

The Rural Nonfarm Economy: Prospects for Growth and Poverty Reduction

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INTRODUCTION

Nonfarm earnings account for 35% to 50% of rural household income across the developing world (Table 1). Landless and near-landless households everywhere depend heavily on nonfarm income for their survival, while agricultural households count on nonfarm earnings to diversify risk, moderate seasonal income swings and finance agricultural input purchases. Over time, the rural nonfarm economy has grown rapidly, contributing significantly to both employment and rural income growth.

Long neglected by policy makers, the rural nonfarm economy (RNFE) has attracted considerable attention in recent years. In poor agrarian countries, struggling with growing numbers of marginal farmers and lackluster agricultural performance, such as much of Africa, policy makers view the RNFE as a potential alternative to agriculture for stimulating rural income growth. In successfully transforming economies, they see the RNFE as a sector that can productively absorb the many agricultural workers and small farmers being squeezed out of agriculture by increasingly commercialized and capital intensive modes of farming. Given frequently low capital requirements in the nonfarm economy, policy makers in both settings view the RNFE as offering a potential pathway out of poverty for many of their rural poor. Expectations everywhere are high.

How realistic are these expectations? Can the RNFE indeed grow rapidly enough to productively absorb a growing rural labor force? And in doing so, can it, in fact, provide a pathway out of poverty for the rural poor? Affirmative answers to these questions require two preconditions: that suitable engines of growth are available to drive a buoyant RNFE, and that the poor control sufficient assets of the right kind to enable them to access the new nonfarm income earning opportunities that arise. Satisfying these conditions, in turn, depends crucially on the specific economic and social context in which the RNFE operate, for across the developing world, diversity abounds. Therefore, opportunities and appropriate policy stances differ significantly across settings. This paper examines key factors affecting growth and equity in the rural nonfarm economy in order to identify settings and policies favoring pro-poor rural nonfarm growth.

The paper begins with some key definitions followed by a descriptive profile of the rural nonfarm economy. Discussion then moves into rural dynamics, exploring internal processes of rural growth and change as well as the impact of growing globalization and urbanization on rural nonfarm activity. The paper then examines the conditions under which the two preconditions for pro-poor growth of the RNFE can be met.

DEFINITIONS

Following standard convention, this paper considers the nonfarm economy to

include all economic activities other than production of primary agricultural commodities. Nonfarm, thus, includes mining, manufacturing, utilities, construction, commerce, transport and a full gamut of financial, personal and government services. Agroprocessing – the transformation of raw agricultural products by milling, packaging, bulking or transporting – forms a key component of the rural nonfarm economy. Likewise, following a long tradition¹, this paper adopts a broad definition of rural regions as encompassing both dispersed rural settlements as well as the functionally linked rural towns where many agroprocessing and ancillary nonfarm service and commercial activities congregate to service surrounding agricultural settlements.

In measuring income, the classification of migrant remittances and income transfers are less standardized. Generally, earnings from commuting or temporary and seasonal migration by family members who remain part of a rural household are included as rural nonfarm income. However, transfers by government, former household members or relatives are often classified separately, as transfer income. Many studies, however, fail to distinguish clearly among these various sources of nonfarm income. To help establish rough orders of magnitude, Table 1 breaks out locally earned nonfarm business and wage income from remittances and transfers.

[Table 1 here]

CHARACTERISTICS OF THE RURAL NONFARM ECONOMY

Size

Policy interest in the RNFE arises in large part because of its increasing importance as a source of income and employment across the developing world. Primary employment data, which offer the most widely available indicator of the scale of rural nonfarm activity, suggest that the RNFE accounts for about 30 percent of full-time rural employment in Asia and Latin America, 20 percent in West Asia and North Africa (WANA), and 10 percent in Africa (Table 2). Inclusion of rural towns—which frequently depend on the rural hinterlands for both inputs and markets—raises nonfarm employment shares by an additional 10 to 15 percent (Hazell and Haggblade 1993). Because these employment data typically measure only primary occupations, to the exclusion of secondary and seasonal pursuits, they often understate the importance of rural nonfarm activity.

[Table 2 here]

Income data, which include earnings from seasonal and part-time activity, offer a more complete picture of the scale of the RNFE. Evidence from a wide array of rural household surveys suggests that nonfarm income accounts for about 35 percent of rural income in Africa and roughly 50 percent in Asia and Latin America (Table 1). Standing roughly 20 percent higher than comparable employment data, these income shares confirm the economic importance of part-time and seasonal nonfarm activities.

¹ See, for example, Anderson and Lieserson (1978) and Chuta and Liedholm (1979).

Rural nonfarm employment holds special importance for women. Women account for about one-quarter of the total full time RNFE workforce in most parts of the developing world (Table 2). Given their frequently heavy household obligations and more limited mobility, women also participate in part-time RNFE activity, particularly in household-based manufacturing and service activities.

Likewise, rural landless and near-landless households depend heavily on nonfarm income sources. Those with less than 0.5 hectare earn between 30 and 90 percent of their income from nonfarm activities (Hazell and Haggblade, 1993).

Composition

The rural nonfarm economy houses a highly heterogeneous collection of trading, agroprocessing, manufacturing, commercial and service activities. Even within the same country, strong differences emerge regionally, as a result of differing natural resource endowments, labor supply, location, infrastructural investments and culture (Table 3).

[Table 3 here]

The scale of individual rural nonfarm businesses varies enormously, from part-time self-employment in household-based cottage industries to large-scale agroprocessing and warehousing facilities operated by large multinational firms. Often highly seasonal, rural nonfarm activity fluctuates with the availability of agricultural raw materials and in rhythm with household labor and financial flows between farm and nonfarm activities (Figure 1).

[Figure 1 here]

Sectorally, despite a common policy emphasis on rural industries, manufacturing typically accounts for only 20-25% of rural nonfarm employment, while trade, transport, construction and other services account for 75% to 80% (Table 2). Spatially, the composition of nonfarm activity varies as well. While home-based cottage industries predominate in rural areas, towns and urban centers support an increasing concentration of factory manufacturing, services and trade (Table 4).

[Table 4 here]

The composition of services differs as well. While rural areas house small retailers, basic farm equipment repair services and input supply firms, other services such as primary schooling, health clinics, barber shops, milling and transport facilities tend to locate in small towns. Larger settlements attract cinemas, restaurants, wholesale distributors and higher-level school, health and communication facilities (Wanmali, 1983).

