Rural Transformation and Late Developing Countries in a Globalizing World

A Comparative Analysis of Rural Change

Economic and Sector Work
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The RuralStruc Program on the ‘Structural Dimensions of Liberalization in Agriculture and Rural Development’ is a joint initiative of the World Bank, the French Cooperation (French Development Agency, Ministry of Agriculture and Fisheries, Ministry of Foreign and European Affairs, Agricultural Research Centre for International Development—CIRAD) and the International Fund for Agricultural Development. It is managed by the World Bank.

With a duration of five years (2006-2010), its objective is to propose a renewed analysis of the processes of liberalization and economic integration and their impacts on agriculture and the rural sector of developing countries. It also has the mandate to bring an updated vision of the situation of rural economies in terms of levels of wealth, diversification and overall transformation. The results obtained will make it possible to improve the dialogue between national and international partners and to provide orientations for the agricultural and rural policy debates.

The Program adopts a comparative approach across seven countries—Mexico, Nicaragua, Morocco, Senegal, Mali, Kenya and Madagascar—which correspond to different stages of the processes of economic and demographic transition. The Program’s work is conducted with teams of national experts and researchers. Two phases were implemented: a first phase providing an overview of each country’s dynamics (2006-2007), and a second phase comprising sectoral and regional case studies, supported by rural household surveys (2007-2010).

http://www.worldbank.org/afr/ruralstruc
EXECUTIVE SUMMARY

OVERALL POSITIONING: A VISION OF UPCOMING CHALLENGES

The last 40 years of world history have witnessed dramatic changes. The population of the planet has grown by 3.2 billion people—a near doubling—and there are now, for the first time, more people living in cities than in rural areas. The emergence of a global open economy, boosted by technological progress and the new international political landscape, has deeply modified the world's development prospects.

Over the next 40 years, the world's population will grow by an additional 2.3 billion people, and urbanization will come to affect 70% of humanity. The abrupt nature of this change in demography, occurring over less than a century, raises a question of sustainability. The existing growth trajectory of the world is simultaneously challenged by the depletion of natural resources, the consequences of climate change, and the high risks associated with asymmetric economic development among the world's regions.

A continuous international debate is now raging about the multiple challenges of a 9-billion person world—not least of which is how to feed it. However, focusing on these overall figures tends to divert attention from other major facts related to the dynamics of population growth and its distribution that are just as important. A major shift is the continued marginalization, in terms of world population share, of the "developed world" (or the world of the "first developers"). In 2050, North America and Europe combined will account for only 15% of the population. While Asia will remain the world's most populous region, the relative weights of the populations of sub-Saharan Africa (SSA) and Europe in world totals will be reversed compared to where they stood in 1960 (10% for SSA and 20% for Europe in 1960, and the reverse in 2050). This major realignment of the world's population will exacerbate existing inequalities in access to resources.

In the meanwhile, despite continued urbanization, 2.8 billion people will continue to live in rural areas in 2050. Rural populations will therefore remain massive, and these populations will still be primarily engaged in earning their living from agriculture. Additionally, regional differences in urban dynamics will strongly affect the distribution of rural populations. They will be increasingly concentrated in South Asia and sub-Saharan Africa (together accounting for nearly 2/3 of the world's rural population), and in SSA the number of rural people will continue to grow (a unique situation).

These trends are of major importance because they challenge the prospects for development in much of the world. Agriculture is more than just the production of food. Because agriculture is the core activity and main source of livelihood of
billions of rural people, its evolution will shape the process of economic, social, and environmental change. The situation is especially challenging in SSA where the lack of economic diversification, reflected most notably in the region’s anemic rate of industrialization, limits possible options for employment outside of agriculture and the informal sector. Over the next 15 years, as a consequence of demographic dynamics, 330 million youth (who have already been born) will enter the labor market—a figure equivalent to the current population of the USA. Of these, 195 million will live in rural areas, and rural activities will have to provide them with needed jobs. Otherwise they will migrate to cities or to neighboring countries, where they will contribute to the growing economic, social and political difficulties that result from mega-urbanization and mass migration.

Economies characterized by large rural population and slow industrialization will need to focus on creating rural employment, although economic diversification and management of urban growth remain critical objectives. As such, the evolution of agricultural and rural development policy in the coming two decades will be decisive: for the continued fight against poverty, for economic development, and for political stability.

BACKGROUND: FROM THE WTO DEBATE TO THE FOOD PRICE CRISIS - THE NEED TO REFOCUS ON STRUCTURAL TRANSFORMATION

Initiated in 2005 in the context of an intense international debate on the liberalization of agricultural markets and the resulting consequences for farming in developing countries, the RuralStruc Program’s main goal was to provide a renewed perspective on agriculture and its role for development. More particularly, the Program aimed to reconnect the issues related to trade liberalization with the broader discussion of rural transformation and the evolution of rural economies within a rapidly globalizing world.

The RuralStruc Program’s fieldwork was carried out over a period of five years (2006-2010), during which time the scope and issues of the international debate changed dramatically. Three major issues affected the global debate about agriculture. They are related to growing concerns about the consequences of global climate change—which culminated with the 2009 Copenhagen Summit—and the eruption of the world food price crisis and the world financial crisis, which remain high on the agenda (as evidenced by the implementation of an Agricultural G20).

Amidst this evolving international debate, the World Development Report 2008 on Agriculture for Development (WDR08) offered a strong and well argued reminder of the central role of agriculture in the development process and of its importance as a contributor to poverty alleviation. Even though the report’s full incorporation into the policy agenda was somewhat delayed by the emergence of the world food price crisis and the subsequent need to focus on more pressing short-term issues, its contribution to the debate remains invaluable.
The originality of the WDR08 was in adopting a regional approach based on different stages in the process of structural transformation. It introduced the idea of the three “worlds of agriculture,” which correspond to the different roles played by agriculture at different stages of a country’s development. The first of these worlds consists of “agriculture-based” countries whose economies rely heavily on agriculture for growth and employment. This world includes most of sub-Saharan Africa. The second world of agriculture corresponds to “transforming” countries, found mainly in South Asia and East Asia, where rapidly rising rural-urban disparities and the persistence of extreme rural poverty are major sources of social and political tensions. The third world refers to “urbanized countries,” including most of Latin America, where agriculture can still help reduce the remaining rural poverty through better integration into modern food markets and the development of environmental services.

