Rural Nonfarm Employment and Incomes in Latin America: Overview and Policy Implications

THOMAS REARDON
Michigan State University, East Lansing, USA

and

JULIO BERDEGUÉ, GERMÁN ESCOBAR *
International Farming Systems Research Network (RIMISP), USA

Summary. — Rural nonfarm employment (RNFE) and incomes (RNFI) are crucial to Latin American rural households. The 11 rural household income studies in this volume, reviewed in this paper, use 1990s data and show that RNFI averages 40% of rural incomes. RNFI and RNFE have grown quickly over the past three decades. The review of evidence provided some surprising departures from traditional images of nonfarm activities of Latin American rural households. In terms of shares of rural incomes: (1) nonfarm wage incomes exceed self-employment incomes; (2) RNFI far exceeds farm wage incomes; (3) local RNFI far exceeds migration incomes; (4) Service-sector RNFI far exceeds manufactures RNFI. These findings suggest the need for more development program attention to wage employment in the service sector, versus the traditional focus on small enterprise manufactures. Moreover, poor households and zones tend to have higher shares in their incomes but lower absolute levels of RNFI as compared to richer households and zones. The RNFE of the poor tend to be the low-paid nonfarm equivalent of semi-subistence farming. Raising the capacity of the poor to participate in the better-paid types of RNFE is crucial — via employment skills training, education, infrastructure, credit. Finally, RNFE has grown fastest and been most poverty-alleviating where there are dynamic growth motors, in particular in the agricultural sector, but also in tourism, links to urban areas, mining and forestry. This means that developing RNF jobs cannot be done at the expense of programs promoting agricultural development. © 2001 Elsevier Science Ltd. All rights reserved.

Key words — rural nonfarm employment and incomes, Latin America, rural development

1. INTRODUCTION

For several decades it has been recognized that rural nonfarm employment (RNFE) is important to rural households in Latin America and the Caribbean (LAC), as manifest in de Janvry et al. (1986) and Klein (1992). They showed that some 25–30% of rural employment was in nonfarm activities. Those studies, however, are outdated as they covered mainly the 1960s and 1970s. There were profound changes in LAC rural areas in the 1980s and 1990s, including structural adjustment, trade liberalization, rapid growth of rural towns and intermediate cities, and infrastructure and technology change (Berdegué & Escobar, 1995). Moreover, earlier work focused on employment data from occupational censuses, but did not review income data from household surveys. Hence, an update of knowledge on RNF activities in LAC, adding in particular

*This research is based on generous grants from the Inter-American Development Bank (IADB) and the United Nations Food and Agriculture Organization (FAO). The authors thank Rubén Echeverría (IADB), Gustavo Gordillo De Anda, Kostas Stamoulis, and Alexander Schetkman (FAO) for valuable support and comments, and useful comments from Peter Hazell, Peter Matlon, Donald Mead, Juan Lucas Restrepo, and Alvaro Ramirez, as well as participants at the IADB/FAO/ECLAC/RIMISP conference in Santiago in September 1999 and the IADB conference in New Orleans in March 1999, at which earlier versions were presented.
data on RNFI (rural nonfarm incomes) is essential and timely—timely because of the recent resurgence of interest in promoting rural employment. It is becoming evident that rural poverty has persisted and inequality has increased despite two decades of structural adjustment (de Janvry & Sadoulet, 2000).

This special issue of World Development provides that update by presenting 11 country case studies mainly from 1990s data, reviewing other recent evidence, and drawing policy implications. We show that nonfarm income is very important, constituting roughly 40% of LAC rural incomes. We also find that poor households and poor zones often lack access to the better-paying nonfarm employment that would alleviate their poverty, and that they are involved in RNF activities that are the equivalent of “subsistence farming”—low-productivity, low-wage, unstable, with low-growth potential. Policy-makers are thus faced with great challenges in promoting poverty-alleviating nonfarm employment and income for the rural poor in LAC.

This overview article proceeds as follows. Section 2 presents a conceptual background discussion. Section 3 reviews patterns in the recent nonfarm data, with emphasis on rural household income studies from the 1990s. Section 4 discusses policy and program implications.

2. BACKGROUND: DEFINITIONS, MOTIVATIONS, AND STAGES

By RNFE we mean employment of rural household members in the nonfarm sector, and RNFI is the income thereby generated. “Employment” includes self-employment and wage employment. “Rural” means population concentrations (village/town) below a threshold that varies (in official definition) by country, usually concentrations of 1,000–2,000 or less.