Government services, likewise, provide significant rural employment opportunities in some instances. In rural Egypt, government employment generates over 45% of rural nonfarm incomes, while in rural Pakistan government jobs provide about 25% of rural nonfarm earnings (Adams and He, 1999; Adams, 2003). In rural India, government jobs account for nearly 20% of rural nonfarm employment (Fischer et al., 1997).

Remittances account for a large share of rural income in some locations. In the mining economies of Southern Africa, remittances may account for as much as half of all rural household income. They likewise form an important part of household income diversification and risk reduction strategies (Barret et al, 2001; Ellis, 2004). In most rural settings, however, local business and wage income account for a majority of nonfarm earnings, while remittances and transfers typically account for 15% to 20% of non-agricultural rural income and 5% to 10% of total rural income (Table 1).

Equity implications

The extreme heterogeneity of rural nonfarm activity results in widely varying productivity and profitability (Table 5). Returns vary substantially, normally as a function of differing physical and human capital requirements. Women dominate many of the low-return cottage industries, while the poor dominate other low-return activities, such as small-scale trading and unskilled wage labor used in construction, portering, and many personal services (Table 6). Wage labor, in both agriculture and nonfarm business, also accrues primarily to the poor. In contrast, white collar jobs such as medicine, teaching, accounting and administration figure most prominently among higher income households (Table 7).

[Table 5 here]

[Table 6 here]

[Table 7 here]

Given the low capital requirements and small scale of many rural nonfarm businesses, poor households dominate large segments of the rural nonfarm economy. For this reason, many policy makers view the rural nonfarm economy (RNFE) as a potentially important contributor to poverty reduction. Others, however, fear that an abundance of labor-intensive, low-return rural nonfarm activities may signal distress diversification and an absence of more productive opportunities given that low capital frequently translates into low productivity and low returns to labor (Table 6; Shand, 1984; Islam, 1987).

Because of the differing equity impact of its various components and because of the differing composition of rural nonfarm activity across settings, the overall impact of nonfarm earnings on rural income distribution remains mixed (Table 8). In some instances, aggregate nonfarm earnings improve equity across household groups. In other

cases, they exacerbate inequality. And in some settings, the relationship between household welfare and nonfarm income shares proves U-shaped. Empirically, no consistent pattern emerges.²

[Table 8 here]

DYNAMICS

Shifting motors of rural economic growth

The present structure of the rural nonfarm economy results from an ongoing economic transformation that has proceeded for many generations, though at varying speeds in different locations. At an aggregate level, structural transformation is a widely observed process by which productivity growth accompanies a shifting sectoral composition of economic activity. As productivity and incomes rise, households diversify their consumption out of foods, devoting an increasing share of their earnings to the purchase of nonfarm goods and services. As a result, the share of agriculture in total national output declines, and transfers of capital and labor out of agriculture help to fuel a corresponding rise in manufacturing and services. Since many of the resource flows from agriculture to the secondary and tertiary sectors of the economy transit functionally and spatially via the rural nonfarm economy, an understanding of the forces that drive change in the RNFE becomes central to understanding the processes that drive overall economic growth.

Humans settle in rural areas where core economic activities enable them to earn a satisfactory living. In most developing country settings, agriculture forms the core of that rural economic base. Consequently, the dispersion of fertile soils, water, grazing land and infrastructure largely govern the spatial distribution of population across rural regions of the developing world. Though less important in the aggregate, many rural regions also contain natural resources – minerals, timber or exotic natural settings – which sustain production of exportable raw materials, processed goods and tourism services. Administrative or entrepôt trading centers can also serve as economic base activities along transport corridors that transit remote rural locations. Overall, the economic base of a rural region includes those core productive activities that remain competitive in external markets. Typically, these base activities produce tradable outputs which face highly elastic demand and for which their rural location confers a comparative advantage. Total economic activity in the region, in turn, depends on the size of the economic base and the demand it generates for local providers of goods and services.

Agriculture, as the largest employer in rural areas, the largest income generator, and the largest purveyor of raw materials, clearly plays a predominant early role in influencing the size and structure of the RNFE. Thus the process of rural development

² For an overview of the equity question, see reviews by Chuta and Liedholm (1979), Haggblade, Hazell and Brown (1989), Bagachwa and Stewart (1992), Reardon (1997), FAO (1998), Reardon, Taylor et al. (2000), Barrett, Reardon and Webb (2001), Lanjouw and Lanjouw (2001) and Lanjouw (2007).

normally begins with a countryside populated by primarily agricultural households producing for themselves most of the farm and nonfarm goods and services they require. Trade and commerce remain marginal given the subsistence orientation of agriculture, the prevailing low-input farm technologies, and the limited transport and communications infrastructure in rural areas. In zones of rapidly growing agricultural productivity, the composition and patterns of growth observed in the RNFE differ markedly from those in stagnant rural settings. For this reason, the following discussion distinguishes between processes and outcomes operating in these two very different environments.

The “pull” scenario in dynamic agricultural regions

Where new agricultural technologies and modern farm inputs become available, they lead to agricultural surpluses in some commodities and increased opportunities for trade. In these settings, a growing agriculture stimulates growth of the RNFE through a number of key linkages. Rising labor productivity on the farm increases per capita food supplies and releases farm family workers to undertake nonfarm activities. For this reason, green revolution India has seen agricultural labor fall from 75% to 65% of rural labor force in the first 25 years following the release of green revolution rice and wheat varieties (Hazell and Haggblade, 1991). Equally important, increases in farm incomes, together with high rural savings rates, make capital available for investment in nonfarm activities. These savings rates have reached up to 25-35% in many areas of green revolution Asia (Bell, Hazell and Slade, 1982; Hazell and Ramasamy, 1991).

Increasingly productive modern agriculture requires inputs and services such as seeds, fertilizer, credit, pumps, farm machinery, marketing and processing of farm produce which, in turn, create a growing demand for nonfarm firms that can provide these services. Farm households, as their incomes grow, increase their expenditure share on non-food items³, thereby accelerating demand for nonfarm goods and services such as housing, clothing, schooling, health, prepared foods, visits to town, to the cinema and to the tea shops, all of which dramatically increase demand for rural transport services. To meet this growing demand, rural households increasingly diversify into production of rural nonfarm goods and services (Table 9).

[Table 9 here]

Some nonfarm activities, initially undertaken part-time by farm households for self-consumption, spin off as separate full-time commercial activity. Others, particularly labor-intensive household manufacturing of baskets, pottery and roof thatching, die out, displaced by the import of cheap plastic pails, iron pots and corrugated roofing⁴. For this reason, household manufacturing typically shrinks over time (Table 10).