While the enumeration of these three worlds facilitated the design of policy recommendations, some of the aforementioned challenges that countries face remained largely overlooked. These included demographic issues, notably population growth and its consequences for employment, as well as asymmetries in competitiveness that result from globalization.

The consideration of these issues calls into question the viability of the historical pathway of structural transformation, which involves the well-known progressive shift from agriculture to industry, and then to services. The underlying dynamic of this “economic transition” (a key component of structural transformation) is increased productivity in agriculture, which fosters technical change and allows labor and capital to flow to other economic activities. Simultaneously, economies experience a broad geographic restructuring as labor moves from scattered activities (agriculture) to more concentrated ones (industry), and urbanization processes accelerate. This process of change translates into higher incomes, greater wealth and improved living conditions, which along with medical progress initiate the “demographic transition” (the progressive, though staggered, reduction of mortality and birth rates). The result is a population that grows rapidly at first but then stabilizes.

This evolutionist vision, based on statistical evidence from past transitions, is challenged by today’s world, which suggests that it is important to adopt a more contextual historical perspective to understand the on-going process of structural change. The “moment in time” matters, because opportunities, constraints and the balance of power evolve continuously throughout world history.

Specifically, three main characteristics from previous transitions have to be kept in mind. First, the Western European and North American transitions that occurred over the 19th and the better part of the 20th centuries cannot be disconnected from European and American political hegemony, which reduced or eliminated competition and created captive markets that were very lucrative. Access to these markets strongly facilitated economic specialization and industrialization. Second,
the European transition was boosted by a unique outflow of international migrants that smoothed the adjustment of European economies and improved their ability to deal with labor surpluses. Between 1850 and 1930, nearly 60 million Europeans migrated to the “New Worlds” (35 million to the USA alone). Third, the Latin American and Asian transitions started during a very specific period of self-centered national development that characterized the international regime between the 1929 crisis and the current era of globalization, starting at the end of the 1970s. This “developmental regime” was characterized by import-substitution, protection and strong state intervention, all of which contributed to economic modernization. In Latin America the economic transition started between the two World Wars, and in Asia it started in the 1950s. Both regions benefited from massive assistance programs that resulted from the Cold War.

Today, the situation of the developing countries that remain at the early stages of structural transformation is drastically different. This is mostly the case of sub-Saharan Africa—the last region of the world to embark on the structural transformation process—which faces the challenges of an incipient economic transition and an unachieved demographic transition in the context of a global open economy and under the constraints of climate change.

“Late developers,” including most countries in sub-Saharan Africa, enjoy certain advantages that their predecessors lacked. They can reap the benefits of technological progress and past experience, and they can also take advantage of new opportunities to access global markets. At the same time, they face new constraints, such as huge asymmetries in productivity, increased international competition (notably from the big emerging countries), and environmental degradation. These contextual challenges, as well as the instability of the international environment, drastically reduce their room for maneuver in managing structural change, particularly when it comes to improving the livelihood prospects of fast-growing populations.

PRESENTING THE RESEARCH PROGRAM

This challenging contextual background shaped the design of the RuralStruc Program, which had three specific objectives: (i) contribute to the analytical knowledge base about structural change and its impacts on agriculture and the rural economy in developing countries, (ii) feed and improve international and national debates by promoting and reconnecting these issues, and (iii) provide perspectives for policy making. Accordingly the Program's motto was “better understanding for better policy making.”

The design of the RuralStruc Program was based on three inter-related hypotheses. The first hypothesis is that the global restructuring of agrifood markets and the increasing asymmetry of international competition are leading to growing differentiation among farm, marketing, processing and distribution structures. The second hypothesis is that the income sources and activity patterns of rural
households change to include more off-farm activities in response to these more competitive and challenging global markets. The third hypothesis is that marginalization processes in agriculture and difficulties faced by rural households in adapting to this new context (especially in situations characterized by the absence of effective alternatives to farming) sometimes lead to impasses within the process of structural transformation. This third hypothesis is particularly relevant for the first of the “three worlds of agriculture,” namely, the agriculture-based countries.

To address these hypotheses, the RuralStruc Program used a comparative approach. In order to draw lessons from the different ways that rural economies adapt to the new global context of change, seven countries at different stages of structural transformation and economic integration were selected for study. Mali, Senegal, Kenya, and Madagascar are at an early stage of the economic transition, and they are part of the first of the “three worlds of agriculture.” Morocco and Nicaragua are at an intermediate stage in their transformation process, and although agriculture remains critical in the economies of both countries, its role is declining. Mexico, an upper-middle income economy, is much further ahead in its transformation process, has become deeply integrated with its northern neighbors through NAFTA, and forms part of the WDR08’s “urbanized world.”

The activities of the Program were implemented through a collaborative process involving national teams in all seven countries that were deeply involved at every stage of Program development: preparation, implementation, analysis, dissemination and discussion of results. The first phase was dedicated to the production of a series of broad overview documents summarizing what was known in every country about processes of rural change. This exercise exposed the weakness of the empirical knowledge base regarding the characteristics of rural economies, particularly concerning the livelihood structures and income-generating activities of households. The only information available came in the form of case studies, undertaken for different objectives and using different methodologies, which prevented them from being used systematically.

Based on this first result, the decision was taken to engage in primary data collection through field surveys. Around 8,000 rural households in 26 regions of the seven participating countries were interviewed in early 2008 (note that the survey was implemented before the full development of the food price crisis). The interviews focused on the activities and incomes of the participating households. The resulting data set provided a unique, single-shot representation of rural income structures that was comparable across the surveyed regions due to a common methodology. However, since the surveys were carried out at a single point in time, it was not possible to conduct any dynamic analysis within the surveyed regions. Nevertheless, the fact that the surveys used the same methodology at the same point in time, yet were carried out in different regions at different stages of economic development and featuring different levels of integration into the global economy, allowed for a dynamic interpretation of results at the cross-regional and cross-
country levels. This interpretation allowed the Program to investigate the drivers of rural transformation and to feed the debate on economic transition and structural change.