“Nonfarm” means activity outside agriculture (own-farming plus wage employment in agriculture), hence in manufactures and services. We follow standard national accounts definitions, wherein agriculture produces raw agrifood products with one of the production factors being natural resources (land, rivers/lakes/ocean, air); the process can involve “growing” (cropping, aquaculture, livestock husbandry, woodlot production) or “gathering” (hunting, fishing, forestry). Manufactures are production processes that use raw physical intermediate inputs (such as maize, milk, iron, wood, or the elements of fertilizer) and process them into manufactured goods (such as maize flour, cheese, pails, furniture, and fertilizer). Services are processes that produce services (transport, commerce, banking, and so on) using physical capital and labor. Notice that the sectoral assignment (to agriculture, manufactures, or services) has to do only with the nature of the product combined with the types of factors used in the production process. The assignment does not depend on location (at-home or away-from-home), scale (small or large), technology (traditional or capital-intensive/modern), whether wage or self-employment, or whether the nonfarm activity is “production-linked” to agriculture (e.g., producing processed crops or farm tools is in the manufactures sector).

The rural nonfarm labor market is formed by the aggregate of household and firm labor supply and demand decisions; we define the labor market as including both “self-employment” and “wage employment.” Household (or individual) labor supply over sectors is depicted in economic theory as a function of (a) the incentives the individual or household faces, typically the relative returns to and risks of farm and nonfarm activities, and less easily observable factors such as cultural preferences; (b) the individual or household’s capacity to undertake the activities, determined by access to public assets such as roads and private assets such as education. Firms’ demand for labor is a function of the relative prices of the various inputs, the returns to the production of the output that uses the labor, and the quasi-fixed capital of the firm.

Rural household members are motivated to enter the nonfarm labor market because of: (i) “pull” factors, such as earning higher incomes via better returns in the nonfarm sector relative to the farm sector; and (ii) “push” factors, such as risky farming or land constraints, and missing insurance, consumption and input credit markets. They are driven to seek ways to use RNFE to smooth interyear and intrayear variation in incomes and consumption, to increase income and alleviate poverty, to manage risk and cope with income shocks, and to finance investments in farm, human, and other assets.

The aggregate nonfarm labor demanded is a function of the demand for nonfarm sector goods and services and of available technologies. That demand comes from the local and the
nonlocal: farmers demanding inputs such as farm implements, consumers demanding nonfood goods and services and processed agricultural products, and nonfarm firms demanding inputs and intermediate goods. Raising farm outputs and incomes induces increases in demand for (noninferior) nonfarm products from all three of the above sources, via production linkages and expenditure linkages. These linkages are the essence of the argument heard often in the Asian development debate in the past three decades in that agricultural development such as occurred in the Green Revolution also induces RNFI growth (Mellor, 1976).

Of particular relevance to Latin America is that demand for nonfarm goods and services can be driven by “motors” other than the agriculture sector. Demand is driven by any motor that raises local incomes and the pool of investment capital and thus increases in RNF wage and self-employment through production and expenditure linkages. For example, an increase in tourism (service sector) can induce growth in manufactures (e.g., local winemaking) and in agriculture itself. Moreover, the “motor” does not even have to be local, as long as the local economy is “open” in that workers can commute and local farm and nonfarm firms can sell to the area where the motor is churning. For example, a mine or a big city in a coastal region could induce nonfarm employment growth in the nearby highlands. Of course, the types of nonfarm labor and products demanded and the capital/labor ratio of the technology used in the “motor” activities will condition the amount of nonfarm employment creation induced in the nearby highlands; a ritzy tourist hotel may demand less local nonfarm labor per unit of output than does a roadside truckstop.

The development literature posits that there will be a disproportionate increase in demand for nonfarm output as incomes rise (the theory of “economic transformation” where the share of the farm sector in GDP declines as GDP per capita rises over time, and Engel’s law, where the share of food in the total household budget declines as incomes rise; see (Timmer, 1998)). But the traditional theory does not treat three issues of particular relevance to our study of the LAC rural nonfarm sector. First, how does the rural nonfarm sector change over time? Second, where does the increase in nonfarm sector output occur and by whose hands—urban or rural households? Third, when does the share of the nonfarm sector growth increase where both sectors are growing, and when does the share increase because the farm sector is in decline or stagnating?

The development economic theory literature has tended to focus on the first question concerning changes in the nature of the nonfarm sector as development proceeds. Hymer and Resnick (1969) described an initial phase of RNF activity producing “Z-goods” such as baskets and mats, traditional grain milling, transport of crops from the field to storerooms or the local market by cart, produced at home and on the farm, rather than off-farm in the village or town, in small-scale operations, using traditional technologies intensive in labor, and home-consumed or sold to the local market. Labor supply is mainly driven by push factors, and labor demand is local, low level, seasonal, and fueled by semi-subistence farm incomes. A LAC example is offered by Figueroa (1981) in his pathbreaking study of the Peruvian Highlands. Ranis and Stewart (1993) see a second phase, with the rise of “modern RNF goods,” produced by more modern production methods, using higher skills and physical and financial capital, with the sources of demand either in urban areas or export markets made accessible by better roads than formerly, and from more dynamic local income growth than was possible when the economy was mainly based on semi-subistence agriculture. The growth is thus driven by external and local “motors” which can include but are not limited to agriculture.