[Table 10 here]

³ See, for example, Mellor and Lele (1972), King and Byerlee (1978), Hazell and Roell (1983) and Hossain (2004).

⁴ Hymer and Resnick (1969) have dubbed these declining rural manufactures “Z-goods.” See Anderson (1982) for empirical evidence of this bifurcated transition.

The demise of low-productivity household manufacturing explains, in part, why employment in services and commerce frequently grow faster than in manufacturing. Evidence from 13 countries for which 10- to 20-year time-series data are available suggest that rural manufacturing employment typically grows at only 1% per year while employment in rural trade and services grows over three times as fast (Haggblade, Hazell and Reardon, 2007, Table 4.4). Changes in consumer spending likewise contribute to faster growth in services and commerce. Consumption data indicate that, as incomes rise, rural households increase spending on services such as education, health, transport, cinemas, prepared foods and transport faster than they do on local manufactured goods.⁵

As towns grow, they attract more workers from the rural hinterland, leading to a rise in migration and even rural-to-urban commuting. As a result, the share of agriculture in the total workforce begins decline, even though absolute levels of agricultural output and employment may continue to grow for some time. Over time, agriculture becomes progressively less important as the economic motor for the regional economy. After several decades of agriculture-led growth, for example, India's urban economic growth has stimulated corridors of rural nonfarm development along major highways and transport routes (Bhalla, 1981 and 1997). Eventually, agriculture becomes a relatively minor economic activity in some rural regions as well as in many national economies.

The composition of rural nonfarm activity changes perceptibly over time in these buoyant agricultural settings. Increases in real wages raise the opportunity cost of labor, thereby making low-return nonfarm activities uneconomic. This leads to the demise of many low-return craft and household manufacturing activities and to the growth of higher-return nonfarm activities such as mechanical milling, transport, commerce, personal, health and educational services (Table 11). Growing agricultural incomes attract labor into more productive, higher return rural nonfarm services.

[Table 11 here]

In this setting, poor households benefit both directly and indirectly. Growing consumer demand translates directly into business opportunities for self-employment, particularly in rural commerce and trade. Indirectly, rising rural wage rates for unskilled labor clearly benefit the rural poor.

The “push” scenario in stagnant agricultural zones

In regions without a dynamic economic base, patterns of growth in the rural nonfarm economy unfold very differently. Sluggish income growth in agriculture leads to anemic consumer demand, limited agroprocessing and agricultural input requirements and stagnant wages. Taken together, these tendencies stymie both entrepreneurial and wage-earning opportunities in the rural nonfarm economy.

Where population growth continues unabated for many generations, land

⁵See King and Byerlee (1978), Hazell and Roell (1983), Hazell and Ramsamy (1986), and Hossain (2004).

availability diminishes and, ultimately, in the absence of careful land management, so does soil fertility. Without technological advance in agriculture, labor productivity and per capita farm production fall. In such settings, growing landlessness pushes labor force increments into nonfarm activity by default (Table 12). Falling agricultural labor productivity, low opportunity cost of labor and declining household purchasing power induce diversification into low-return, labor-intensive nonfarm activities such as basket making, gathering, pottery, weaving, embroidery and mat making. Specialized nonfarm enterprises and households emerge, not to exploit potential productivity gains, but because of an absence of opportunities in agriculture and a shortage of both rural savings and investible capital.

[Table 12]

Declining economic conditions likewise motivate labor migration in search of more favorable opportunities elsewhere. Thus, in these agriculturally backward regions, migration serves an important role as a regional safety valve as households seek farm and nonfarm employment opportunities in more distant regions.

Rural residents seek out exchange opportunities in these settings, too, but mainly as they try to identify market outlets for their labor-intensive cottage industry goods. Rural towns, rather than accelerating agricultural advance, become evacuation points for rural labor and for labor-intensive rural nonfarm exports. A stagnant, low-input agriculture generates little demand for inputs or high-value repair, processing and personal services. Many describe this bleak downward spiral as a process of “agricultural involution”.

A study comparing stagnant and rapidly growing agricultural regions in India summarizes the contrasting situations aptly. “The difference between the faster growing agricultural areas and others is primarily in terms of the productivity and income levels in rural industries ... Slowly growing agriculture not only fails to introduce any structural changes in rural industries ... but also tends to keep those engaged in rural industries at a subsistence level of productivity and income.” (Papola, 1987, p.104). For poor households, falling wage rates and sluggish consumer demand result in diminished opportunities for both business start-up and wage earnings. In these settings, prospects for the rural nonfarm economy remain bleak.

Urbanization and migration

Although the prosperity of rural regions and their rural nonfarm economies typically depends on agricultural performance during the early stages of economic growth, this link gradually weakens over time as agriculture’s share in national economies declines. Rapid urbanization and globalization have opened up new market opportunities for rural nonfarm producers of tradable goods and services and for rural workers to migrate and remit. Where conditions permit, these opportunities can stimulate regional economic growth, in some instances benefitting backward regions with poor

agricultural potential and in others enhancing opportunities in already rapidly growing rural economies.

Rising urbanization and national economic growth, together with improved transport and communication networks, provide important economic linkages between urban and rural areas, opening up new opportunities for rural households (Tacoli, 1998; Tacoli and Satterthwaite, 2003). Evidence from India, for example, suggests that rapid rural nonfarm growth is occurring along transport corridors linked to major urban centers, largely independent of their agricultural base (Bhalla, 1997). Similarly, in Southeast Asia and in China high population density and low transport costs have led to rapid growth in urban-to-rural subcontracting for labor-intensive manufactures destined for international export markets (Otsuka, 2007).

The importance of migration and remittance income proves highly context-specific, varying both locationally and over time. While crises and civil strife may have reduced migration opportunities in Africa during recent decades, sizeable opportunities have emerged elsewhere (de Haan and Rogaly, 2002). Most startling has been the growth in China, where migration has increased rapidly since the late 1980's when government relaxed generation-long controls on population movement (Zhao, 1999a). Between 1999 and 2003, the number of Chinese migrants doubled, from 52 to 98 million. China's 2000 census suggests overall migration rates of 8.5% of the workforce, with roughly 30% heading to local townships, 30% to other counties in the same province and 40% representing movement across provinces (Du, Park and Wang, 2005). Rural-to-urban commuting has also become significant in some densely settled Asian and Latin American settings. A recent study from India, of six villages in Andhra Pradesh and Madhya Pradesh, found that 10% of rural households have at least one member commuting daily to work in nearby towns and cities, while a further 47% deploy members in temporary migration (Deshingkar, 2004). Similar studies from Chile and Peru document sharp increases in daily commuting from rural areas to nearby towns, particularly during the 1990s (Berdegué et al., 2001; Escobal, 2005).