THE PERSISTING ROLE OF AGRICULTURE AND THE EXTENT OF RURAL POVERTY

The analysis conducted under the RuralStruc Program revealed a diverse array of rural situations that nevertheless had a number of important characteristics in common. First among them was the continued dominance of agriculture as an economic activity in all of the surveyed regions. Ninety-five percent of surveyed households were engaged in on-farm activities, meaning producing crops, growing livestock or processing products on the farm. Some regions were significantly more diversified, however, notably Tequisquiapan (Queretaro state) in Mexico—where only 30% of households rely on on-farm activities—and also to a lesser extent Souss in Morocco, where no more than 75% of households are “farm households.”

In addition to having high levels of involvement in agriculture, the surveyed regions were characterized by widespread poverty, particularly in sub-Saharan Africa. Median incomes—which offer a better overview of the rural reality than regional averages—were estimated between 0.5 and 2 dollars PPP per person per day in the SSA regions (except Nakuru North in Kenya, where it is $3), while the non-SSA regions displayed higher levels (between $1.5 and $5.5). Dealing with averages, 70% of SSA surveyed households earn less than $2 PPP/person/day, and 40% suffer from $1/day poverty. In some regions, notably in Mali, this figure can reach as high as 80%.

Examining the poorest 20% of households in a given surveyed region, rather than looking at the region as a whole, expresses the reality of poverty even more drastically. This bottom quintile suffers from $1/day poverty in every region in the survey outside of Mexico, even in regions that were, due to their good connections to markets and strong asset endowments, a priori classified as “winning”. Further, average incomes in the top quintiles are usually pulled up by a very small number of households that are significantly better off than the others, and that benefit from very specific social and economic conditions.

A consequence of high poverty levels is that households face very high levels of risk, which limit their investment capacity and their ability to innovate. This dire situation is complicated for households that also face food insecurity. When earnings are converted from dollars PPP into kilocalories, based on local prices, it appears that a substantial share of households in all surveyed regions had difficulty meeting their minimum daily caloric requirements: in 11 out of the 19 surveyed zones in SSA, the bottom quintile was, on average, unable to provide 2450 kCal/person/day. Two regions in Nicaragua exhibited the same situation.
These results concerning the importance of on-farm income and the widespread prevalence of poverty, even within otherwise heterogeneous rural economies, colored the investigation of each of the Program’s three hypotheses. In the case of SSA countries, the data suggested that, whatever farm differentiation processes have been initiated or strengthened by globalization and the subsequent increasing integration of world food markets, none have been deep or profound enough to make a macro-level impact on rural economies in the surveyed regions. They also suggested that no matter what other activities households may have diversified into as a rural non-farm economy developed, few have been able to leave agriculture altogether, and few of the households that stayed in rural areas became non-poor. At the other end of the transition gradient, the case of Mexico showed that even when differentiation processes are extensive, and many households leave agriculture, rural poverty can remain quite substantial. In these economies, many households in the lowest quintiles are still poor, below the $2 per day line and sometimes below $1 per day.

Similarly, the differences in income levels and patterns of income distribution observed between rural areas of the seven countries say something about structural transformation. In SSA, the overwhelming majority of rural households are poor, but inequality among them is limited (Gini indices built on the sample range between 0.35 and 0.45). In Morocco and Nicaragua, which are moving more quickly in the transition, average rural incomes are notably higher, but inequality is quite severe (Gini indices fall between 0.6 and 0.7). In Mexico, which was found to have the highest median rural incomes of the sample, Gini indices are quite low (0.4). There the question of inequality within the rural space has been displaced by one of rural-urban inequality. The concern in Mexico is the increasing marginalization of rural areas (Mexican regions display the largest gap in the RuralStruc sample between surveyed household incomes and national GDP per capita—four to seven times).

**FARM-PRODUCTION, MARKETS, AND DIFFERENTIATION PROCESSES**

Over the last decade, the agricultural economics literature has been brimming with accounts of how farmers in developing countries have been integrating into the market economy. Case study examples abound that describe how producers have forged new connections to high value markets, achieved vertical integration through contracts, and have been able to reap the benefits of the so-called “supermarket revolution.” Though these processes are underway in several regions of the developing world, there is a risk of overstating their impact, especially when it comes to the proportion of farmers involved in this new world of agriculture. New opportunities do exist, but they are often strongly localized in specific regions and, above all, concern a relatively limited number of producers. In any given country, while thousands or even tens of thousands of farm households may have benefited from the development of new integrated value chains, hundreds of thousands or even millions of other households remain embedded in more traditional types of agriculture—a situation exemplified by the well-known Kenyan horticulture success story.
The Importance of Staples and Self-consumption

Among surveyed households, a commonly observed characteristic of production is the importance of staples, usually a cereal: rice in Madagascar, Mali and Senegal, complemented by millet and sorghum in the last two countries; wheat in Morocco; and maize in Kenya, Mexico and Nicaragua. Ninety-eight percent of the surveyed households in SSA and 76% in non-SSA regions are engaged in staple production. On aggregate in the RuralStruc sample, staples represent on average 62% of farm output in SSA and can often reach up to 80%. In non-SSA countries, where on-farm diversification is greater (i.e., more products are grown), the situation is more varied. The numbers for production of staples stand at around 45% in Nicaragua and should be similar in Morocco (in fact they were lower in Morocco during the survey year, because drought affected the relative share of wheat). Specialization in maize in the surveyed regions in Mexico is more specific and related to very particular sets of incentives.