The development economic theory literature has been relatively mute on the second and third questions, concerning where nonfarm sector employment growth takes place (in urban versus rural areas), and how nonfarm development differs between areas with dynamic versus stagnant agriculture. The former question is starting to receive attention with the recent crossing of economic development and geographic location theories and empirical work on firm location and spatial economics, such as in Renkow (forthcoming). It also appears in work on urban–rural links between nonfarm firms (such as in the El Salvador case study in this issue) and in work on urban residents acquiring land and services in rural areas, thus spurring RNFE (Graziano Da Silva & del Grossi, 2001). Some of the papers in this special issue such as the one by Berdegüé et al. on Chile, offer some empirical evidence on the location of rural households’ nonfarm employment as between cities and
rural areas. The latter question concerning interregional differences in rural nonfarm development can be considered in the light of the theory of Ramis and Stewart in terms of sources of demand, nonfarm product composition, and technologies employed. There has, however, been relatively little empirical work on this issue in developing countries, including in LAC. Thus, most of these papers address that issue given its importance to “differentiated” rural development policies that have come to the fore in the wake of general structural adjustment.

Returning to the “stages of growth” theories discussed above, there are several difficulties in viewing RNF development in LAC as historical stages, the discussion of which points to complexities of the RNF sector in LAC. These differences are as follows.

First, there are at present rural zones in LAC representing the various stages discussed above, such as the Bolivian Altiplano and the modern horticulture zones in Central Chile. But, while one can name zones where historical stages of RNF development occurred according to the theories above, there are also zones where RNF development never went beyond the “first stage” of low-productivity, traditional nontraded Z-goods as in Hymen and Resnick. Hinterland zones, such as the Peruvian Altiplano, come to mind, which are far from dynamic sources of demand for RNF products. There are also zones where the local RNF economy “leapfrogs” the first stage and goes directly to the “modern-Z-goods” stage such as in Cancun. In this case, state-planned promotion of and investment in tourism took a sleepy rural area suddenly into modern RNF activity. New roads and airports quickly reduced the economic distance from that rural service sector to urban and foreign sources of tourism demand!

Second, as noted above, there is a variety of “growth motors” for RNF development, some of which are locally endogenous, such as where agricultural development and commercialization generated surpluses that in turn spurred local nonfarm development (the cotton zones of coastal Peru come to mind). That agricultural development itself might have been the fruit of investments by local staples farmers, but indeed often is itself “implanted” by investment from nonlocal entrepreneurs (the quality grape and wine production in central Chile in the past decade comes to mind). Or, the “motor” might be an RNF activity spurred by outside investors or the employment of local families in nonfarm jobs in nearby rural zones or cities (the rural bedroom communities such as Colina north of Santiago, Chile, comes to mind, or the weekend retreat economy that blossomed in São Paulo rural areas, as described by Graziano Da Silva & del Grossi, 2001).

Third, the chain of investments and sectoral growth that leads to a vibrant current rural nonfarm economy can be historically complex. An example is the current service sector boom in rural Chile or Brazil in zones where originally fruit or coffee were the motors, and from them grew agroindustrial economies that in turn spurred income growth and a proliferation of service sector jobs such as repair shops and domestic services.

Fourth, the improvement of rural infrastructure and growth of rural towns and intermediate centers are phenomena that cut both ways in the rural nonfarm economy, creating opportunities as discussed above, but also bringing in cheap consumer goods to compete with local nonfarm firms (knocking out local women’s tortilla shops, as discussed in Rello, 1996). Moreover, as noted in the Chile study in this issue (Berdegüé, Ramirez, Reardon, & Escobar, 2001) better roads mean that rural households can sell their nonfarm labor in local towns (where indeed they sell half of it) and urban households can sell farm labor in local rural areas (20% of Chilean agricultural labor comes from urban households), thus blurring the distinction between rural and urban as commuting increases.

3. PATTERNS IN HOUSEHOLD RNF INCOMES AND EMPLOYMENT IN LAC

(a) Trends in RNF employment in LAC

Klein (1992) reviewed employment census data mainly for the 1970s for 18 countries in LAC (average starting year was 1970 in his data, and ending year 1981). Space limitations prevent us from reproducing the details of his data here, so we summarize. His numbers show rapid increases in the share of rural people employed in RNF activity in that period. The average share (weighting his country-level figures by the size of the countries’ rural populations) of the rural population whose primary occupation was in the nonfarm sector went from 17% in the starting year (circa 1970) to 24% in the ending year (circa 1981), with an
annual absolute increase of 4.3%. Compare the latter to an annual absolute increase of only 0.03% for farm employment over the same period. In nearly half of the countries, the farm employment growth rate was negative, while the RNF employment growth rate was positive in all of them.

