lao PDR	1993	45	33	49	3
LAO	Lao PDR	1998	39	27	41	3
LAO	Lao PDR	2002	27	-	-	2
MYS	Malaysia	1973		45	55	1
MYS	Malaysia	1987		7	25	1
MYS	Malaysia	1989	16	14	19	1,3
MNG	Mongolia	1995	36	39	33	1,3
MNG	Mongolia	1998	36	39	33	3
MNG	Mongolia	2002	36	30	43	3
NPL	Nepal	1996	42	22	43	1,3,a
NPL	Nepal	2003	31	10	35	3,a
PAK	Pakistan	1984		38	49	1
PAK	Pakistan	1991		28	37	1
PAK	Pakistan	1991	29	20	32	a
PAK	Pakistan	1993	29	17	33	1
PAK	Pakistan	1998	11	13	10	2
PAK	Pakistan	1999	33	24	36	3
PNG	Papua New Guinea	1996		14	39	1
PNG	Papua New Guinea	1996	38	16	41	3
PHL	Philippines	1961		51	64	1
PHL	Philippines	1988		23	53	1
PHL	Philippines	1994	41	28	53	1,3
PHL	Philippines	1997	37	22	51	1,3
LKA	Sri Lanka	1985		27	46	1
LKA	Sri Lanka	1985		16	32	1
LKA	Sri Lanka	1990		28	38	1
LKA	Sri Lanka	1990		18	24	1
LKA	Sri Lanka	1991	20	15	22	3
LKA	Sri Lanka	1996	25	15	27	3
LKA	Sri Lanka	1999	6	7	5	2
THA	Thailand	1992		10	16	1
THA	Thailand	1994	10			3

Country Code	Country	Year	National	Urban	Rural	Source
Latin America and the Caribbean						
ARG	Argentina	1995		28		3
ARG	Argentina	1998		30		3
BOL	Bolivia	1996		34	82	1
BOL	Bolivia	1997	63	54	77	3
BOL	Bolivia	1999	63	51	82	3
BRA	Brazil	1990		13	33	1
BRA	Brazil	1995		13	42	1
BRA	Brazil	1998	22	15	51	3
BRA	Brazil	2003	22	18	41	3
CHL	Chile	1995		6	15	1
CHL	Chile	1996	20			3
CHL	Chile	1998	17			3
COL	Colombia	1978		12	38	1
COL	Colombia	1992		8	31	1
COL	Colombia	1995	60	48	79	3
COL	Colombia	1999	64	55	79	3
CRI	Costa Rica	1992	22	19	26	3
DOM	Dominican Republic	1989		23	27	1
DOM	Dominican Republic	1992		11	30	1
DOM	Dominican Republic	2000	28	18	45	3
DOM	Dominican Republic	2004	42	35	56	3
ECU	Ecuador	1990		48	85	1
ECU	Ecuador	1994	35	25	47	1,a
ECU	Ecuador	1995	34	18	59	3,a
ECU	Ecuador	1998	46	27	72	3,a
SLV	El Salvador	1995	51	39	65	3
SLV	El Salvador	2002	37	29	50	3
GTM	Guatemala	1980		47	84	1
GTM	Guatemala	1986		60	80	1
GTM	Guatemala	1989	58	34	72	1,3
GTM	Guatemala	2000	56	27	75	3,a
GTM	Guatemala	2000	4	6	0	2
GUY	Guyana	1993	43			3
GUY	Guyana	1998	35			3
HTI	Haiti	1987	65			3
HTI	Haiti	1995			66	3
HND	Honduras	1989		51	58	1
HND	Honduras	1993		57	51	1
HND	Honduras	1999	53	29	71	3
HND	Honduras	2004	51	30	70	3
JAM	Jamaica	1995	28	19	37	3
JAM	Jamaica	2000	19	13	25	3
MEX	Mexico	2000	24	13	42	3
MEX	Mexico	2004	18	11	28	3
NIC	Nicaragua	1993	50	32	76	1,3
NIC	Nicaragua	1998	48	31	69	3,a
NIC	Nicaragua	2001	53	81	53	2
NIC	Nicaragua	2001	46	30	68	a
PAN	Panama	1997	37	15	65	1,3,a
PAN	Panama	2003	37	20	63	a
PRY	Paraguay	1991	22	20	29	1,3
PRY	Paraguay	1995		8	45	1
PER	Peru	1994		46	67	1
PER	Peru	1994	9	25	5	2
PER	Peru	1997		40	65	1
PER	Peru	2001	54	42	77	3
PER	Peru	2004	53	43	72	3
TTO	Trinidad and Tobago	1992	21	24	20	1,3
URY	Uruguay	1994		20		3
URY	Uruguay	1998		25		3
VEN	Venezuela, RB	1989	31			3
VEN	Venezuela, RB	1995		46	73	1

Country Code	Country	Year	National	Urban	Rural	Source
Former Eastern Europe and Soviet Union						
ALB	Albania	2002	25	20	30	3
ALB	Albania	2005	19	11	24	a
ARM	Armenia	1999	55	58	51	3
ARM	Armenia	2001	51	52	49	3
AZE	Azerbaijan	1995	68			3
AZE	Azerbaijan	2001	50	55	42	3
BLR	Belarus	2000	42			3
BIH	Bosnia and Herzegovina	2001	20	14	22	a
BIH	Bosnia and Herzegovina	2002	20	14	20	3
BGR	Bulgaria	1995	25	22	31	a
BGR	Bulgaria	1997	36			3
BGR	Bulgaria	2001	13	8	22	3,a
EST	Estonia	1994		7	15	1
GEO	Georgia	1997		12	10	1
GEO	Georgia	2002	52	49	55	3
GEO	Georgia	2003	55	56	53	3
HUN	Hungary	1993	15			3
HUN	Hungary	1997	17			3
KAZ	Kazakhstan	1996	35	30	39	1,3
KGZ	Kyrgyz Republic	1993		29	48	1
KGZ	Kyrgyz Republic	1997		29	65	1
KGZ	Kyrgyz Republic	2001	48	41	51	3
KGZ	Kyrgyz Republic	2003	41			3
MKD	Macedonia, FYR	2002	21		25	3
MKD	Macedonia, FYR	2003	22		22	3
MDA	Moldova	2001	62	58	64	3
MDA	Moldova	2002	49	43	67	3
ROU	Romania	1989		1	6	1
ROU	Romania	1993		17	23	1
ROM	Romania	1994	22	20	28	3
RUS	Russian Federation	1994	31			3
TJK	Tajikistan	2003	21	21	19	2
TJK	Tajikistan	2003	57	49	60	a
UKR	Ukraine	2000	32		35	3
UKR	Ukraine	2003	20		28	3
UZB	Uzbekistan	2000	28	23	31	3