The pervasive importance of staples reflects the fact that risk levels, and sometimes food insecurity, have led a large proportion of sub-Saharan African households to remain at least partly and significantly engaged in subsistence farming. These households do not simply produce staple crops, but they also consume a large portion of their own output. Self-consumption, depending on the region, accounts for around 50% of production. Extremes are found at one end of the spectrum in Mali (75% in Diéma or Tominian) and at the other end of the spectrum in Mekhé, in Senegal (less than 20%). Outside of sub-Saharan Africa, the share of farm output that is self-consumed is lower (20 to 30%), but in Nicaragua, poorer quintiles rely heavily on subsistence farming (up to 60%). The extreme low level of self-consumption in the Mexican surveyed regions is the consequence of a deep restructuring of the maize industry in the country which followed the implementation of NAFTA.

Generally, the share of self-consumption decreases with rising wealth, both at the regional level and at the household level. Surveyed households in sub-Saharan Africa are less advanced in this process, because they are poorer. More precisely, the prominence of self-consumption in the survey results from two complementary effects that limit smallholder farmers’ participation in markets. First, the supply effect refers to risk management strategies that households employ to retain control over their food supply—a direct response to incomplete and imperfect markets. Second, households face various demand effects, including weak demand for their products that results from poor access to and integration with markets, or the fact that production surpluses are too low to attract buyers.

Marketing by Traditional Means

These observations express a dual reality. They indicate that rural areas—notably in sub-Saharan Africa—continue to engage in subsistence farming, but at the same time improved connectivity to markets is a generalized fact. Situations where
households do not sell any products are unusual, and a large majority of them also purchase food products produced by others.

In the surveyed regions in SSA, “traditional” marketing patterns persist. Most private collecting agents rely on informal strategies based on trust to obtain output from farmers, and contractualization remains low, even for those farms which are firmly integrated into markets through ongoing relationships with wholesalers or agro-industries (this is notably the case of monopsonistic situations like cotton in Mali). However, some local agribusinesses do make use of contracts (tomato in the Haut Delta, Senegal, milk in Antsirabe and green beans in Itasy, Madagascar, sugar cane in Kenya), and modern marketing systems are more prevalent in non-SSA countries. It is worth noticing that contractualization rarely occurs at the producer level and most often occurs downstream, between the wholesaler, the collection unit, or the producers’ organization, and the processing firm or the procurement service (e.g., dairy industry in Nicaragua).

Where on-farm diversification has occurred, it has done so seemingly without any discernable pattern. Rather, the surveys revealed heterogeneous examples of on-farm diversification that have developed in response to region-specific opportunities. These can include a legacy of a colonial cash crop (cotton in Mali, groundnut in Senegal, coffee in Kenya), a specific investment by a foreign firm (the case of green beans produced by Lecofruit in Madagascar), or local entrepreneurship enabled by public investment in infrastructure (the booming shallot production in the Office du Niger irrigation scheme in Mali).

With reference to the Program’s first hypothesis, the conclusion is that households in the RuralStruc surveys participate in rural economies that have not been radically reshaped by vertical integration and the supermarket revolution—which is not really a surprise. (the very specific situation of the Mexican Sotavento region is an exception). Consequently, new agricultural production systems featuring non-traditional connections to markets are rare. This suggests that farm differentiation, where it occurs, reflects primarily differences in levels of existing household assets rather than new types of connections to markets, and more likely simply illustrates the characteristics of local agrarian systems.

The Continuous Importance of Household Assets

Additional evidence for this conclusion is provided by econometric work aimed at investigating the determinants of farm income in surveyed households. A strong finding of this regression work is that household earnings from farming depend largely on traditional determinants of income, rather than on more modern factors. A particularly striking result is the widespread importance of land as a top determinant of farm incomes (significant in 22 of 30 surveyed zones, making it the most commonly significant variable in the survey). This suggests that expanding acreage under cultivation is generally more worthwhile than using fertilizer or improved seed varieties.
Along with plot size, a large herd and a small number of family members were found to be the other largest contributors to per capita household income, while market integration and the use of modern farm inputs (seeds and fertilizer) did not seem to matter as much. Though the survey did not provide detailed information on the practices of farmers and did not allow for a fine-tuned understanding of farming systems, a noteworthy finding was that market integration does not necessarily imply improved incomes. Whether or not the two are linked is context specific. The income effects of contractualization, for example, are highly differentiated, and depend on where the contracts are concentrated on the income spectrum (poor households can be in a situation of heavy dependence, tightly bonded to the processor) and on the regional context (notably the existence of competition).

**OFF-FARM DIVERSIFICATION AND THE RESHAPING OF THE RURAL ECONOMY**

Given the degree of poverty observed in the survey, the risk levels of households (including all types of risks related to climate, pests, prices or market access) are a major issue and a major determinant of their livelihood strategies. Households facing high levels of risk in their agricultural activities often seek income opportunities outside the farm, and consequently a large majority of surveyed households engage in off-farm activities (75% on average). The figures are higher in SSA (ranging from 80 to 95%) and lower in non-SSA regions, where more on-farm specialization is observed.

Despite these general tendencies, the degree of development of the rural non-farm economy remains uneven, and the rural off-farm sector is often characterized by high levels of self-employment, provision of petty services, and few formal opportunities to earn a wage. The picture that emerges from the survey data is quite far removed from the buoyant rural economy frequently described in the literature.