Empirical evidence suggests that migrant remittances may serve to increase rural investment, finance schooling, house construction and agricultural inputs in some locations (Francis and Hoddinott, 1998; Myrenda et al., 2003). Less beneficial are the impacts on migrant worker health and on family social cohesion.

Liberalization and Globalization

Beginning in the 1990s, widespread economic liberalization has opened up the rural nonfarm economy as never before – to new opportunities and to new threats. Liberalization, by reducing direct government involvement in production and marketing, has opened up new market opportunities for the private sector, particularly in agricultural processing, input supply and trade. Relaxed controls on foreign exchange and investment have unleashed a flood of foreign direct investment into Latin America, Asia and Africa. As a result, large exporters, agribusiness firms and supermarket chains increasingly penetrate rural economies of the developing world, altering the scale and structure of

rural supply chains as they do (Reardon, et al., 2003; Reardon and Timmer, 2005; Reardon, Stamoulis and Pingali, 2007).

This rapidly changing environment opens up opportunities for some rural suppliers to access new markets. In Bangladesh during the second half of the 1980's, liberalization of the import small diesel engines, as part of agricultural policy reforms intended to boost irrigated rice production, simultaneously but quite unexpectedly launched a veritable revolution in two major rural nonfarm activities. After the cropping season, millers harnessed the new diesel engines to power 30,000 seasonal hammer mills, transforming the structure of rice milling and dramatically increase competition in rice markets. Later, during the rainy season, metal smiths and boat makers adapted the engines to power thousands of river boats, converting these classic dhows from cheap-but-slow to cheap-but-rapid inland water transport (Jansen et al., 1989; Haggblade, Reardon and Hyman, 2007). Similarly in Thailand following World War II, retired OSS operative Jim Thompson began working with silk weavers in Northeast Thailand, improving production technology and quality in rearing, reeling and weaving. In the process, he helped to develop an international reputation for the unique quality and design of Thai silk. The resulting growth in silk exports transformed opportunities for over 60,000 village women, enabling them to access international markets and roughly quadruple returns to labor in the process (Haggblade and Ritchie, 1992).

But liberalization and globalization expose other rural businesses to new threats, as quantity requirements and quality standards impose new ways of doing business that risk excluding undercapitalized rural enterprises on which the rural poor often rely. In Latin America, where supermarkets now account for over 60% of food retailing, the risks of this increasing market concentration have been most pronounced (Reardon, Timmer, Barrett and Berdegú, 2003). Available evidence suggests that rapid concentration has triggered the bankruptcy of thousands of small firms in recent decades. Over 60,000 small food retailers closed their doors in Argentina from 1984 to 1993 (Gutman, 1999), while over 5,000 small food retailers ceased operations in Chile between 1991 and 1995 (Faigenbaum, Berdegú and Reardon, 2002). Although many of these bankruptcies affected urban traders, emerging evidence suggests that small rural traders and the wholesale markets they serve likewise risk being displaced by larger, specialized wholesalers. The leading supermarket chains in Guatemala and Nicaragua, for example, have shifted away from rural small-scale brokers for procuring fresh produce. Instead they now procure through several large, specialized wholesalers (Balsevich, Schuetz and Perez, 2006; Flores and Reardon, 2006; Hernandez, Reardon and Berdegú, 2006). The same trend has emerged in the beef sector in Nicaragua and Costa Rica (Balsevich, Berdegú and Reardon, 2006).

Even in sub-Saharan Africa, South African supermarket chains have expanded aggressively northward following the advent of majority rule in 1994 and the demise of economic sanctions that had previously prevented these investments. Two major chains, Shoprite and Pick N Pay, have opened outlets in cities and rural towns in Zambia, Malawi, Mozambique and Uganda and are considering forays into West Africa. In each locality, their entry has altered product selection and market share in favor of imported

South African brands at the expense of local farmers, processors, food suppliers and retailers (Weatherspoon and Reardon, 2003). Evidence from Kenya suggests that local supermarkets there have similarly tended to replace rural traders and wholesale markets with specialized large-scale suppliers. While traditional brokers and wholesale markets supplied 70% of fresh fruits and vegetables in 1997, managers project that share will fall to 10% by 2008 (Neven and Reardon, 2004).

Some categories of rural nonfarm activity have thrived in the past because of protection from outside competition by high transport costs, restrictive production policies (such as reserved handicraft industries in India) and trade policies (including barriers to cheap imported consumer goods), subsidized inputs and credit, and preferential access to key markets (as in town and village enterprises in China). Globalization and market liberalization remove many of these barriers, effectively “deprotecting” the RNFE. The transition may prove brutally abrupt for many traditional small-scale manufacturing activities whose products cannot compete with higher quality, mass-produced goods. For this reason, the initial stages of deprotection can lead to significant job losses in the RNFE, even though many of these may later be recovered as new types of rural nonfarm activity sprout up, as in India during the 1990s (Bhalla, 1997). Since poor households and female-dominated activities predominate among the low-investment, low-productivity rural nonfarm activities, they tend to face the most difficult adjustment during this transition.

Summing up

Agriculture has historically played an important role in expanding the economic base of rural regions in the developing world. In regions where agriculture has grown robustly, the RNFE has also typically enjoyed rapid growth. A large growth linkages literature suggests that each dollar of additional value added in agriculture generates \$0.6 to \$0.8 of additional RNFE income in Asia, and \$0.3 to \$0.5 in Africa and Latin America (Haggblade *et al.*, 2007). Regions with poor agricultural potential have seen more limited prospects for rural nonfarm growth, except in places where the availability of other important rural tradables such as mining, logging, and entrepôt trade offer an alternative economic platform for sustaining regional growth.

In recent years, globalization, urbanization and improved infrastructure have opened up new opportunities in many rural areas, thereby reducing their dependence on agriculture. These developments seemingly offer new prospects for stimulating rural economic growth and, perhaps, new pathways out of poverty.