¹ See IFAD RPR01 for country specific sources

² PHC based on US\$ 1/day: see IFPRI (2007)

³ PHC based on national poverty lines, see WDI (2007)

^a RIGA dataset (PHC based on regular poverty)

Table A2. Household characteristics by expenditure quintiles, 15 RIGA countries

	Ghana 1998					Madagascar 1993					Malawi 2004				
	Poorest	2nd	3rd	4th	Top	Poorest	2nd	3rd	4th	Top	Poorest	2nd	3rd	4th	Top
share female household head	23.3%	29.7%	31.5%	31.7%	33.4%	20.6%	17.5%	18.3%	17.8%	15.0%	26.1%	24.6%	24.8%	22.6%	21.7%
age household head	47.32	46.10	45.93	45.13	43.40	43.53	42.22	43.27	43.65	40.99	44.93	43.70	43.53	42.58	40.69
household size	6.01	5.49	4.72	3.94	2.46	5.97	5.50	5.16	4.29	3.55	5.95	5.08	4.52	3.99	2.99
number hh members working age	2.57	2.43	2.16	2.02	1.43	2.57	2.51	2.42	2.21	2.15	2.43	2.23	2.12	2.05	1.78
share female hh working age members	52.7%	54.9%	54.2%	50.1%	39.5%	53.1%	50.9%	51.6%	50.8%	46.0%	54.9%	53.4%	52.4%	49.2%	42.5%
share of dependents in the household	56.4%	55.4%	52.7%	44.8%	36.1%	55.8%	51.8%	50.9%	42.8%	33.3%	58.7%	54.8%	51.2%	45.9%	34.3%
yrs educ household hh	2.26	4.17	4.40	4.92	5.25	2.15	2.71	3.02	2.84	3.26	2.99	3.55	4.03	4.65	5.78
highest yrs educ in hh	4.13	6.04	5.97	6.43	6.07	3.55	4.24	4.40	4.12	4.30	5.29	5.64	5.87	6.25	6.80
average yrs educ in hh	1.46	2.50	2.87	3.50	4.33	1.39	1.86	2.17	2.15	2.69	2.59	3.02	3.35	3.93	4.94
net attendance rate- primary school age	0.66	0.77	0.81	0.82	0.72	0.24	0.30	0.39	0.38	0.38	0.60	0.64	0.67	0.73	0.71
female	0.64	0.74	0.76	0.84	0.71	0.22	0.31	0.40	0.37	0.36	0.62	0.67	0.69	0.74	0.72
male	0.68	0.81	0.84	0.81	0.76	0.25	0.30	0.39	0.36	0.43	0.60	0.62	0.67	0.73	0.71
household migration network	21.1%	23.9%	20.2%	22.2%	23.8%	12.4%	13.7%	14.0%	19.3%	24.7%	17.2%	19.9%	24.6%	27.7%	28.6%
ethnicity (household is minority ethnicity)	71.1%	51.7%	43.6%	32.9%	32.4%	...	...	...	...	...	...	...	...	...	...
religion (household is minority religion)	22.6%	14.6%	9.1%	9.9%	8.3%	...	...	...	...	...	21.9%	20.9%	18.9%	15.3%	15.8%
land ownership (ha)	0.82	0.94	1.35	1.21	1.38	0.90	1.19	1.05	1.18	1.40	1.22	1.42	1.57	1.63	1.67
total tropical livestock units	1.25	0.63	0.65	0.41	0.41	1.09	1.41	1.62	1.85	1.84	0.21	0.25	0.34	0.39	0.40
agricultural wealth index	-0.005	0.000	-0.001	0.005	0.000	-0.146	-0.020	-0.005	0.092	0.065	-0.121	-0.061	0.006	0.080	0.081
non-agricultural wealth index	-0.450	-0.254	-0.072	0.232	0.528	-0.420	-0.199	0.089	0.179	0.329	-0.233	-0.175	-0.100	0.032	0.455
share household dwellings with brick walls	0.879	0.720	0.653	0.590	0.511	0.130	0.128	0.223	0.203	0.202	0.621	0.600	0.581	0.595	0.654
distance nearest primary school (km)	0.51	0.39	1.54	0.44	0.35	0.46	0.49	0.24	0.12	0.28	2.07	2.14	2.07	3.55	5.15
distance nearest secondary school (km)	18.55	17.29	19.04	23.85	18.86	6.36	7.48	6.18	7.22	9.61	30.07	29.39	30.88	28.12	28.21