Table 1 summarizes available rural nonfarm employment data gathered by ECLAC for the 1990s (ECLAC, 1999; Durston et al., 2000). Because the data are from household surveys and not from occupation censuses, it is not possible to compare them directly with Klein’s results for the 1970s, both because of the differing survey methods and because the country coverage is incomplete. But, in Chile, Colombia, Costa Rica, Honduras, Mexico, Panama and El Salvador, RNF, in both absolute and relative terms, has continued to grow rapidly. Some case studies in this issue also show such trends: for example, the Ecuador study by Elbers and Lanjouw reports that nonfarm activities constituted 20% of rural employment in 1974 versus 36.4% in 1994. On the other hand, in Brazil and Venezuela, RNF has continued to grow, but slower than in the other countries. Moreover, with the exception of Bolivia, employed rural women’s share of RNF is higher than that of rural men. In nine of the 11 countries in the table, between 65% and 93% of employed rural women engaged in nonfarm jobs. By contrast, in most countries, with the exception of Costa Rica and the Dominican Republic, men mainly work in the farm sector.

Table 1 also shows that self-employment in rural households continues to be predominantly in the farm sector, except in Costa Rica. In Colombia and the Dominican Republic, self-RNF is much the same, although somewhat less than agricultural self-employment. The RNF in the public sector is generally fairly low in the countries considered. Unfortunately the data reported do not allow one to distinguish between the farm and nonfarm sector in wage employment. The available information implies, by comparing the differences in the totals, that most RNF takes place through wage-earning activities in manufacturing, industry, trade and other private services.

(b) RNF incomes: country-level patterns

Table 2 shows that for 12 nationwide surveys in the 1990s, the simple average over countries is 46%, while the average weighted by country rural populations is approximately 40% of rural household incomes from RNF. This contradicts the traditional view in LAC that tends to equate rural incomes with farm sector incomes. This share is close to the (simple average over country figures) of 45% found for Africa and 35% for Asia in similar syntheses of household survey data (Reardon et al., 1998b).

Across the LAC surveys we report, there is intercountry variation in RNF shares, but in a rather limited range (from about 35 to 50 with a few outliers), and little systematic relation of shares with country GNP per capita, just as Klein’s data show little such relation between rural nonfarm employment rates and country GNP per capita.

Only a few studies are able to show changes in shares and levels of RNF in rural income over time because there are few countries that have comparable income studies at different points in time. Several studies in this special issue are exceptions, including Brazil, Chile, and Mexico, which show share and level increases in the 1990s; Echeverri (1999) also shows this in Colombia. For example, the Chile study shows an increase in 18% in rural nonfarm income during 1990–96 due to new entrants and increases in nonfarm wages.

(c) Specialization versus multiactivity

The evidence is mixed as to the degree of sectoral specialization of rural households, but on average appears to be lower than comparable evidence from Africa. The rate of household multiactivity (the term we use for a household earning income from more than one sector) varies over countries and zones within a given country. The estimated rate, of course, also varies by the criterion used. For example, in Nicaragua, 40% of households that are multiactive when we judge participation in a sector by whether the household earned even one cordoba therein (the “easy criterion”); but if we change the criterion to having to earn at least 20% of household income from participation in that sector (the “hard criterion”), the multiactivity rate drops to 18% (Corral & Reardon, 2001); in Chile there is a similar phenomenon. Berdegué et al. (2001) show that the multiactivity rate drops by half when the criterion changes in the above way, showing 20% with the “hard criterion” at the national level in 1996, although they show 37% and 30% in the poorer and richer case study zones, respectively, in 1999. The Honduras and
Table 1. Population employed in nonfarm activities as a percentage of the rural employed population, 1990s

<table>
<thead>
<tr>
<th>Country</th>
<th>First year</th>
<th>Last year</th>
<th>Distribution of the employed, economically active population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Bolivia</td>
<td>1990</td>
<td>26</td>
<td>47.1</td>
</tr>
<tr>
<td>Brazil</td>
<td>1990</td>
<td>26</td>
<td>47.1</td>
</tr>
<tr>
<td>Chile</td>
<td>1990</td>
<td>19.2</td>
<td>67.2</td>
</tr>
<tr>
<td>Colombia</td>
<td>1991</td>
<td>30.9</td>
<td>71.4</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>1990</td>
<td>47.8</td>
<td>86.8</td>
</tr>
<tr>
<td>El Salvador</td>
<td>1990</td>
<td>18.6</td>
<td>88.0</td>
</tr>
<tr>
<td>Honduras</td>
<td>1990</td>
<td>18.6</td>
<td>88.0</td>
</tr>
<tr>
<td>Mexico</td>
<td>1989</td>
<td>34.7</td>
<td>69.1</td>
</tr>
<tr>
<td>Panama</td>
<td>1989</td>
<td>25.0</td>
<td>86.1</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>1990</td>
<td>33.9</td>
<td>78.2</td>
</tr>
</tbody>
</table>

Colombia studies in this special issue show multiactivity rates of 29% and 49% by the “easy criterion,” respectively. The above evidence, albeit scant, roughly shows household multiactivity rates increasing as the income per capita of the country and zone decrease. This makes sense from the viewpoint of the “push factors” for income diversification discussed above. Moreover, it goes along with the fact that African households usually have higher multiactivity rates; for example, Barrett, Bezunech, Clay, and Reardon (2000) show for Côte d’Ivoire, Kenya, and Rwanda multiactivity rates of 33%, 94%, and 37%. These rates are similar (with the exception of Kenya) to the poorer LAC countries. This difference makes sense when one notes that compared to LAC households on average, African rural households have lower incomes, less access to infrastructure and nearby towns, bigger families, less education, and their rural areas have lower landholding concentration, lower rates of landlessness, and fewer commercial agriculture and irrigated areas hiring farmworkers for extended periods in the year.