But just how powerful are these new opportunities and to what extent have they substituted for agricultural growth as the main driver of the RNFE? Although empirical evidence has begun to trickle in, these processes are still unfolding in many settings. So firm conclusions will require more time and new field studies. Based on the fragmentary evidence available to date, it appears that the new forces of globalization and urban-led rural transformation are proving most powerful in densely populated, rapidly growing countries like India and China. Tantalizing new evidence from India likewise suggests

that the correlation between agricultural growth and growth of nonfarm income and employment has become weaker in many rural areas (Harriss-White and Janakarajan, 1997; Foster and Rosenzweig, 2004). In these settings, where urban congestion, soaring rents and higher wages raise the cost of doing business in metropolitan centers, rural-to-urban commuting, temporary migration and urban-to-rural subcontracting become economic (Otsuka, 2007). Increased rural-urban flows can benefit rural areas by providing injections of remittance earnings as well as growing urban markets for a range of rurally produced tradables. Opportunities for this sort of urban-led rural growth appear more limited in poorer, less densely populated and more slowly growing economies, such as much of Africa. Controlling for national context, regions with better infrastructure and market access seem more likely to benefit from urbanization and globalization, and these are often the better off regions to begin with. As a result, rural areas with good infrastructure and market access and which are located in successfully growing countries appear likely to gain most from urbanization and globalization, while remote backward regions in poor, slow growing countries will gain the least (Reardon, Stamoulis and Pingali, 2007).

Overall, the key to stimulating expansion in the rural nonfarm economy lies in sparking growth in key regional tradables – either in agriculture, tourism or mining – or in linking rural areas to external engines of economic growth that offer prospects for expanding rural markets and employment. Labor market interactions – between agriculture and nonfarm businesses and between rural and urban areas – offer crucial connective tissue for linking rural workers, and particularly the rural poor, to these growth processes.

IMPLICATIONS FOR THE RURAL POOR

Motivation

The poor seek out opportunities in the rural nonfarm economy, not only to raise income levels but also to stabilize household income over time. As a result, nonfarm earnings serve an important safety net function. They provide a tool for stabilizing household income during drought years (Gordon and Craig, 2001; Reardon et al., 1998). Evidence from semi-arid areas of India suggest that non-agricultural self-employment and labor market earnings not only became a more important source of income on average during the arid 1980s but also contributed to lower income variability (Walker and Ryan, 1990).

Given weak rural credit markets in many locations and lumpy seasonal cash flows in agriculture, nonfarm earnings frequently serve as an important source of liquidity for financing the purchase of modern hybrid seeds, fertilizer and other inputs necessary for increasing farm productivity (Marennya et al., 2003; Oseni, 2007). A recent study from rural Nigeria finds that rural households with nonfarm earnings roughly double their purchases of cash inputs in agriculture compared to households without nonfarm earnings (Oseni, 2007). Across Africa, farmers typically depend more heavily on nonfarm income than farm input credit for financing farm inputs (Reardon et al, 1994). Because nonfarm

income helps to finance on-farm investments as well purchased inputs, nonfarm earnings prove important in helping poor households attain food security, both directly by helping the poor to buy food and indirectly by financing the purchase of farm inputs necessary to increase food production.

Constraints

Yet the paucity their human, financial and physical assets handicaps poor households in their efforts to participate in growing segments of the rural nonfarm economy. As a result, they often remain confined to the low-productivity, low-growth market segments which offer few pathways out of poverty, simply a means of bare survival. Meanwhile, richer and more educated households dominate the most lucrative nonfarm niches.

Gender, caste and social status likewise restrict access by the poor to the most lucrative nonfarm activities in some settings. In the same way that child-rearing obligations may limit women's mobility and force them into home-based, highly labor-intensive pursuits such as weaving, silk rearing and basketry, caste and social restrictions may force specific poor household groups into traditionally reserved, low-productivity rural nonfarm activities. In India, these include pottery, weaving and tanning, among many others. Evidence from a range of settings demonstrates a correlation between asset poverty, ethnic minorities and gender (Lanjouw and Shariff, 2000; Lanjouw, 2007). Discrimination, a weak asset base, and restrictions on geographic and occupational mobility all conspire to limit access by key disadvantaged social groups to the most remunerative rural nonfarm activities.

Participation as entrepreneurs in growing supply chains.

Poor households can potentially participate in an expanding rural nonfarm economy in one of two ways: as entrepreneurs in growing nonfarm supply chains, or as employees in growing segments of the labor market .

Typically, self-employment accounts for about 25% of rural nonfarm employment. Indeed, in many settings, a majority of nonfarm businesses are one-person firms, a proprietor with no employees. But management difficulties, weak credit markets and highly seasonal business activities lead to heavy turnover, with high enterprise birth rates and correspondingly high closure rates. Available evidence suggests that new firm start-ups account for about 20% of rural nonfarm enterprises, while roughly 50% fail within the first three years (Liedholm, 2007). Rural entrepreneurs constantly confront challenges and change.

Rapid change in many rural supply chains compounds these management challenges, requiring that rural firms and farms switch marketing channels, change how they do business, or invest in equipment and organizational arrangements that enable them to access growing market niches. Given disparities in economic power and access to information, these changes frequently require collective action by alliances of small

businesses or brokering by pro-poor advocacy groups. Many different models exist for attempting to facilitate market access by small players in growing market niches.⁶

Participation as employees in growing segments of the labor market.

Not every poor person is a natural entrepreneur. Many lack the information, mobility, technical skills, financial capital and personality traits necessary to effectively manage a business. For them, the fastest route to prosperity lies in the labor market. In buoyant regional economies, increasing wage rates and labor demand fuel significant opportunities for even unskilled labor (Table 11). Many of these opportunities emerge in agricultural labor markets which often involve seasonal rural-to-rural farm labor migration. Nonfarm wage employment also become available in rural construction businesses, processing mills and assembly market networks. In some settings, government and private sector offers significant employment opportunities for both unskilled and professional workers (Adams and He, 1995; Adams, 2002).

In some situations, nonfarm employment opportunities require commuting or temporary migration to rural towns and urban centers. Given the typical wage premiums prevailing in towns and cities, commuting or temporary migration features in many household diversification strategies. In poor provinces of rural China, for example, roughly 25% of households report at least one migrant member (Du, Park and Wang, 2005). To exploit available opportunities in regional labor markets, poor households benefit from improved information and transport flows, the removal of social, economic and administrative barriers, and investments in their human capital that permit them to expand labor earnings, the key resource poor households possess in abundance.

Can RNFE growth slash poverty?