distance nearest health clinic/hospital (km)	7.23	3.81	6.94	6.11	6.82	2.12	2.17	1.57	1.60	2.12	0.69	0.66	0.65	0.70	0.63
distance post office (km)	23.33	21.56	15.85	18.40	14.64	10.22	10.82	8.41	8.87	10.48	...	...	...	...	...
distance nearest bus stop (km)	6.70	5.67	3.73	2.13	2.61	12.15	12.09	8.25	9.49	12.19	6.39	7.17	7.72	8.33	6.17
distance nearest road (km)	4.06	3.78	2.32	1.35	1.89	13.61	14.99	10.96	10.94	15.28	19.90	19.91	18.87	17.96	16.66
distance nearest bank (km)	31.05	28.07	19.60	19.86	16.32	16.89	19.30	16.42	18.81	22.04	0.14	0.14	0.09	0.14	0.19
distance police station (km)	...	...	...	...	...	10.96	12.71	10.53	12.42	13.72	...	...	...	...	...
distance market (km)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
distance water source (km)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
infrastructure index	-0.582	-0.217	0.010	0.309	0.476	-0.196	-0.170	0.032	0.068	0.252	-0.184	-0.157	-0.119	0.001	0.447
share households with running water	0.9%	1.6%	6.5%	10.9%	18.7%	0.0%	0.0%	0.1%	0.1%	1.4%	0.7%	0.8%	1.0%	2.7%	5.8%
share households with electricity	3.0%	9.7%	15.1%	27.7%	31.5%	0.0%	0.3%	1.5%	2.9%	6.4%	0.1%	0.3%	0.6%	1.9%	7.0%
share households with telephone	...	...	...	...	...	...	...	...	...	...	0.1%	0.0%	0.0%	0.1%	0.9%
participation on farm	96.9%	95.1%	91.5%	87.1%	72.9%	96.8%	98.3%	94.6%	95.5%	91.9%	95.9%	96.3%	96.5%	95.4%	90.9%
participation agr. wage	2.3%	2.8%	3.5%	5.8%	4.3%	34.6%	31.5%	28.3%	19.2%	16.5%	67.4%	61.7%	55.7%	48.4%	41.3%
participation non-agr. wage	6.3%	16.1%	17.3%	23.6%	25.3%	8.9%	17.6%	19.4%	22.1%	23.1%	13.7%	14.5%	14.8%	17.0%	20.6%
participation self emp	28.1%	43.8%	37.8%	43.9%	47.0%	25.1%	22.6%	18.7%	19.5%	20.5%	24.9%	26.7%	29.8%	34.1%	33.9%
participation transfers, other	45.3%	47.2%	48.8%	49.6%	51.7%	59.1%	52.4%	48.2%	46.8%	41.4%	88.7%	89.4%	91.3%	90.2%	88.3%
share on farm income	77.3%	62.9%	63.8%	49.7%	43.0%	64.5%	75.6%	71.0%	72.0%	69.7%	49.5%	57.1%	59.0%	58.5%	51.8%
share agr wage income	0.9%	0.5%	1.3%	2.1%	2.3%	10.3%	7.6%	6.5%	5.1%	2.9%	23.4%	17.3%	12.7%	11.3%	10.3%
share non-agr. wage income	2.0%	8.7%	8.1%	13.4%	16.0%	2.9%	3.1%	7.2%	7.3%	10.0%	6.0%	6.3%	7.1%	8.9%	13.6%
share self emp income	12.1%	20.3%	18.0%	25.4%	27.0%	9.9%	7.2%	7.5%	7.1%	10.8%	9.0%	8.9%	10.7%	11.5%	14.3%
share transfers, other income	7.7%	7.6%	8.7%	9.5%	11.7%	12.3%	6.5%	7.8%	8.6%	6.7%	12.1%	10.4%	10.6%	9.8%	10.0%
farm-specializing hh	70.3%	53.1%	54.3%	39.6%	33.2%	51.3%	65.0%	59.0%	61.1%	60.8%	34.9%	42.4%	45.1%	45.4%	42.1%
labour specializing hh	9.8%	22.8%	19.7%	31.9%	36.3%	10.1%	5.2%	8.7%	9.0%	14.6%	20.8%	17.3%	15.4%	17.8%	25.5%
transfers-specializing hh	3.0%	2.3%	3.7%	3.6%	4.6%	2.3%	0.3%	2.0%	0.9%	1.7%	2.8%	2.3%	2.7%	2.2%	2.7%
diversified hh	16.9%	21.8%	22.3%	24.9%	26.0%	36.4%	29.5%	30.3%	29.0%	22.8%	41.5%	38.0%	36.8%	34.7%	29.6%