**Uneven Opportunities for Diversification**

**Agricultural wage labor:** Agricultural wage employment is a common off-farm activity (reported by one quarter of the sample) and can be an option available to the poor to complement their on-farm income between cropping seasons. Agricultural wage however are generally not very remunerative. Quoted wages—which most of the time are listed in reference to “peak season” when labor demand is high—are $2 to $4 PPP per day in the surveyed regions in SSA and $10 to $15 outside SSA. Yet, agricultural jobs are almost always seasonal and, above all, provide a very limited return when aggregated over the year. Though many rural households engage in this work, it remains a limited complement to their own farming activities. The only way that agricultural wage labor can make a real difference (i.e., allow households to escape from poverty) is for a household member to secure a permanent job, which might pay $7 PPP per day in Senegal and as much as $9 PPP per day in Mexico. But these opportunities are definitely too scarce to provide a sustainable solution for many.
Non-agricultural wage labor: Non-agricultural wage employment remains a limited option, mostly found in regions with unique regional endowments of resources, infrastructure, and services. Only 15% of the surveyed households engage in this type of activity, and this percentage varied considerably across the studied regions. Non-agricultural wage labor employment opportunities are found mainly in non-SSA countries; they appear only sporadically in SSA. A good example is the maquiladoras (labor-intensive industrial units), found in Tequisquiapan (Mexico), as well as in Terrabona (Nicaragua), where an apparel industry has developed in rural localities. In SSA, this type of manufacturing work is scarce—particularly in rural areas—and non-agricultural wage labor mostly consists of jobs in the service industries. They are generally poorly paid and in the informal sector, although some formal sector jobs can be found (e.g. civil service or tourism). The most lucrative opportunities usually are available to those who are already well off, having ample human and social capital.

Self-employment: In contrast, self-employment is prevalent everywhere. It represents the most common source of off-farm income in most of the surveyed regions, and it is the main diversification option for the poorest households. In SSA, as well as in the Sotavento (Mexico), 40 to 80% of the surveyed households were found to be engaged in self-employment. In Morocco, Nicaragua and Tequisquiapan, where there are more economic options (waged jobs), the incidence of self-employment is dramatically lower (5 to 15%). Self-employment activities are almost always carried out at the micro level and are often based on the performance of odd jobs. Two main self-employment patterns can be distinguished: “positive diversification,” where self-employment contributes significantly to household income (generally a full-time activity), and “neutral diversification,” where the poorest and most marginalized households develop coping or “survival” strategies by engaging in minor self-employment activities with very low returns. Positive diversification is accessible mostly to better-off households, with more or better assets and/or the ability to make an initial investment (e.g., a grinder, a sewing machine, or welding equipment). Other types of self-employment, specifically those related to coping strategies, could rightly be thought of as a form of underemployment, and they do not represent a good option for poverty alleviation (e.g. petty trade).

Transfers: Transfers contribute significantly to the income of rural households. Although public transfers related to farm subsidies and safety nets were observed only in Mexico, there they weighed quite heavily in household incomes (contributing between 12 and 20% in the Sotavento region). Private transfers related to migration (remittances) are more common, even if difficult to quantify. They were reported by 24% of the households in the sample, most of them living in regions with strong historical patterns of migration. The importance of remittances depends on the type of migration (long-term or short-term) and on the destination (national, or international, to high-income countries or to neighboring countries). Nevertheless, in only one region do remittances make up a significant share of income (40% in Diéma, Mali). In the other regions where they occur, they generally
account for between five and fifteen percent of total household income (Morocco, Senegal, and Nicaragua), except in Kenya and Madagascar, where they are insignificant. Strikingly, households in poor quintiles often engage in short-term migration with the goal of reducing the number of mouths to feed during the dry season. In such cases, remittances are often very limited or even non-existent, and the living conditions of the migrant can be dire.

Rural Adaptation Mirroring Overall Structural Change

In addition to the direct income benefit of migration in the form of remittances, there is also a network effect that can provide indirect returns. Improvements in transport and communication infrastructure allow for new types of household organization in which family members contribute to household income from different locations, where they are engaged in different economic activities. These “archipelago systems” facilitate greater diversification and risk management, improve the economic prospects of households, and offer new perspectives for rural change. This pattern was observed several times in the RuralStruc sample.

With reference to the Program's second hypothesis, these overall characteristics of off-farm diversification illustrate heterogeneous processes of adaptation and rural transformation. They somewhat mirror the economic transition as a whole: diversification which generates very low returns at the early stages of structural transformation, and a more mature diversification which consolidates the process of change at later stages. Accordingly, they serve as a reminder that proximity to cities or an area of high population density is not enough to stimulate economic growth. The characteristics of urbanization count, especially the infrastructure, public goods, and services which are critical for the intensification of rural-urban linkages.

THE DIVERSIFICATION – INCOME RELATIONSHIP AND RURAL TRANSFORMATION

Many of the RuralStruc survey results presented up until this point are quite sobering. Most of the surveyed households in SSA, as well as significant shares of the sample in the three non-SSA countries, are very poor and continue to engage extensively in subsistence farming. For households in the lowest income quintiles, food security continues to represent a major challenge. Opportunities to engage in off-farm activities offer very weak returns or are accessible only to the already well off, and vertical integration and contractualization processes are not well developed.

Yet in spite of these findings, the surveys also turned up some more hopeful results. Levels of income vary between regions and between countries, and outside of SSA there is considerable evidence that average incomes are rising. Some regions in SSA also show improving situations (Bas Delta in Senegal, Nakuru North in Kenya). In Morocco and Nicaragua, falling levels of risks and improving market opportunities have allowed some households to engage in more on-farm diversification. In these two countries, and also in Mexico, the increasing number of economic options has
facilitated higher returns from off-farm activities. This trend is most obviously exemplified by Tequisquiapan in Mexico, where 70% of rural households are no longer directly engaged in agriculture. Though this trend can result in a critical form of marginalization for those households that cannot access wage employment, the average household is better off. Among the households with farms (30% of the sample), those that have one member working in a wage-earning activity display the highest per capita income levels in the entire seven-country sample.

To explore more fully the extent of these processes of change, the phenomena of diversification and specialization were studied more closely, as was their relation to income levels. Two indicators (the Herfindahl-Hirshman index and the share of income earned from off-farm sources) were used to illustrate the degree to which rural households and regions have moved away from on-farm activities as a source of livelihood. Several trends were identified. First, households in surveyed zones in richer countries, specifically non-SSA countries, tend to exhibit, on average, lower levels of off-farm diversification. This result was somewhat surprising, given that structural change is generally considered to be associated with increases in income, and that change involves moving away from a reliance on farming.

Second, at the sub-national level, no clear trend was noticed. In some countries, richer surveyed regions were on average more diversified, and in others they were less diversified. Within surveyed regions, the effect was equally muddled, but regardless of the direction of the diversification-income relationship, the difference in diversification levels between income quintiles was quite pronounced, indicating a strong interaction between them.