Empirical evidence on the link between RNFE growth and poverty reduction requires careful sifting given the complex inter-relationships among agriculture, rural nonfarm businesses and the national economy. Strong correlations between growing rural nonfarm income and falling rural poverty, as in China since the 1980's (Ravallion and Chen, 2004), do not necessarily imply causality. Nor do they rule out the possibility that independent third factors, such as agricultural technology, may be driving both (Lanjouw, 2007).

Available household panel data sets, which offer the best means of isolating these effects, remain sparse. One such study, from rural Viet Nam concludes that growth of the rural nonfarm economy is unlikely to serve as a primary motor of poverty reduction for the bulk of Viet Nam's poor (van der Walle and Cratty, 2003). In contrast, a village-level panel study from India suggests that rural-based, export-oriented manufacturing may contribute significantly to rural poverty reduction (Foster and Rosenzweig, 2004). A study of migrant remittances using household panel data from poor regions of China

⁶ See, for example, Boomgard et al. (1992), Montigard (1992), Chen (1996), Dowds and Hinjosa (1999), Bourgeois and Herrera (2000), Lusby and Panliburton (2002), Kaplinsky and Morris (2003), Meyer-Stamer (2003), Chitundu, Droppelmann and Haggblade (2008).

finds that having a migrant increases rural household per capita income by 9% to 13%. Yet the study concludes that the overall impact of migrant remittances on poverty remains modest, simply because most poor people don't migrate. The authors estimate that migrant remittances decrease rural poverty headcount rates in poor regions of China by 1%, from 15.4% to 14.4%, (Du, Park and Wang, 2005). A more general review of the migration literature concludes similarly that, "Research on the effects of migration on areas of origin is relatively scarce, but generally it shows that, at the macro-level, remittances contribute relatively little, and out-migration usually does not radically transform poor areas." (de Haan and Rogaly, 2002:5). However, overall rural nonfarm earnings may reduce poverty significantly in specific settings. A time-series econometric study from China suggests that overall rural nonfarm earnings, which accounted for 36% of rural income in 1997, have likely proven highly significant in reducing rural poverty. Looking at different allocations of public expenditure, the study finds that government spending on education and rural infrastructure generate significant reductions in rural poverty, an impact they attribute largely to the stimulus these investments provide to rural nonfarm employment (Fan, Zhang and Zhang, 2002)⁷. Clearly, results differ across studies and across settings.

Summing up, a recent review of available evidence concludes that the *direct* impact of rural nonfarm earnings on rural poverty rates "proves muted in practice" but that nonfarm activities nonetheless perform an important safety net role, preventing families from falling further into poverty during crises. Moreover, the study suggests that the *indirect* effects of rural nonfarm employment, through labor market tightening and rising rural wage rates, are "possibly very significant" for the rural poor (Lanjouw, 2007:78,79).

POLICY IMPLICATIONS

Policy makers hold high hopes that rural nonfarm growth can offer a pathway out of poverty for a large segment of the rural poor. As we have seen, prospects for RNFE growth prove brightest in well-connected rural regions in countries with rapidly growing agricultural and national economies. In contrast, prospects are least favorable in remote backward regions, especially those embedded in poor, slow growing agricultural and national economies. The growing forces of urbanization and globalization seem more likely to reinforce than to change these patterns of development. As a result, it is unrealistic to expect that RNFE growth can solve poverty problems in many backward regions of the developing world. However, it can play a significant role in regions with strong rural economic base or with good access to growing urban economies.

Given the enormous diversity observed across rural regions and within the RNFE itself, opportunities, constraints and appropriate policies will clearly differ across settings. While general guidelines cannot substitute for detailed understanding of a

⁷ Investment in agricultural R&D also proved highly effective in reducing rural poverty. These estimates project that 10,000 yuan spent on education pulls 9 people out of poverty, while that same expenditure on agricultural R&D reduces poverty counts by 7. Spending on rural roads, electricity and communications reduce poverty by 2-3 people for each 10,000 yuan spent (Fan, Zhang and Zhang, 2002).

specific rural nonfarm setting, several broad policy guidelines do emerge from this review.

Available evidence suggests the rural nonfarm economy can significantly expand economic opportunities for the rural poor if two conditions hold. First, the RNFE must itself be growing robustly. But rising nonfarm employment will not suffice. In stagnant rural regions, where a moribund agriculture offers little stimulus or employment growth, a surge of growing population may simply push additional labor into increasingly low-return nonfarm activities, as new entrants divide a fixed pie into increasingly smaller pieces. Rather, poverty-reducing rural nonfarm growth requires an aggregate increase in rural nonfarm income coupled with growing income per worker. Typically, this requires investments in the productive capacity and productivity of rural tradables such as agriculture, tourism or natural resource-based activities in order to ensure their competitiveness in external markets. Alternatively, where low-cost rural labor and low transportation costs coincide, rural households can sometimes compete in urban or export markets through commuting, short-term migration or urban-to-rural subcontracting arrangements. From a policy perspective, accelerating output and productivity growth in the rural economic base will require investments in agricultural technology, rural education, communications, transportation and electrification. Together with a favorable policy environment, these investments encourage rural nonfarm business development as well as short-term commuting and migration strategies, both of which serve to increase rural nonfarm incomes and investment.

But a growing rural nonfarm economy does not guarantee access by the poor. Wealthy households, well-endowed with financial, human and political capital, often prove better equipped to take advantage of growth in the high-productivity segments of the rural nonfarm economy, both as entrepreneurs and as wage employees. Meanwhile poor households, left to their own devices, risk remaining relegated to slow-moving backwaters of the rural nonfarm economy. Migration opportunities likewise remain bifurcated, with highly educated households more apt to land lucrative positions in towns. Thus, policy makers cannot assume that an expanding rural nonfarm economy will translate automatically into pro-poor growth.

This leads to the second requirement for pro-poor rural nonfarm growth: access by the poor to growing nonfarm market niches. In order for nonfarm earnings to offer a pathway out of poverty, rural households and policy makers may need to invest in rural education and health in order to improve the existing human capital stock of the poor. At the same time, policy makers will need to remove existing economic and social barriers that limit entry by the poor into lucrative nonfarm professions. Fluid labor markets, with good transportation and communication systems connecting rural households to regional and urban labor markets, will provide a key bridge linking the rural poor to growing opportunities in the nonfarm economy.

Table 1. Nonfarm share of rural income

Region	Nonfarm share of rural income		
	total nonfarm earnings	local nonfarm business and employment	transfers and remittances
Africa			
excluding Namibia	34%	28%	6%
Namibia	75%	26%	48%
Asia	51%	40%	11%
Latin America	47%	41%	6%

Source: Reardon et al. (2007), Table 6.1, summarizing 54 rural income surveys from the 1990's and 2000's. Total citations include 23 for Africa, 2 for Namibia, 14 in Asia and 17 in Latin America.