* Nepal distance variables only in minutes

	Nigeria 2004					Bangladesh 2000					Indonesia 2000				
	Poorest	2nd	3rd	4th	Top	Poorest	2nd	3rd	4th	Top	Poorest	2nd	3rd	4th	Top
share female household head	4.2%	6.8%	12.5%	21.4%	26.9%	8.4%	8.2%	5.7%	9.5%	11.6%	15.9%	14.5%	16.5%	19.3%	18.2%
age household head	47.19	46.36	47.13	48.93	49.57	42.52	43.11	44.21	45.55	47.68	47.33	45.92	46.75	46.12	44.04
household size	6.87	5.56	4.83	4.17	2.88	5.42	5.32	5.21	5.14	4.88	6.06	5.46	5.15	4.79	4.34
number hh members working age	3.67	3.19	2.88	2.61	1.90	2.42	2.63	2.81	2.85	2.91	3.34	3.22	3.12	3.04	2.92
share female hh working age members	52.6%	51.5%	52.0%	49.9%	40.5%	53.7%	51.9%	49.8%	49.8%	50.5%	50.7%	49.5%	49.6%	51.5%	48.3%
share of dependents in the household	45.4%	41.5%	38.4%	36.3%	32.1%	53.9%	48.8%	44.1%	43.0%	38.8%	46.6%	42.7%	41.9%	38.5%	32.4%
yrs educ household hh	1.52	2.14	2.60	3.00	3.60	1.17	1.68	2.19	3.24	4.91	4.44	5.00	5.89	6.96	8.84
highest yrs educ in hh	3.32	4.22	4.75	5.31	5.30	2.79	3.79	4.68	5.84	7.63	9.38	10.18	10.83	11.67	12.76
average yrs educ in hh	1.43	2.06	2.44	2.96	3.57	0.95	1.49	2.04	2.87	4.42	4.20	4.89	5.48	6.30	7.82
net attendance rate- primary school age	0.20	0.35	0.46	0.56	0.58	0.54	0.63	0.69	0.72	0.76	0.83	0.82	0.83	0.79	0.77
female	0.21	0.35	0.49	0.57	0.58	0.55	0.66	0.70	0.77	0.72	0.82	0.81	0.81	0.79	0.73
male	0.21	0.34	0.46	0.57	0.59	0.54	0.62	0.67	0.67	0.79	0.82	0.82	0.84	0.78	0.79
household migration network	0.4%	0.9%	1.5%	1.8%	3.7%	...	...	...	...	...	42.5%	42.4%	42.9%	43.7%	48.3%
ethnicity (household is minority ethnicity)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
religion (household is minority religion)	71.8%	57.1%	42.7%	27.9%	14.5%	8.1%	7.9%	11.8%	10.1%	10.3%	20.4%	19.6%	20.2%	20.0%	20.8%
land ownership (ha)	...	...	...	...	...	0.12	0.20	0.28	0.44	0.73	1.09	0.85	0.71	0.80	0.68
total tropical livestock units	1.23	0.94	0.62	0.51	0.25	0.34	0.43	0.55	0.66	0.67	...	...	...	...	...
agricultural wealth index	0.070	0.007	-0.022	-0.018	-0.037	-0.059	-0.042	-0.018	0.033	0.086	0.003	-0.026	-0.022	-0.014	0.061
non-agricultural wealth index	-0.131	-0.021	-0.012	0.064	0.098	-0.086	-0.091	-0.074	0.011	0.241	-0.255	-0.093	0.022	0.109	0.213
share household dwellings with brick walls	0.114	0.217	0.315	0.437	0.583	0.011	0.027	0.053	0.087	0.179	0.419	0.475	0.562	0.575	0.695
distance nearest primary school (km)	...	...	...	...	...	0.17	0.17	0.19	0.16	0.18	0.31	0.26	0.25	0.24	0.23
distance nearest secondary school (km)	...	...	...	...	...	2.00	2.23	2.19	2.25	2.07	4.27	4.05	4.34	3.74	3.12
distance nearest health clinic/hospital (km)	...	...	...	...	...	28.28	28.87	29.83	30.07	29.73	0.32	0.28	0.28	0.26	0.21
distance post office (km)	...	...	...	...	...	2.45	2.63	2.50	2.66	2.55	...	...	...	...	...
distance nearest bus stop (km)	...	...	...	...	...	5.09	5.24	5.32	4.86	4.55	...	...	...	...	...
distance nearest road (km)	...	...	...	...	...	6.60	6.97	7.34	6.86	6.83	...	...	...	...	...
distance nearest bank (km)	...	...	...	...	...	9.18	8.97	8.83	9.06	8.36	...	...	...	...	...
distance police station (km)	...	...	...	...	...	1.36	1.32	1.53	1.42	1.41	...	...	...	...	...
distance market (km)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
distance water source (km)	1.97	1.96	2.03	2.16	2.19	...	...	...	...	...	...	...	...	...	...
infrastructure index	-0.423	-0.170	-0.022	0.201	0.409	-0.395	-0.279	-0.103	0.082	0.698	-0.348	-0.142	0.014	0.106	0.376
share households with running water	20.5%	22.3%	23.9%	27.0%	30.1%	0.0%	0.1%	0.3%	0.5%	0.9%	9.1%	11.2%	13.9%	13.4%	16.1%
share households with electricity	6.6%	14.0%	18.2%	24.6%	31.2%	2.9%	7.8%	15.7%	23.6%	43.7%	76.8%	83.8%	85.3%	84.7%	89.5%
share households with telephone	...	...	...	...	...	0.0%	0.1%	0.0%	0.0%	1.1%	...	...	...	...	...
participation on farm	94.2%	89.8%	86.9%	83.6%	74.7%	73.0%	77.9%	82.7%	79.1%	82.1%	58.0%	62.3%	56.0%	50.9%	44.7%
participation agr. wage	4.5%	3.4%	3.8%	3.9%	2.7%	58.6%	44.6%	35.6%	24.3%	13.8%	28.8%	23.0%	20.2%	15.1%	9.5%
participation non-agr. wage	3.8%	6.2%	9.1%	11.5%	13.7%	29.3%	31.5%	31.0%	33.3%	34.4%	29.6%	31.1%	31.8%	32.4%	34.0%
participation self emp	11.2%	15.8%	18.2%	20.5%	26.1%	18.2%	23.3%	27.2%	27.6%	32.0%	23.9%	31.4%	32.1%	36.8%	39.3%
participation transfers, other	5.2%	6.3%	8.9%	11.3%	14.9%	68.2%	70.2%	73.4%	76.4%	84.5%	85.6%	88.8%	89.0%	87.9%	83.8%
share on farm income	88.8%	84.7%	78.4%	73.5%	63.1%	12.6%	15.5%	21.1%	20.9%	17.7%	31.2%	29.8%	26.9%	23.4%	17.7%
share agr wage income	2.7%	1.5%	1.9%	2.1%	1.5%	38.1%	25.9%	18.6%	11.6%	5.9%	14.2%	10.6%	9.9%	8.3%	5.3%
share non-agr. wage income	2.8%	4.5%	7.0%	9.0%	12.2%	19.3%	20.7%	19.5%	20.8%	18.2%	17.9%	19.2%	19.7%	21.0%	23.9%
share self emp income	4.8%	8.1%	10.7%	12.4%	18.1%	11.0%	15.5%	16.6%	18.1%	20.6%	12.3%	16.2%	18.0%	19.7%	22.1%
share transfers, other income	0.8%	1.1%	2.0%	2.9%	5.0%	18.9%	22.4%	24.2%	28.7%	37.6%	24.4%	24.2%	25.5%	27.6%	31.1%
farm-specializing hh	85.4%	80.8%	74.0%	68.3%	57.3%	3.6%	4.6%	8.6%	7.9%	6.6%	20.9%	18.5%	16.9%	13.0%	9.4%
labour specializing hh	7.4%	10.7%	15.2%	19.7%	27.6%	55.5%	45.5%	37.3%	33.4%	29.6%	33.8%	34.8%	35.7%	37.5%	40.9%
transfers-specializing hh	0.2%	0.4%	0.8%	1.1%	2.3%	3.0%	3.4%	3.7%	6.7%	10.4%	9.4%	10.2%	10.4%	11.8%	15.5%
diversified hh	7.0%	8.1%	10.0%	10.9%	12.8%	37.9%	46.6%	50.4%	51.9%	53.5%	36.0%	36.5%	37.0%	37.6%	34.2%