The “Inverted U”: A Perspective on Processes of Rural Change

To explain these observations, it was hypothesized that the diversification-income relationship is characterized by an “inverted U” shape. At very low income levels (where households focus on survival strategies), diversification of income sources is uncommon: households are fully engaged in farming. As income levels start to rise and households become slightly richer, they remain at risk (especially from adverse shocks), but they develop more room for maneuver to build safety nets. As incomes continue to grow, households begin to diversify their activities in order to cope with risk and find additional revenues. During this stage, the region remains highly specialized in agriculture, as diversification takes place at the household level only (within-household diversification). This process of diversification continues until a point where households develop enough of a wealth and asset base that they can earn sufficient returns through specialization to meet their basic needs and manage their risks. At this point, households begin to specialize into different activities—some on-farm, others off-farm—and the result is a more diversified regional economy on the whole (between-household diversification).

An indicator was developed, called the “diversification gap,” that served as a proxy for a region’s progress along this continuum. The observed very strong correlation
between the diversification gap and household income suggested that regions within the RuralStruc survey tend to move along the inverted U path as they develop. More interestingly, the diversification-income relationship appears to include an exponential component. Specifically, once regions are able to “turn the corner” and households begin to specialize economically, income growth at the aggregate regional level, previously quite slow, seems to take off rapidly and lead regions on a pathway out of poverty.

**Poverty Traps and the Elusive RNFE**

A significant finding of the RuralStruc analysis is that most of the surveyed regions in sub-Saharan Africa are lagging behind in their progression along the inverted U. In fact, many African households seem to hit an invisible wall in the transition process, where they cannot earn enough money through income diversification to become secure in their livelihoods (a result of low returns to available off-farm income-generating activities). Consequently they never “turn the corner” and begin to specialize. They seem to be trapped in structural poverty, an observation that confirms the difficulty of rural transformation as well as the Program’s third hypothesis: that risks of transition impasses were to be observed in the globalization process.

Finally, a more general result of the survey is worth highlighting. In the sample, the process of specialization at the final stage of the inverted U path mainly occurs in agriculture, while specialization in other economic activities is observed less frequently. This striking outcome can be explained by a methodological bias related to the fact that the survey was implemented only in “rural” areas and, consequently, tends to inform mainly about re-specialization processes in the farming sector. Households that specialize in non-farm activities often do so in urban areas, meaning that they frequently migrate. In addition, and perhaps more fundamentally, this result highlights the somewhat ephemeral nature of the rural non-farm economy, which tends to simultaneously grow and to dissolve itself as a result of the urbanization process. Not only do off-farm specializers migrate to urban areas, but urban areas expand as rural boroughs grow to become small cities. This phenomenon of “cities moving to the country” is a consequence of increasing demographic densities and of the territorial expansion of cities related to the urban growth process itself.

**MAIN POLICY OUTCOMES**

The RuralStruc survey results tell a story about rural transformation and provide a framework for understanding the evolving trends of diversification and specialization over time. Furthermore, they highlight the importance of national characteristics—e.g., country assets, market functionality, business climate, institutional arrangements, overall governance, and political stability—which determine the room for maneuver available to households as they struggle to escape from poverty. The RuralStruc survey results provide particularly important insights
into the specific situation of the late developers, exemplified by the surveyed regions in SSA, where the fact that countries are still at a very early stage of the economic transition limits households’ opportunities for income diversification and access to high-return activities.

It is important to note that the inverted U pattern is not deterministic. Rather, it provides a conceptual framework that helps us to understand where regions stand in the diversification-specialization process. This framework helps us to think systematically about changes that occurred in the past and to enumerate the possible causes of observed transition impasses. It does not predict future developmental paths, as these will depend on the idiosyncrasies of every local context and the nature of its interactions with the outside world.

For the many rural regions in sub-Saharan Africa that are caught in a poverty trap, solutions will have to come from contextualized policy interventions at the country level, as well as from initiatives capable of bringing about stronger regional integration. The best way to attack SSA’s lagging transition is to introduce policies that can promote rural growth by simultaneously fostering and meeting rural demand. An important lesson from past transitions is that increasing farm incomes fosters rural demand. To ensure that this rural demand is met with an adequate supply of goods and services, governments must support local investments through an adequate provision of public goods.

If this rural development strategy is critical for SSA countries, it is also sensible for other developing countries. The Program’s surveys outside of SSA also exhibit situations of marginalized rural population, but combine them with high urban-rural inequality—a situation which is not politically sustainable.

From General Guidelines to Building Blocks

There is no easy way to deal with the huge challenges of poverty alleviation, rural growth and economic transition. In the absence of a silver bullet, a long “shopping list” of potentially helpful policy measures has emerged from the last two decades of rural development practice. The main components of this list are the improvement of imperfect markets (by lowering transaction costs), the development of missing markets (for credit, technical support, insurance), the provision of public goods (infrastructure, research, information, and capacity building), and the introduction of risk mitigation mechanisms.

Procuring all the ingredients for an effective policy regime may be challenging, but finding the exact recipe for success is even more difficult. Policies must be tailored to local circumstances, so the most difficult task is to devise the right combination of policy measures that will be effective in a particular context. Critically, this process includes making choices in terms of prioritization and targeting. Indeed, in most countries (not only the developing ones), an important issue for policymakers is the
pressing need to address a multitude of problems at the same time, which is usually 
not possible due to financial and human resource constraints.

Based on the Program results, which exhibit a very strong heterogeneity of 
situations (between countries, between regions, and between households), it is 
possible to advance two major recommendations for policy making: (i) reengaging 
in development strategies, at both the national and sub-national level, and (ii) 
implementing regional diagnoses.

**Reengaging in development strategies:** There has been a long-term neglect of 
overall strategy design over the last decades which has resulted from state 
withdrawal, an excessive segmentation in sectoral policy making (leading to “stove-
piping”), and the deterioration of public information and statistical systems—a 
major handicap for the policy makers.