Table 2. Composition of rural nonfarm employment, by region (percent)

	Nonfarm share of rural workforce	Women's share of rural nonfarm employment	Rural Nonfarm Employment Shares				Total rural nonfarm
			Manufactur- ing	Trade & transport(1)	Financial and personal services(2)	Construction, utilities, mining and other (3)	
Africa	9	39	19	31	35	15	100
Asia	24	24	27	29	31	14	100
Latin America	31	36	22	23	34	21	100
West Asia and North Africa	21	11	23	22	36	20	100

Notes:

1. Trade and transport includes wholesale and retail trade, transport and storage.
2. Other services includes finance, insurance and community and social services
3. Other includes mining and quarrying, utilities, construction and other non-classified activity.
4. Country data weighted by size of total primary work force.

Source: 31 population censuses as summarized by Hazell, Haggblade and Reardon (2007), Table 1.2.
Regional aggregates weighted by size of total primary workforce.

Table 3. Heterogeneity of rural nonfarm activity (percent of total rural employment)

Primary employment*	Rural Brazil, 1996		Rural El Salvador, 1994			Rural Uganda, 1992	
	Northeast	Southeast	West	Central	East	Hoima	Mukono
Mining and natl resources	5.5	1.1	0	0.9	0.3		
Manufacturing	3.5	5.6	10.6	13.4	5.6	15.9	13.6
beverages	0.1	0.2				11.2	3.3
food processing	1.1	1.3					
textiles	0.6	0.5	2	3.8	1.5	1.2	0
straw	0.6	0.7	2.3	3.1	0.6	2.3	8.6
wood	0.6	0.5				1.2	0.7
shoes and leatherware	0.1	0.1				0	1
other manufacturing	0.4	2.3	6.3	6.5	3.5		
Construction	2.6	4	4.1	6.5	2.8	5.1	5.3
Utilities	0.2	0.5	0.4	0.4	0		
Commerce	4.4	4.6	9.3	12.7	9	32.1	25.3
retailing and wholesaling	3.7	3.2	7.1	9.9	7.1	32.1	25.3
transport	0.7	1.4	2.2	2.8	1.9		
Services	10.8	16.5	9.2	14.6	5.5	7.1	16.8
restaurant/hotel	0.8	1.3	0.1	1.3	0	2	8.8
finance	0.1	0.2	0.2	0.2	0.2		
teaching	2.9	2.2	0.8	0.4	0.9		
health			0.5	0.5	0.2	2.3	1
domestic service			3	5.8	2		
personal services	1	0.9					
government	1.4	1.3	0.5	0.1	0.1		
other services	4.6	10.6	4.1	6.3	2.1	2.8	7
Total nonfarm	27	32.3	33.6	48.5	23.2	60.2	61
Total agriculture	73	67.7	66.4	51.5	76.8	-	-
Total employment*	100	100	100	100	100	-	-

* Uganda data list percent of households involved. All others are percent of primary employment.

Source: Ferreira and Lanjouw (2001), Lanjouw (2001), Livingstone (1997).

Table 4. Employment shares by activity and size of locality

Country (year)	Total Labor	Agriculture	Total Nonfarm	Manufact.	Commerce and Transport	Personal, Financial and Community Services	Construction, Utilities and Mining
ISIC Code		1	2-9	3	6 & 7	8 & 9	2, 4 & 5
Bangladesh, 2000							
Rural	100	58	42	10	17	12	3
Intermediate urban	100	16	84	27	28	23	6
Chittagong and Dhaka	100	8	92	26	29	32	5
Chile, 1984							
Rural	100	65	35	5	9	17	4
Intermediate urban	100	7	93	14	29	41	9
Santiago	100	1	99	20	26	46	7
Zambia, 2000							
Rural	100	90	10	1	2	7	1
Intermediate urban	100	22	78	7	31	30	10
Lusaka	100	0	100	14	22	54	10

Source: Bangladesh (2003), Banco Central de Chile (1986, 2002) and Zambia (2003).

Table 5. Returns to labor in rural nonfarm activities, Darfur Sudan 1993

Nonfarm activity	Income per day (Sudanese pounds)	Sector
tabag making	10	manufacturing
carpet making	21	manufacturing
pot making	23	manufacturing
tea selling	60	commerce
water peddling	75	commerce
food selling	80	commerce
shoe making	150	manufacturing
blacksmithing	150	services
construction	180	services

Source: Ibrahim (1997).

Table 6. Capital Intensity and Returns to Labor in Rural Nonfarm Activities, Bangladesh 1980

Industry	Capital per worker (Tk)	Value added per worker (Tk/day)	Share of female workers
Tailoring	4,982	27.5	20%
Dairy products	3,076	23.4	10%
Gur (sugar) making	711	20.0	0%
Carpentry	3,009	19.9	4%
Jewelry	1,283	18.7	2%
Blacksmithy	760	15.8	2%
Handloom weaving	1,594	15.1	38%
Oil pressing	1,006	12.6	43%
Pottery	799	11.8	47%
Paddy husking	303	7.4	56%
Bamboo products	313	5.2	49%
Mat Making	465	5.2	63%
Fishing nets	265	4.8	63%
Coir rope	145	4.1	64%

Source: Hossain (1984) cited in Lanjouw and Lanjouw (2001).

Table 7. Income sources by quintile in rural India, 1999

Quintile	Agriculture		Nonfarm Income				Other income	Total income (percent)	Real Per Capita Income (rupees)
	Cultivation	Agriculture wage Labour	Wage labor	Self employment	Regular Employment	Total nonfarm			
Lowest	38.2	28.2	15.8	11.4	4.4	31.6	2	100	1,146
Q2	38	21.3	14.7	16.8	7	38.5	2.3	100	2,113
Q3	45.2	13.4	10.1	16.3	11.7	38.1	3.2	100	3,141
Q4	50.1	7.5	6.1	14.6	18.6	39.3	3.2	100	4,712
Highest	64.5	2.1	2	7.9	21.1	30.9	2.5	100	11,226
Total	54.9	8	5.9	11.5	17.1	34.4	2.7	100	4,468

Source: Lanjouw and Shariff (2004).