	<u>Nepal 1996</u>					<u>Pakistan 2001</u>					<u>Vietnam 1998</u>				
	Poorest	2nd	3rd	4th	Top	Poorest	2nd	3rd	4th	Top	Poorest	2nd	3rd	4th	Top
share female household head	11.6%	10.5%	13.4%	12.7%	15.5%	5.2%	7.7%	8.9%	9.3%	12.8%	19.2%	19.2%	21.9%	22.7%	25.2%
age household head	42.72	43.59	44.29	45.87	46.95	44.15	44.94	45.11	46.41	47.13	43.66	46.19	46.76	49.21	50.22
household size	6.56	6.35	5.59	5.38	4.44	8.77	7.91	7.02	6.23	5.03	5.59	5.08	4.78	4.34	3.98
number hh members working age	2.96	3.13	2.85	2.78	2.58	3.60	3.54	3.40	3.32	2.97	2.68	2.71	2.70	2.58	2.52
share female hh working age members	55.4%	53.8%	54.2%	54.9%	52.8%	53.0%	53.5%	53.1%	52.4%	51.9%	52.8%	50.0%	51.1%	48.0%	49.7%
share of dependents in the household	54.0%	48.9%	46.9%	46.9%	39.4%	58.9%	54.6%	50.7%	44.7%	38.3%	52.0%	48.0%	45.0%	42.7%	37.5%
yrs educ household hh	0.97	1.22	1.74	2.29	3.26	1.84	2.35	2.86	3.40	4.52	5.75	6.24	6.37	6.39	7.00
highest yrs educ in hh	3.01	3.97	4.58	5.44	6.32	4.53	5.39	6.02	6.60	7.51	7.52	8.05	8.53	8.72	9.22
average yrs educ in hh	0.91	1.35	1.76	2.28	3.17	1.05	1.51	1.87	2.36	3.36	3.83	4.64	5.10	5.52	6.25
net attendance rate- primary school age	0.38	0.48	0.57	0.72	0.69	0.29	0.38	0.44	0.52	0.60	0.78	0.88	0.86	0.86	0.86
female	0.24	0.41	0.48	0.65	0.66	0.22	0.31	0.36	0.45	0.58	0.76	0.86	0.85	0.86	0.83
male	0.52	0.58	0.65	0.82	0.72	0.35	0.45	0.51	0.58	0.63	0.80	0.88	0.86	0.87	0.88
household migration network	12.3%	12.7%	10.3%	12.7%	12.5%	...	...	...	...	...	4.1%	5.2%	6.1%	7.2%	9.6%
ethnicity (household is minority ethnicity)	8.5%	7.7%	11.9%	20.0%	22.4%	...	...	...	...	...	26.4%	17.6%	14.2%	9.3%	6.3%
religion (household is minority religion)	12.0%	13.3%	15.3%	11.9%	17.2%	...	...	...	...	...	13.8%	6.7%	7.7%	6.5%	10.1%
land ownership (ha)	0.41	0.60	0.53	0.72	0.70	0.44	0.57	0.85	1.06	1.55	0.15	0.19	0.20	0.21	0.27
total tropical livestock units	1.75	1.78	1.61	1.79	1.70	0.41	0.45	0.47	0.50	0.52	1.12	1.22	1.14	1.13	0.85
agricultural wealth index	-0.136	0.038	-0.075	0.080	0.078	0.039	0.022	0.012	-0.012	-0.052	0.032	-0.001	0.049	-0.029	-0.050
non-agricultural wealth index	-0.406	-0.202	-0.022	0.080	0.568	-0.272	-0.183	-0.116	0.051	0.511	-0.648	-0.336	-0.127	0.143	0.958
share household dwellings with brick walls	0.243	0.309	0.320	0.224	0.215	...	...	...	...	...	0.465	0.533	0.559	0.627	0.650
distance nearest primary school (km)	...	...	...	...	...	0.94	0.67	0.71	0.59	0.45	1.76	1.53	1.55	1.44	1.23
distance nearest secondary school (km)	...	...	...	...	...	25.48	33.34	29.76	38.63	46.91	0.40	0.42	0.36	0.46	0.42
distance nearest health clinic/hospital (km)	...	...	...	...	...	56.13	53.89	51.42	56.59	64.85	2.95	2.00	1.81	1.91	2.21
distance post office (km)	...	...	...	...	...	7.47	6.84	6.69	5.17	4.56	1.20	0.71	0.64	0.66	0.61
distance nearest bus stop (km)	...	...	...	...	...	1.50	1.77	2.00	1.75	1.58	5.43	4.04	4.02	3.40	2.48
distance nearest road (km)	...	...	...	...	...	...	...	...	...	...	1.03	1.06	1.34	1.28	1.05
distance nearest bank (km)	...	...	...	...	...	12.00	12.01	11.16	9.88	8.20	...	...	...	...	...
distance police station (km)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
distance market (km)	...	...	...	...	...	17.37	19.60	18.97	18.32	16.75	...	...	...	...	...
distance water source (km)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
infrastructure index	-0.299	-0.272	-0.186	0.122	0.654	-0.255	-0.142	-0.040	0.079	0.340	-0.418	-0.115	-0.051	0.177	0.410
share households with running water	3.1%	1.5%	4.0%	5.8%	12.3%	10.1%	10.6%	11.5%	12.3%	11.9%	1.2%	1.2%	1.4%	1.5%	3.6%
share households with electricity	1.5%	3.5%	4.9%	10.5%	20.5%	59.1%	67.1%	69.2%	72.6%	78.9%	31.9%	44.3%	45.4%	57.4%	72.2%
share households with telephone	0.2%	0.2%	0.0%	0.0%	0.5%	1.2%	2.2%	3.7%	5.5%	13.7%	0.1%	0.1%	0.1%	0.5%	7.2%
participation on farm	91.7%	96.1%	96.4%	94.4%	94.0%	65.1%	68.4%	70.4%	72.6%	73.0%	98.6%	99.4%	98.3%	98.8%	97.2%
participation agr. wage	57.6%	50.8%	46.8%	34.0%	18.9%	27.9%	24.5%	18.1%	16.5%	12.9%	24.9%	24.5%	20.9%	17.3%	13.0%
participation non-agr. wage	39.5%	37.3%	33.7%	32.9%	33.6%	57.8%	53.8%	47.3%	45.3%	37.8%	28.0%	31.0%	33.7%	35.4%	31.2%
participation self emp	16.2%	19.9%	19.3%	22.3%	22.5%	18.2%	17.8%	16.5%	20.2%	16.6%	30.3%	32.8%	41.4%	40.7%	46.6%
participation transfers, other	25.5%	27.6%	31.5%	34.7%	42.6%	27.4%	38.4%	42.4%	46.0%	52.3%	43.3%	46.9%	48.6%	50.9%	52.1%
share on farm income	39.2%	43.7%	43.5%	46.9%	45.8%	30.5%	33.9%	37.3%	37.5%	39.8%	66.8%	61.1%	56.9%	53.7%	43.0%
share agr wage income	28.7%	22.1%	20.0%	13.4%	7.5%	13.9%	9.6%	8.1%	5.4%	4.5%	8.2%	8.1%	5.8%	4.2%	3.4%
share non-agr. wage income	18.3%	17.2%	17.1%	17.9%	17.1%	34.4%	30.3%	26.2%	24.3%	21.0%	7.5%	8.7%	9.1%	10.5%	10.3%
share self emp income	5.9%	8.2%	8.7%	10.6%	13.3%	10.2%	10.8%	10.0%	12.1%	8.5%	12.5%	16.1%	22.3%	23.2%	32.1%
share transfers, other income	8.0%	8.7%	10.8%	11.2%	16.4%	11.1%	15.4%	18.3%	20.7%	26.2%	5.0%	6.0%	5.8%	8.4%	11.3%
farm-specializing hh	19.0%	27.2%	25.9%	31.4%	28.4%	22.6%	21.8%	25.9%	26.2%	27.6%	48.8%	42.3%	37.3%	32.9%	27.3%
labour specializing hh	33.7%	29.0%	27.2%	25.4%	22.6%	48.1%	38.3%	32.8%	30.2%	23.9%	11.9%	16.5%	21.4%	22.3%	33.7%
transfers-specializing hh	2.2%	2.3%	3.7%	3.6%	5.6%	5.2%	6.8%	8.7%	9.5%	10.6%	0.4%	0.4%	0.4%	1.9%	2.7%
diversified hh	45.2%	41.5%	43.2%	39.5%	43.4%	24.1%	33.1%	32.6%	34.1%	37.9%	38.8%	40.7%	41.0%	42.9%	36.3%