In this context, reinvesting in knowledge creation is an urgent priority. As illustrated 
by the country reviews that were carried out during the first phase of the RuralStruc 
Program, socio-economic information is deficient in general, and the data needed to 
understand the dynamics of evolving rural economies are especially scarce. Public 
data collection and reporting systems (statistical systems) must be reinvigorated 
and redefined, and capacity in public agencies to collect and report data must be 
complemented by capacity to analyze the data and formulate relevant policy 
conclusions. If this does not happen, policy makers will be unable to design 
measures needed to deal with evolving rural economies, the increasing mobility of 
people, and the resulting new organizational patterns of households (such as the 
“archipelago” system). Reengaging in development strategies at both the national 
and sub-national levels also implies reinvesting in processes. In order to secure 
ownership—the determining factor of shared vision and commitment—
consultation is a critical step. It takes time, adequate planning, and a significant 
effort in capacity building to manage information systems, to analyze results, and to 
monitor processes.

**Implementing regional diagnoses:** Regional diagnoses are indispensable for the 
prioritization of objectives, targeting of interventions, and sequencing of actions. A 
useful approach is to identify the binding constraints to agricultural growth—the 
necessary first step for increasing rural demand and fostering rural 
diversification—and then to design policies to address them. These policies must 
necessarily make choices, identity targets, plan, and then monitor the 
implementation of interventions. An important caveat here is the need to avoid 
being trapped in mono-sectoral policy making—for example, focusing exclusively 
on agricultural problems—and to embrace broader approaches that reconnect 
agriculture to rural development, and in turn rural development to a comprehensive 
framework of integrated multi-sectoral and regional development (an approach 
sometimes referred to as territorial development).
These two recommendations relate to the methodology of policy-making, and they do not prescribe any particular set of interventions. Specific policy measures formulated on the basis of these recommendations will need to reflect country-specific circumstances and processes. As such, specific assets or strong natural advantages (e.g., in mining or tourism) can offer additional room for maneuver for supporting new activities and rural transformation.

Still, for large majority of rural situations (where households are deeply engaged in farming), it is possible to suggest some major policy orientations or “building blocks.” Policy makers should keep these in mind when devising targeted development strategies aimed at overcoming poverty traps and facilitating the overall process of rural transformation. Three building blocks are presented to help governments avoid “shopping lists” of urgent policy needs. They are relevant to the specific circumstances of the late developers (particularly SSA), and are based on the main findings of the Program. They focus on the following critical areas:

1. Supporting family farms
2. Promoting staple crops
3. Strengthening rural-urban linkages for territorial development

Supporting Family Farms

The RuralStruc Program results offer arguments for supporting family farms, and they contribute to the controversial debate about optimal farm size, which has been reignited by the food price crisis of 2008 and the related rise of land grabbing, notably in Africa.

A false dualism lies at the heart of this debate. It sets smallholder and subsistence agriculture on one side against large-scale and commercial agriculture on the other, when the reality corresponds to a continuum of situations in which family farming is nearly always the dominant mode of production. Family agriculture, as opposed to managerial or capitalist agriculture (which is often large scale) already feeds most of the world. Family farms can be subsistence oriented, commercially oriented, or a combination of the two. A large body of empirical evidence shows that family farms can be productive and also competitive in terms of production costs when compared to large-scale managerial farms. In sub-Saharan Africa, family farms are often competitive in the domestic market, but they are often disadvantaged in global markets due to factors unrelated to their size (e.g., economic and institutional environment).

The current focus on food security has tended to overshadow the multifunctionality of agriculture (specifically its ecological, economic, social, and cultural roles), for which family farms, because they are embedded in the local context, are the major stakeholders. The concern for food security has also led many policy makers to overlook the role of agriculture as a source of employment and a driver of structural transformation over the medium term. Family farms, because they rely heavily on
labor-intensive production methods, have the largest capacity to absorb the rapidly growing labor force (195 million rural youth in the next 15 years in SSA). In contrast, managerial agriculture, which is much more likely to be capital-intensive, offer fewer prospects for generating important new labor opportunities.

Investments in large-scale commercial agriculture (including investments coming from foreign sources) can offer important opportunities for growth, diversification of markets, and development of sparsely populated areas, but they should be evaluated as well in terms of the employment they are likely to generate. In addition, investments in large-scale commercial agriculture should be focused on segments of the value chain where capital is missing (input supply, marketing, transformation), with the goal of unleashing the huge potential of family farms to increase production.

“Supporting family farms” can mean many different things, and, again, it is necessary to avoid presenting a long list of recommendations. Still, experience suggests that three types of actions are often needed to address the most critical problems: (i) securing land rights, (ii) providing public goods, and (iii) supporting farmers’ organizations.

**Securing land rights:** Farm households face high levels of risk. The first steps towards achieving a more secure environment are to facilitate access to farmland and to secure land rights, two necessary conditions for investment and innovation. This includes the need to facilitate land access to youth, and to ease the transmittal of farm assets to young family workers.

**Providing public goods:** Most family farms are severely constrained by their very low capacity for investment, a consequence of their long-lasting poverty. Selective targeting of direct support can help to overcome this constraint, but an even more effective measure is to increase the provision of public goods, notably information, training and capacity building for farmers, and rural infrastructure (small-scale irrigation, roads, power generation and transmission structure). Infrastructure can also, when possible and appropriate, facilitate access to sparsely populated areas and encourage internal migration.

**Supporting farmers’ organizations:** Due to their small size and limited production capacity, many family farms are unable to capture economies of scale in sourcing inputs, marketing outputs, and transforming products. This constraint can often be overcome through collective action and suggests providing support to farmers’ organizations, which can at the same time improve integration into value chains, facilitate contracting with downstream agents and strengthen the bargaining power of producers.