Interestingly, controlling for country and zone, one often finds that the household multiactivity rate increases as one goes from the poorest to the richest income quartile; this was shown in the Chile, Honduras, and Nicaragua studies in this issue, as well as in the African studies reported in Barrett et al. (2000). This is puzzling at first glance, because one expects that richer households would have the assets to specialize (just as one finds at the country or zone level) and thus capture the gains from specialization (as indeed is the case in Colombia, as shown by Deininger & Olin, 2001). Below we show that richer households with more land and/or education are better equipped to assign a member to high-wage nonfarm wage employment, or better equipped with road and electricity access to set up a nonfarm business in a rural town or at their home. Those households poor in land and education, often located far from roads and electricity hookups, are forced to specialize, often in low-productivity farming and low-pay farm wage labor, but without the gains from specialization that households with education or sufficient land can capture when they choose to specialize. When the lower income strata undertake multiactivity, they do it to survive, since they cannot prosper from these low-productivity dead-end jobs. Their participation in nonfarm jobs nonetheless keeps many from extreme poverty. For example, Berdegué, Reardon, and Escobar (2000) note that without the nonfarm jobs of the lowest quartile of households, the average rural household in the poorer study zone would dip below the poverty line, as would the landless household in the richer study zone. In Honduras, Ruben and van den Berg show that taking away the nonfarm jobs of rural households would hurt farm input use and food security, and in El Salvador, Lanjouw shows that it would drive households below the poverty line.

(d) Farm wage income versus RNFI and nonfarm migration income versus nonmigration RNFI

There is a strong conventional perception that one finds all over the developing world, that when rural households work off their farms, they earn a high share of their off-farm income either as farm laborers or as migrants.
The LAC data contradict the first image concerning the importance of farm wage income (just as the African data do, see Reardon, 1997). Table 3 shows that the very general tendency is for RNFI to be far larger (with a rough ratio of 5 to 1) than farm wage-employment income. The exceptions occur where two factors coincide: (i) in areas with substantial commercial farming and ranching; and (ii) among the poor in general and the poor landless (as opposed to the educated landless who participate very little in farm wage labor) in particular. Examples include ranching areas in Argentina, the fruit zones in Chile, and the sugar zones in Honduras. Given the low entry requirements, at least for casual farm labor, the share of farm wage-employment income in total household income drops quickly with total household income in the case study countries (e.g., in Ecuador, Mexico, Peru, Brazil, and Chile). That is, farm wage labor is the refuge of the refuge jobs, and a technology-change-vulnerable poverty trap in most cases.

The LAC data also contradict the second image concerning the importance of migration income (again, in general as in Africa, Reardon, 1997). One has the image of migration incomes being very important in particular to the rural households of Mexico and Central America. Yet even at this extreme of the spectrum, the image is in general false. Yúnez-Naude and Taylor (1997), in their study of eight rural communities in Mexico (ejidal and non-ejidal), find that only 13% of incomes come from migration (both within Mexico and to the United States), versus 59% from local nonfarm incomes. de Janvry and Sadoulet (2001), in their study of ejidal households in Mexico, find that only 6.5% of incomes come from migration, as compared to 36% from earned nonfarm income. Corral and Reardon (2001) find that only 10% of the rural households in Nicaragua migrate, as do only 13% of Colombian households as reported in Deininger and Olinto (2001). In Ecuador only 4% of incomes are earned from “other sources” (which includes migration remittances), and in Colombia the figure is only 2.5%.

(c) Differences over zones in RNFI

The conceptual discussion in Section 2 gives rise to contradictory hypotheses concerning whether one should expect rural areas with better agriculture to have a higher share of RNFI in total rural incomes. First, zones and households with more own-farm income have less of a “push factor” to seek income off-farm. Second, however, more farm income means, at a household level, more funds to invest in nonfarm activity and education, and at a zone level, means that nonfarm activity will be spurred through production and expenditure linkages. Third, zone might be poor in agriculture but have some other “growth motor” such as mining or tourism or proximity to a big city or highway that can spur nonfarm activity.