	<u>Ecuador 1995</u>					<u>Guatemala 2000</u>					<u>Nicaragua 2001</u>				
	Poorest	2nd	3rd	4th	Top	Poorest	2nd	3rd	4th	Top	Poorest	2nd	3rd	4th	Top
share female household head	14.5%	10.8%	10.8%	16.1%	18.4%	9.7%	11.1%	17.3%	15.2%	19.8%	18.4%	19.2%	18.0%	17.5%	21.0%
age household head	46.83	48.32	47.62	46.43	48.19	42.82	43.62	43.95	44.50	45.27	45.71	44.92	46.65	45.61	48.01
household size	6.70	5.89	5.02	4.39	3.19	7.48	6.28	5.58	4.93	3.76	7.42	6.70	5.76	5.22	3.82
number hh members working age	2.97	2.85	2.56	2.39	1.92	3.02	2.70	2.64	2.52	2.17	3.35	3.22	2.88	2.76	2.25
share female hh working age members	50.0%	47.1%	44.4%	45.8%	38.9%	53.9%	50.6%	52.5%	50.0%	47.2%	47.1%	48.9%	48.2%	48.9%	42.5%
share of dependents in the household	55.4%	52.8%	49.1%	45.2%	38.9%	59.5%	56.2%	51.6%	47.8%	41.9%	54.4%	50.6%	48.0%	44.2%	40.1%
yrs educ household hh	3.17	3.70	4.31	5.01	5.98	1.33	1.59	2.04	2.49	3.90	1.35	2.03	2.36	2.81	3.91
highest yrs educ in hh	6.37	7.02	7.40	8.01	8.48	3.01	3.75	4.27	4.81	6.36	3.78	5.26	5.31	6.23	7.10
average yrs educ in hh	3.45	4.01	4.52	5.17	5.96	1.23	1.77	2.12	2.64	3.94	1.66	2.51	2.74	3.44	4.37
net attendance rate- primary school age	0.85	0.88	0.88	0.88	0.93	0.56	0.67	0.74	0.75	0.80	0.70	0.78	0.82	0.88	0.85
female	0.87	0.87	0.90	0.89	0.93	0.50	0.62	0.73	0.79	0.81	0.71	0.79	0.84	0.88	0.81
male	0.82	0.88	0.88	0.90	0.94	0.61	0.73	0.76	0.74	0.80	0.68	0.79	0.81	0.88	0.87
household migration network	5.5%	10.3%	8.0%	11.5%	11.4%	5.1%	4.8%	4.5%	10.5%	11.8%	5.8%	9.6%	5.1%	10.8%	10.6%
ethnicity (household is minority ethnicity)	...	...	...	...	...	68.4%	55.1%	45.8%	38.3%	19.2%	5.0%	4.3%	10.1%	3.7%	1.9%
religion (household is minority religion)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
land ownership (ha)	3.91	4.07	4.40	5.70	10.28	1.70	1.99	1.61	1.26	2.97	3.62	4.76	7.81	5.42	7.51
total tropical livestock units	2.19	2.73	2.54	3.00	3.60	0.54	0.58	0.65	0.59	2.28	0.67	1.54	1.98	2.89	3.62
agricultural wealth index	-0.067	0.027	-0.056	0.029	0.049	-0.079	-0.061	-0.030	-0.032	0.206	-0.235	-0.059	0.027	0.046	0.171
non-agricultural wealth index	-0.382	-0.236	-0.064	0.178	0.499	-0.436	-0.339	-0.146	0.047	0.883	-0.418	-0.293	-0.159	0.140	0.666
share household dwellings with brick walls	0.285	0.295	0.386	0.487	0.526	0.002	0.004	0.008	0.014	0.037	0.103	0.150	0.113	0.139	0.147
distance nearest primary school (km)	10.65	10.77	10.19	10.83	11.12	4.41	3.77	2.80	4.15	2.49	1.65	1.45	1.54	1.47	1.32
distance nearest secondary school (km)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
distance nearest health clinic/hospital (km)	2.66	2.60	2.65	2.52	2.57	...	...	...	...	...	7.27	5.87	5.77	5.39	5.47
distance post office (km)	...	...	...	...	...	10.44	10.11	9.75	8.26	8.43	...	...	...	...	...
distance nearest bus stop (km)	...	...	...	...	...	0.06	0.07	0.08	0.07	0.06	...	...	...	...	...
distance nearest road (km)	...	...	...	...	...	...	...	...	...	...	45.10	45.33	66.94	34.77	23.60
distance nearest bank (km)	...	...	...	...	...	12.35	11.39	11.91	10.23	12.34	...	...	...	...	...
distance police station (km)	...	...	...	...	...	10.78	10.21	9.46	8.43	9.27	...	...	...	...	...
distance market (km)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
distance water source (km)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
infrastructure index	-0.220	-0.143	0.012	0.107	0.230	-0.408	-0.220	-0.004	0.062	0.568	-0.369	-0.105	-0.093	0.108	0.441
share households with running water	46.6%	45.3%	48.6%	49.9%	52.8%	45.6%	52.6%	54.5%	54.7%	61.6%	13.1%	21.4%	22.2%	34.3%	40.9%
share households with electricity	66.1%	67.5%	80.0%	76.2%	79.4%	26.6%	42.6%	56.0%	56.6%	67.5%	8.1%	15.9%	21.4%	23.4%	40.3%
share households with telephone	0.4%	0.4%	1.2%	4.3%	9.4%	0.3%	0.0%	0.8%	0.6%	12.1%	0.0%	0.0%	0.0%	1.1%	6.5%
participation on farm	90.2%	93.5%	90.4%	85.6%	81.6%	94.2%	96.0%	91.2%	88.7%	79.2%	93.6%	92.1%	94.1%	90.8%	87.4%
participation agr. wage	51.1%	46.3%	41.8%	30.3%	26.0%	63.2%	53.5%	44.4%	34.4%	17.8%	61.1%	48.7%	33.8%	32.6%	21.0%
participation non-agr. wage	32.1%	37.0%	37.7%	34.9%	30.4%	21.8%	28.6%	38.3%	42.3%	42.2%	25.3%	33.9%	40.8%	37.2%	39.5%
participation self emp	28.9%	37.2%	36.7%	44.8%	46.5%	20.6%	29.1%	27.8%	35.5%	40.4%	15.3%	21.0%	22.6%	29.7%	42.2%
participation transfers, other	57.1%	61.5%	61.4%	60.3%	68.0%	69.5%	71.0%	66.3%	63.7%	62.2%	36.8%	40.5%	42.6%	45.5%	48.8%
share on farm income	31.3%	33.7%	32.9%	31.4%	24.0%	33.1%	30.3%	26.1%	21.7%	16.8%	36.1%	37.1%	39.7%	35.4%	27.0%
share agr wage income	31.8%	23.8%	23.6%	16.0%	13.0%	33.3%	25.9%	22.5%	16.8%	11.0%	36.8%	27.7%	17.5%	14.6%	10.5%
share non-agr. wage income	17.9%	18.9%	17.9%	19.8%	18.2%	9.8%	14.6%	22.2%	28.2%	29.7%	12.8%	17.5%	24.4%	26.6%	24.8%
share self emp income	8.7%	11.5%	13.7%	18.7%	25.8%	7.2%	11.1%	10.0%	15.0%	20.8%	5.1%	7.8%	8.5%	13.1%	22.9%
share transfers, other income	10.3%	12.1%	11.9%	14.0%	19.0%	16.5%	18.1%	19.2%	18.4%	21.7%	9.2%	9.9%	9.9%	10.2%	14.7%
farm-specializing hh	18.9%	16.2%	19.8%	18.8%	13.6%	13.8%	12.3%	11.6%	11.1%	9.7%	21.1%	23.8%	28.5%	21.7%	16.9%
labour specializing hh	46.3%	43.1%	44.4%	44.9%	48.3%	32.3%	30.7%	37.3%	47.8%	52.9%	40.4%	43.6%	41.0%	41.1%	45.3%
transfers-specializing hh	0.9%	1.6%	1.8%	2.6%	4.4%	3.5%	4.8%	6.5%	6.7%	9.4%	1.1%	0.3%	0.6%	0.3%	1.5%
diversified hh	33.9%	39.1%	34.0%	33.7%	33.7%	50.4%	52.2%	44.6%	34.4%	28.1%	37.4%	32.2%	29.9%	36.9%	36.2%