**Promoting Staple Crops**

In countries with agriculture-based economies, four major evidence-based arguments can be advanced for giving priority to staple crops. The first argument
stems from the ubiquity of staple crop production. In most developing countries, the overwhelming majority of farm households are involved in staple crop production (90% on average in the RuralStruc survey), so targeted policies that promote the production and marketing of staple crops can have important effects on the overall rural economy in terms of labor, income, and growth. The ratio between the number of producers involved in staple crop production versus the number of producers engaged in production of other crops is easily 10 : 1, and often much higher.

The second argument in favor of giving priority to staples is related to the critical role played by staple crops in risk management. Because food markets in rural areas often do not work well, many rural households remain vulnerable to periods of food insecurity, and consequently often retain a significant share of their output for self-consumption. Any increase in staple crop production therefore can serve as a catalyst. By helping to reduce risk, increased production of staples can help to unlock the potential for technical innovation, speed on-farm diversification, and encourage participation in modern value chains.

The third argument in favor of a pro-staple policy is related to the huge growth potential of the staple food sector. For the foreseeable future, demand for food will grow steadily, fueled by population growth and urbanization. Even if rising incomes will lead to shifts in consumption patterns, staples—most notably cereals—will continue to account for the majority of food demand for years to come. Additionally, rising food prices are creating progressively better returns and preventing competition from low-priced imports.

The fourth and final argument for promoting staple crop production is that it can generate more value-addition at the local level, due to the huge potential for local processing of products. This could strongly contribute to strengthening rural-urban linkages and rural diversification.

Policy measures for increasing the productivity of staple crops and improving staple markets are diverse and varied. In the particular case of sub-Saharan Africa, however, two entry points can be highlighted: (i) reducing post-harvest losses, and (ii) unlocking regional trade.

Reducing post-harvest losses: Post-harvest losses are a recurrent problem against which very little progress has been achieved. The economic cost of post-harvest losses is high (10 to 20% in cereals, and probably more in roots, tubers, and plantains), and the burden is born mainly by farmers. Technical solutions are available, but efforts are needed to adapt institutional and financial arrangements to facilitate the cost-effective use of storage systems (for example, warehouse receipts).

Unlocking regional trade: Sub-Saharan Africa represents a huge potential market, but access to this market is currently constrained by the political fragmentation of the continent and multiple recurring barriers to trade. Even though some progress
has been made in fostering better regional integration, regional trade continues to lag as a consequence of non-tariff barriers, a lack of enforcement of regional trade agreements, and the high transactions costs associated with overland transportation. The most promising interventions for jump-starting regional trade relate to the continuing improvement of infrastructure networks and above all to strengthening the political will of the membership of regional economic communities.

A caveat to the recommendation of supporting staple crops is that it is not a catch-all strategy. Due to their relative low value when compared to other commodities, for example horticulture crops or livestock and livestock products, it is clear that productivity increases in staple crops cannot be the only solution for poverty alleviation. Other opportunities, when they exist, must be seized.

**Strengthening Rural-Urban Linkages for Territorial Development**

The development of strong linkages between small cities and their surrounding rural areas is particularly critical for development and as such is a necessary focus of attention. Historically, the forging of rural-urban linkages was fed by growth in rural demand for goods and services, which generated new productive activities that naturally concentrated in rural boroughs and small towns so as to benefit from economies of scale. In recent decades this has changed; urbanization around the world has increasingly been characterized by rapid “metropolization” in and around large cities, which concentrates economic activity even more and offers superior job prospects. Metropolitization is a consequence of better transportation and information networks, and it has given rise to large-scale migration directly from rural areas to metropolitan areas. In many cases migrants completely bypass smaller towns in which dense rural-urban and on-farm/off-farm linkages could have been formed. But even when they stay in small and mid-size cities, they create an informal urbanization that takes place without the adequate public goods and services. This constraints sustainable urban development and prevents strong urban-rural linkages from forming.

Strengthening the intermediate level of territorial development by promoting the economic vitality of towns and small cities—the so-called “missing middle”—appears to be an important step for fostering rural transformation in the context of globalization (which tends to favor long-distance over short-distance networks). Interventions in this area can offer win-win solutions which, on the one hand, create better local market opportunities, facilitate access to services, strengthen communities, and more broadly contribute to the weaving together of a region’s economic and social fabric and, on the other hand, reduce the burdens of mega-urbanization. This type of regional rural-urban dynamic is more flexible and does not create such a stark contrast between urban and rural conditions, leaving open the possibility of working on both sides on the rural-urban divide and creating a strong basis for a more sustainable rural non-farm economy. This perspective acknowledges the multifunctionality of agriculture and the fact that it can be a
driving force for rural and regional development. In order to strengthen rural-urban dynamics, two types of actions are proposed: (i) improving urban services, and (ii) empowering local institutions.

**Improving urban services in small cities:** In order to better link towns and small cities with their immediate surroundings and strengthen their economic functions, transportation infrastructure is key. However, as revealed by the RuralStruc surveys carried out in the well-connected rural areas of Western Kenya and Senegal's Bassin arachidier, road infrastructure alone is not sufficient to foster growth and territorial development. The adequate provision of a range of other public goods and services is critical, and as such should be a major objective for policy makers. Provision of health and education services, as well as assured supplies of water, electricity and telecommunications are paramount. While most of these goods and services cannot easily be provided by the private sector during the early stages of development, fiscal incentives can be introduced aimed at encouraging private service providers and entrepreneurs to participate more actively in some of these areas. Moreover, this improvement in services as well as specific supports (especially in terms of capacity building and credit access) can help to strengthen non-farm activities—notably the small scale enterprises which are important complements to a growing farm sector and are the main ingredient of a buoyant territorial development.

**Empowering local institutions:** Parallel to the improvement of public goods and services, it is important to strengthen local institutions and local governance systems, as well as to facilitate the decentralization process (which in many countries has been more *de jure* than *de facto*). Building strong capacity in the government agencies and the civil society organizations that are active at that level is a major first step needed to foster an effective integrated local development strategy. Decentralized decision-making power embedded in well-functioning local institutions offers the most promising opportunities to identify local assets and resources that can be employed in the pursuit of balanced and sustainable territorial development.