The evidence tends to support the second point above. The studies on Brazil, Chile, Ecuador, El Salvador, and Peru in this volume as well as Colombia (Echeverri, 1999) show higher levels per capita of RNFI in zones with dynamic agriculture such as the cotton/horticulture areas of coastal Peru, the horticulture areas of central Chile, the coffee/sugar/horti-

<table>
<thead>
<tr>
<th>Country</th>
<th>Study</th>
<th>Ratio of RNFI to farm wage labor income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>Wiens (1997)</td>
<td>Landless: 0.75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Landed: 13</td>
</tr>
<tr>
<td>Brazil</td>
<td>Ferreira and Lanjouw (2001)</td>
<td>Northeast: 3.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Southeast: 3.7</td>
</tr>
<tr>
<td>Chile</td>
<td>Berdegué et al. (2001)</td>
<td>Poorer zone landed: 1.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Richer zone landed: 1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Richer zone landless: 1.2</td>
</tr>
<tr>
<td>Ecuador</td>
<td>Elbers and Lanjouw (2001)</td>
<td>Overall: 4.6</td>
</tr>
<tr>
<td>Haiti</td>
<td>Wiens and Sobrado (1998)</td>
<td>Overall: 10</td>
</tr>
<tr>
<td>Honduras</td>
<td>Ruben and van den Berg (2001)</td>
<td>Overall: 1.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Smallest farmers: 0.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Largest farmers: 5.0</td>
</tr>
<tr>
<td>Mexico/ejidos</td>
<td>de Janvry and Sadoulet (2001)</td>
<td>Overall: 7.5</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>Corral and Reardon (2001)</td>
<td>Overall: 2.5</td>
</tr>
<tr>
<td>Peru</td>
<td>Escobaral (2001)</td>
<td>Overall: 6.4</td>
</tr>
</tbody>
</table>
culture areas of southern Brazil. The average household in those zones, however, might or
might not rely more on nonfarm incomes than do households in poor agriculture zones; the
evidence is mixed. One finds the share of RNFI in household income higher in Southeastern
Brazil with its dynamic agriculture compared to Northeastern Brazil, as one finds in Honduras
as well. But one finds a lower share of RNFI in incomes in the more dynamic agriculture zones
of Chile and Peru as compared to the poorer agriculture zones. Which branch of this bifur-
cation occurs is conditioned by the extent of production and expenditure linkages from the
local dynamic agriculture as well as the presence of other “growth motors.” For example,
in Southeastern Brazil, the nonfarm share is relatively high because of a long history of
agro-industrialization as well as urbanization that has provided rural households a number of
nonfarm opportunities (see the two papers on Brazil in this issue).

The evidence also tends to support the third point, concerning the role of growth motors
other than agriculture in spurring nonfarm activity. There are two types of cases. The first
occurs in zones where there is a growth motor other than agriculture and rural households
have access to the markets generated by it because infrastructure is adequate. Illustrations
include the rural areas near the capital cities of Nicaragua and El Salvador. In Managua and
the rest of the Pacific Macroeconomic Nicaragua, RNFI incomes are much higher in level
and share terms than in the other zones, whereas in the latter one finds higher average
farm incomes, larger farms, and less landlessness. The second occurs in zones where agri-
culture played an historical, even a recent historical, major role, but nonfarm activities not
necessarily production-linked with agriculture have grown quickly and constitute important sources
of local nonfarm incomes. Examples include the cotton zone of Chinchca on the Peruvian coast or
the fruit zone of Central Chile, where service jobs are so important to rural families. This is
not to say, of course, that the services are not the fruit of expenditure linkages arising from
incomes earned in the booming farm and agroindustrial sectors, but rather we are
underscoring the fact that the overall economies of these zones have been expanding rapidly and
long enough that various nonagricultural activities have become growth motors in their
own right. This overall growth induces the development of rural towns and intermediate
centers and rural households begin to commute to them for jobs. The Chile case study shows
that fully half of nonfarm earnings of rural households are earned in this way.

Finally, by contrast, poor agriculture zones tend to have households that rely strongly on
nonfarm activity in the sense that the share of their incomes from that source is high, but the
levels of nonfarm earnings are relatively low. This occurs because the share of RNFI income
is high in these zones, not due to dynamic growth in the nonfarm sector itself, but to farm
incomes being weak and thus nonfarm income taking on greater relative importance. In addi-
tion, households are pushed into nonfarm activity to survive, but most of this activity
tends to be low-return, low-productivity “ref-
ge” employment (Weller, 1997; Elbers &
Lanjouw, 2001). The latter find that in Ecuador,
this sort of employment has few poverty-
 alleviation effects. In fact, these activities are
often the equivalent of Hymer and Resnick’s
traditional Z-goods, the demand for which does
not expand because incomes are not growing
generally, and the technologies used do not
improve because of the general lack of invest-
able funds. The latter creates a vicious circle
because without investments, the products are
not competitive in the increasingly competitive
and quality-conscious markets of urban LAC
and export markets. An illustration of this is
given for a poorer traditional wine-producing