	Panama 2003					Albania 2005					Bulgaria 2001				
	Poorest	2nd	3rd	4th	Top	Poorest	2nd	3rd	4th	Top	Poorest	2nd	3rd	4th	Top
share female household head	16.7%	16.3%	21.3%	22.5%	19.6%	5.2%	5.2%	7.6%	8.2%	11.0%	18.8%	21.1%	22.7%	23.4%	22.9%
age household head	47.09	48.01	49.02	50.35	50.15	48.25	51.34	52.09	53.86	54.74	49.68	55.46	61.05	57.45	59.79
household size	7.25	4.91	4.24	3.35	2.63	5.56	4.91	4.43	4.01	3.30	4.34	3.37	2.84	2.69	2.38
number hh members working age	3.14	2.55	2.44	2.01	1.67	3.12	2.88	2.63	2.42	2.12	2.47	1.91	1.39	1.42	1.33
share female hh working age members	48.1%	44.5%	45.8%	39.4%	36.6%	53.4%	49.3%	49.4%	45.3%	45.8%	39.9%	38.8%	29.9%	32.6%	32.7%
share of dependents in the household	55.7%	47.9%	42.7%	41.8%	36.2%	43.9%	41.7%	41.7%	42.3%	38.4%	49.6%	48.5%	60.1%	53.5%	52.1%
yrs educ household hh	3.36	4.89	5.71	6.46	8.47	6.63	7.45	8.27	8.34	8.69	6.00	7.06	7.89	8.86	9.15
highest yrs educ in hh	6.64	8.11	9.19	9.60	10.68	8.95	9.50	9.96	10.16	10.06	7.61	8.77	9.11	10.17	10.34
average yrs educ in hh	3.55	4.92	6.10	6.59	8.21	6.00	6.59	7.20	7.38	7.78	5.04	6.78	7.36	8.29	8.85
net attendance rate- primary school age	0.84	0.89	0.91	0.91	0.96	0.85	0.90	0.93	0.91	0.83	0.82	0.93	0.89	0.89	0.91
female	0.85	0.88	0.93	0.92	1.00	0.84	0.90	0.94	0.98	0.84	0.81	0.89	0.91	0.88	0.83
male	0.83	0.92	0.89	0.92	0.93	0.84	0.89	0.94	0.89	0.85	0.84	0.96	0.88	0.91	1.00
household migration network	23.9%	25.6%	24.2%	23.3%	22.8%	22.6%	30.8%	24.7%	20.9%	19.7%	16.5%	13.1%	13.1%	11.4%	14.3%
ethnicity (household is minority ethnicity)	49.7%	10.1%	3.9%	1.9%	2.8%	...	...	...	...	...	70.5%	42.9%	21.6%	12.0%	6.9%
religion (household is minority religion)	...	...	...	...	...	43.2%	36.4%	35.3%	39.7%	40.3%	71.6%	66.9%	85.2%	89.1%	94.3%
land ownership (ha)	5.61	4.39	5.05	7.02	9.10	0.69	0.71	0.84	0.87	0.94	0.30	0.58	0.74	0.78	0.97
total tropical livestock units	0.65	1.03	1.50	1.96	4.41	1.69	1.65	1.46	1.51	1.31	0.20	0.48	0.61	0.67	0.60
agricultural wealth index	-0.137	-0.088	-0.020	0.011	0.220	-0.146	-0.087	-0.041	0.118	0.157	-0.426	-0.072	0.106	0.185	0.209
non-agricultural wealth index	-0.721	-0.363	0.052	0.300	0.955	-0.064	-0.051	-0.011	0.004	0.112	-0.895	-0.164	0.117	0.405	0.541
share household dwellings with brick walls	0.171	0.460	0.672	0.769	0.900	0.771	0.737	0.796	0.744	0.803	0.653	0.760	0.784	0.823	0.777
distance nearest primary school (km)	0.65	0.48	0.45	0.48	0.61	0.27	0.34	0.35	0.44	0.45	1.45	2.37	2.84	2.34	2.36
distance nearest secondary school (km)	5.62	5.48	5.92	5.64	5.43	5.07	6.21	3.38	5.50	4.56	9.72	10.47	11.57	9.36	9.36
distance nearest health clinic/hospital (km)	4.91	4.00	3.89	3.78	3.18	0.69	0.68	0.15	0.59	0.27	5.32	6.33	7.06	5.72	5.80
distance post office (km)	12.90	9.57	8.23	6.51	4.60	3.83	5.27	2.20	3.42	2.28	1.05	1.50	1.06	0.98	1.15
distance nearest bus stop (km)	2.64	7.46	20.61	4.95	9.98	4.15	5.54	2.73	4.75	4.41	0.72	0.75	0.55	0.72	0.73