Table 8. Mixed equity impact of rural nonfarm income

Quintile	Rural Nonfarm Income as Share of Total Income					
	Equity enhancing		Neutral		Inequitable	
	Egypt, 1997	Pakistan 1989	India 1999	Ethiopia 1990	Ecuador 1995	Viet Nam 1997
poorest	59%	75%	32%	32%	22%	40%
2nd	52%	63%	39%	-	37%	42%
3rd	51%	36%	38%	30%	37%	50%
4th	53%	33%	39%	-	46%	60%
highest	38%	21%	31%	31%	64%	82%

Sources: Reardon et al. (1998), Lanjouw (1999), Adams (2002), Lanjouw and Shariff (2004).

Table 9. Growing rural nonfarm income shares

	Rural Nonfarm Income Share of		
	farm household income	rural income	national income
China			
1978-80	17%	-	4%
1985	25%	-	7%
1990	26%	-	10%
1995	37%	-	26%
1997	39%	-	28%
India			
1968	-	26%	-
1980	-	36%	-
2000	-	46%	-
Japan			
1950	22%	-	-
1960	42%	-	-
1970	63%	-	-
1981	80%	-	-
1987	84%	-	-
South Korea			
1971	18%	-	-
1981	33%	-	-
1991	46%	-	-
Taiwan			
1970	45%	-	-
1975	47%	-	-
1980	65%	-	-
1987	78%	-	-
Thailand			
1976	35%	-	-
1986	46%	-	-

Source: Oshima (1984), Hazell and Haggblade (1991), Poapongaskorn (1994), Hayami (1998), Fan, Hazell and Thorat (1999), Huang (1999) and Chadha (2003).

Table 10. Dynamics of Rural Nonfarm Employment Growth, Bangladesh 1990 to 2003

Sector	Rural Nonfarm Employment Growth*		
	Permanent	Household	Total
Manufacturing	10.4	-0.9	0.6
Services	3.4	5.0	4.5
Total	4.5	2.9	3.3

* Average annual growth rate from 1990 to 2003.

Source: World Bank (2004).

Table 11. Labor market influences on the size and composition of rural nonfarm activity, Bangladesh 1982

	Income per hour in agriculturally underdeveloped regions (taka/hour)	Percent by which agriculturally developed regions exceed underdeveloped areas*		
		income per hour**	employment (hours/week)	income per household
Agriculture	5.1	29%	8%	40%
Nonagriculture				
Services	11.4	4%	30%	35%
Cottage industry	4.4	90%	-81%	-63%
Wage labor***	2.8	6%	-41%	-38%
Trade	2.3	195%	-28%	113%
Total nonagriculture	4.4	59%	-29%	12%

* Hossain distinguishes agriculturally "developed" and "underdeveloped" regions using a number of criteria: access to irrigation, use of modern rice varieties, and fertilizer consumption, among others. In the agriculturally developed regions, modern varieties cover 60% of cropped area compared with only 5% in underdeveloped areas.

** Calculated from Hossain (1988), Tables 48 and 64.

*** Nonfarm wage labor includes earth hauling, construction, transport and "other" employment.

Source: Hossain (1988), pp. 95,120.

Table 12. Distinguishing good news from bad: contrasting sources of rural nonfarm employment growth in a stylized Asian rice-growing economy

	The Green Revolution (Pull)	The Sponge (Push)
Initial shock	Improved agricultural technology,* labor using	Population growth**
Resulting changes		
rural nonfarm employment	1.9%	1.9%
total rural employment	6.6%	2.1%
rural wage rate	6.6%	-3.9%
nonfarm income	1.1%	-4.7%
total real per capita income	7.4%	-4.4%

Source: Haggblade and Liedholm (1991).

Using a semi-input-output model, with stylized data drawn from the Muda River region of Malaysia, these results simulate the following

* labor-using technical change in agriculture that increases foodgrain output by 80% and is adopted by 50% of farmers.

** population growth rate of 6% over 3 years, just sufficient to generate an equivalent increase in rural nonfarm employment.

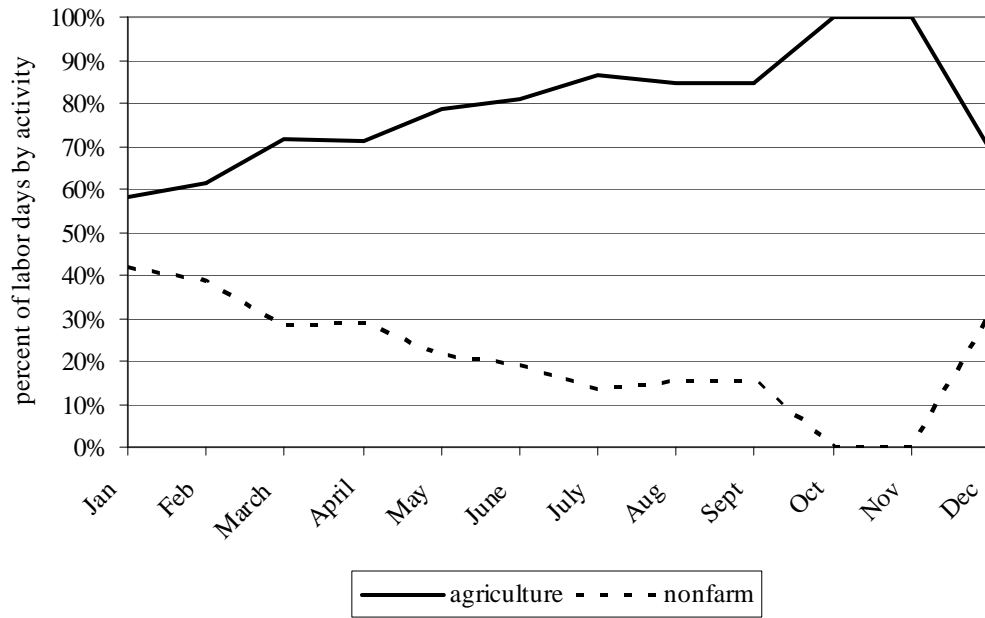
Note: Using a semi-input-output model, with stylized data drawn from the Muda River region of Malaysia, these results simulate the following impact:

* labor-using technical change in agriculture that increases foodgrain output by 80% and is adopted by 50% of farmers.

** population growth rate of 6% over 3 years, just sufficient to generate an equivalent increase in rural nonfarm employment.

Source: Haggblade and Liedholm (1991).

Figure 1. Seasonality of rural nonfarm employment*, Ethiopia 1993



* Distribution of employment among landless laborers.

Source: Habtu (1997)

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