<table>
<thead>
<tr>
<th>Country</th>
<th>Share of RNFI</th>
<th>Level of RNFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>Falls with land, U-shaped with income</td>
<td>Falls with land, rises with income</td>
</tr>
<tr>
<td>Brazil</td>
<td>Falls with land, rises with income</td>
<td>Rises with land and income</td>
</tr>
<tr>
<td>Chile</td>
<td>Falls with land, rises with income</td>
<td>Rises with land and income</td>
</tr>
<tr>
<td>Ecuador</td>
<td>Falls with land, rises with income</td>
<td>Rises with land and income</td>
</tr>
<tr>
<td>Mexico (ejidal)</td>
<td>Falls with land and with income</td>
<td>Falls with land, rises with income</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>Falls with land, rises with income</td>
<td>U-shaped with land and rises with income</td>
</tr>
<tr>
<td>Panama</td>
<td>Falls with land, rises with income</td>
<td>U-shaped with land and rises with income</td>
</tr>
<tr>
<td>Peru</td>
<td>Falls with land, rises with income</td>
<td>Rises with land and income</td>
</tr>
</tbody>
</table>
zone in Chile by Berdegué et al. (2001). The upshot is the “meso paradox” noted in Reardon, Cruz, and Berdegué (1998): households in poorer zones need nonfarm incomes to compensate their poor and risky agriculture, and thus the incentives to diversify are strong—but the capacity to develop nonfarm alternatives is weak because the demand and investable surplus bases are weak.

(f) Differences over household strata

From a conceptual perspective, as in the discussion concerning zones, there are contradictory hypotheses concerning whether one should expect households that are richer or have more land to earn more RNFI (level terms) or rely more on it (share terms). Table 4 shows levels and shares of RNFI in total household incomes and their relations with landholdings and household incomes. Several surprising patterns emerge. For Brazil, Chile, Ecuador, Nicaragua, Panama, and Peru, the share of RNFI drops as landholdings increase and rises as household income increases. (The exceptions are Argentina, where the relationship is U-shaped with income, and Mexico ejidos, where the relation is negative with income.) The level of household RNFI increases with land in Brazil, Chile, Ecuador, and Peru. But there is a U-shaped relation with land in Nicaragua and Panama, and a negative relation in Argentina and Mexican ejidos. Without exception, the level of RNFI increases with household income.

The interpretation of these findings is as follows. The two most robust findings are that the share of RNFI drops as landholdings increase and the share and level of RNFI rises with household incomes. With respect to the first relation, that with landholdings alone, the point made in Section 2 holds: those with more land have a lower incentive to rely on nonfarm activity. With respect to the second relation, with household incomes, the explanation is more complex. The direction of causality is, of course, hard to ascertain, because it could have been the RNFI that enriched a poor household (the Ecuador study in this volume provides evidence for that), or it could have been that households rich in accumulated savings (say from farming) entered and became successful in nonfarm activity. But, various studies (such as the Ecuador, Mexico, and Nicaragua studies in this issue) note that richer households have land and thus investable surpluses and/or education and thus marketable skills, and both of these assets enable them to undertake high-productivity nonfarm employment that adds considerably to their incomes.

Moreover, in several studies (such as that of Nicaragua and Panama), one finds that the landless tend to earn considerable nonfarm income and rely strongly on it. But, when one disaggregates the landless into education classes (such as Corral and Reardon do), one finds that the less-educated landless are earning little nonfarm income (and tend to rely on low-paid farm wage employment), and the nonfarm activities they undertake are very low productivity. By contrast, the more-educated landless, particularly those near roads and towns, earn high nonfarm incomes in activities that are very productive and skilled (such as teaching). These educated landless actually have as high incomes as the large farmers in Nicaragua, showing that either land or education positions households to undertake well-paid nonfarm activity.

(g) Income composition

Several surprising findings emerge from the studies. First, contrary to conventional wisdom and the center-of-gravity of most nonfarm development programs that focus on promotion of manufactures in small-scale enterprises (self-employment), the great majority of nonfarm income in rural LAC is earned in the services sector and in wage employment. In Brazil, Chile, Colombia, Mexico (ejidos), and Nicaragua, the share of nonfarm income from wage employment on average is much higher than the share from self-employment. By contrast, in Ecuador, Honduras, and Peru, self-employment is more important that nonfarm wage employment—especially in poorer zones.

Second, nevertheless, one often finds that controlling for the zone, the share of self-employment income rises with landholdings, probably due to these households having ready sources of own liquidity to start nonfarm businesses in locales that lack rural credit markets. By contrast, one finds mixed results concerning the share of self-employment and overall household income, mainly because many educated landless households focus on high-productivity wage employment such as teaching, as discussed above.

Third, the share of wage employment and services income tends to increase as one moves from the hinterlands toward rural areas close to
towns and well served by roads. This is the empirical manifestation of our general point in Section 2 concerning the difficulties that small manufactures firms have in competing with urban and imported manufactures in modern liberalized LAC economies. A typical finding of the studies is seen in the Nicaragua study, which shows that rural manufactures tend to be undertaken in one or two person firms, by women, far from towns and good roads, and to sell to the local market, or in the Chile study of the Portezuelo zone, where traditional, low-quality winemaking is undertaken by men in small firms and selling to the local market, unconnected to the booming Chilean export market for quality wine. An exception is noted in the El Salvador study, where small manufactures firms are found to survive by entering “business linkages” with larger urban manufacturing firms (Lanjouw, 2001). The robustness and sustainability of such linkages requires further study, however. In general, we expect that as rural LAC becomes better served by infrastructure and further connected to national and international markets, the problems of competitiveness of small rural manufactures firms will increase, and the wage employment, services sector character of RNFE in LAC will increase.