distance nearest road (km)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
distance nearest bank (km)	...	...	...	...	...	0.26	0.36	0.40	0.33	0.32	9.97	10.26	9.09	8.09	8.31
distance police station (km)	...	...	...	...	...	5.13	6.32	3.54	5.16	4.75	...	...	...	...	...
distance market (km)	16.19	12.06	10.95	13.69	13.97	...	...	...	...	...	...	...	...	...	...
distance water source (km)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
infrastructure index	-0.911	-0.407	0.068	0.322	0.924	-0.315	-0.179	0.002	0.124	0.367	-0.593	-0.079	0.066	0.206	0.402
share households with running water	58.4%	73.9%	83.6%	87.8%	92.7%	15.5%	20.7%	27.5%	32.8%	39.1%	98.8%	96.8%	99.3%	97.4%	99.3%
share households with electricity	15.3%	49.3%	71.5%	78.2%	90.5%	88.2%	92.7%	91.3%	91.1%	85.6%	71.0%	86.9%	92.6%	91.4%	93.7%
share households with telephone	0.2%	2.8%	14.6%	20.8%	48.7%	0.2%	0.8%	3.3%	5.6%	9.2%	18.2%	45.7%	64.2%	71.4%	75.4%
participation on farm	90.7%	84.8%	84.3%	81.4%	70.3%	94.4%	96.3%	95.3%	94.5%	95.7%	48.9%	73.1%	88.6%	87.4%	86.3%
participation agr. wage	45.6%	42.6%	31.6%	23.1%	8.9%	5.8%	7.1%	5.1%	4.5%	3.9%	11.9%	18.3%	14.2%	21.1%	17.1%
participation non-agr. wage	23.0%	40.9%	48.0%	50.0%	48.5%	17.8%	29.1%	33.1%	34.1%	35.9%	9.1%	22.3%	22.7%	21.1%	25.7%
participation self emp	24.8%	23.4%	25.7%	32.9%	34.6%	6.0%	8.8%	8.2%	15.1%	16.6%	1.1%	1.1%	2.3%	3.4%	4.0%
participation transfers, other	51.8%	66.3%	68.3%	74.8%	76.0%	81.0%	72.5%	73.1%	74.4%	78.2%	90.9%	90.3%	94.3%	91.4%	86.3%
share on farm income	42.7%	26.8%	23.0%	17.0%	11.7%	49.4%	44.5%	40.2%	36.4%	32.0%	9.3%	18.3%	18.7%	14.8%	16.4%
share agr wage income	25.8%	23.4%	16.8%	12.7%	6.3%	3.9%	3.6%	2.7%	2.1%	1.6%	7.9%	11.1%	7.2%	11.7%	10.3%
share non-agr. wage income	10.5%	23.3%	31.8%	34.1%	38.8%	11.6%	17.8%	20.4%	20.0%	20.9%	5.2%	12.8%	10.4%	12.2%	16.5%
share self emp income	11.9%	9.8%	12.2%	15.1%	21.4%	3.2%	6.2%	5.7%	10.7%	11.0%	0.1%	0.8%	2.5%	2.5%	0.8%
share transfers, other income	9.1%	16.6%	16.2%	21.1%	21.8%	31.9%	27.9%	30.9%	30.8%	34.6%	77.4%	57.0%	61.1%	58.8%	56.1%
farm-specializing hh	26.4%	13.6%	12.1%	7.5%	7.2%	32.6%	24.0%	18.2%	12.6%	9.7%	2.3%	5.1%	3.4%	2.9%	4.6%
labour specializing hh	31.3%	42.6%	51.5%	53.9%	59.9%	10.8%	18.5%	18.2%	18.6%	19.5%	6.8%	15.4%	9.7%	16.6%	19.4%
transfers-specializing hh	3.0%	6.3%	7.7%	10.3%	9.1%	9.1%	9.6%	8.0%	11.3%	11.3%	63.6%	42.3%	45.5%	41.1%	38.3%
diversified hh	39.4%	37.5%	28.7%	28.3%	23.7%	47.5%	47.9%	55.5%	57.5%	59.5%	27.3%	37.1%	41.5%	39.4%	37.7%

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Agricultural Development Economics Division (ESA)

The Food and Agriculture Organization
Viale delle Terme di Caracalla
00153 Rome
Italy

Contact:

Office of the Director
Telephone: +39 06 57054358
Facsimile: + 39 06 57055522
Website: www.fao.org/es/esa
e-mail: ESA@fao.org