(h) Determinants and effects of RNFI

The studies featured in this special issue include regressions explaining household and individual participation in RNFE and regressions explaining RNFI. Some of the studies, such as that of Honduras and Ecuador, explore the effects on poverty incidence, food security, and income distribution of rural nonfarm incomes. The major findings are as follows.

First, all the studies showed very strongly that education determines participation and success in RNF employment and incomes. More education tended to mean more nonfarm wage employment in high-productivity, well-paying jobs. The more educated tend to avoid farm wage employment and gravitate toward nonfarm wage employment and only secondarily to nonfarm self-employment, as the returns to labor in general follow that ranking according to the country studies. Some of the studies (such as the Mexico studies) entered into substantial detail concerning years of schooling and interaction with location and ethnicity. Those in the hinterland and the indigenous tend to be doubly crippled in the nonfarm labor market by lack of education and poor infrastructure, and be driven to low-productivity nonfarm jobs if they can get them at all.

Second, access to infrastructure (roads, electricity, water hookups) and nearness to towns, controlling for the effects of zone location that we discussed above, are also crucial determinants of RNFE and RNFI. Often such access compensated for lack of other assets: for example, the educated landless living in the densely populated rural zones of the Pacific region of Nicaragua that are well served by roads and near major towns and cities and ports, were top earners of rural nonfarm incomes in Nicaragua. By contrast, those in the hinterland were relegated to small-scale manufactures, local stagnant markets, and low returns on labor.

Third, controlling for other private and public assets, the effect of gender either emerged clearly in given studies or the effects differed so much across studies that an ambiguous picture emerged. In some cases, such as in rural Chile, employed women earned rather more than men in nonfarm activities. In other cases, such as rural Ecuador and Nicaragua, the finding was the contrary. This issue requires more study.

Fourth, the results concerning the effects of landholdings reflected the discussion above on this topic.

Finally, the studies that examined the effects of rural nonfarm employment (such as that of Ecuador, Mexico ejidos, and Honduras) tended to find that more nonfarm employment, all else equal, reduces the incidence of poverty, increases food security, but tends to increase interhousehold income inequality. The latter especially holds if the employment in question is the high entry barrier, high payoff nonfarm activities we have termed “high productivity.” The catch is that the latter are also the main types of RNFE that move households out of poverty, that are not merely survival options and holding patterns to keep households from sinking further into despair.

4. CONCLUSIONS AND IMPLICATIONS

The findings of the studies suggest the following implications for policies and programs. We draw from Berdegue et al. (2000) and the results of this issue summarized above.

First, policies aimed at the rural sector must be oriented toward providing incentives that
stimulate households to participate in rural nonfarm jobs, as well as the capacity of households to respond to such incentives. It is important to note that several “motors” of RNFE (such as tourism or urban industry) are determined by demands originating outside the rural sector. A rural development policy that addresses RNFE must seek to promote the mobilization not only of capital, but also nonrural human and institutional resources, which have the capacities, relationships and knowledge needed to initiate, develop and conduct new types of projects in the secondary and tertiary sectors such as in tourism, recreation, and environmental services.

Second, it will be crucial for RNFE promotion to remove the strong agricultural bias that characterizes rural development policies, and adopt a position of promoting land-use development and the rural economy as a whole. There are no reasons that currently justify exclusive reliance on agricultural development to improve the quality of life in rural areas or to seek to overcome rural poverty. Furthermore, agricultural development itself necessarily requires growth in manufactures and services. In vast rural regions, betting solely and predominantly on agricultural development means condemning them to conditions of endemic poverty, marginalization, and stagnation.

Third, a differentiated treatment must be assumed between the richest and poorest rural zones. In the former, it is important to reduce the transaction costs faced both by agents that develop investments in RNFE motors, and rural households seeking to participate in nonfarm activities. An active role on the part of the public sector is required in promoting conditions to increase the attractiveness of these regions to the private sector (roads, electrification, telecommunications, irrigation), as well as a strong focus of public investment in developing the capacity of rural households to be able to participate in a broader range of paying activities (education, access to credit, activation of land markets, etc.).

In addition, in the case of poor areas, where the relationship to dynamic markets is very weak or nonexistent, it is essential to correct the frequent distortion of numerous development projects that promote the start-up of microenterprises and other family or joint venture projects that end by being reduced to low-productivity “refuge RNFE,” because of their failure to link to dynamic markets that demand the goods and services produced by these initiatives.

Fourth, local governments and entities, to further cooperation between local social and economic participants, may play an important role in promoting RNFE. In many countries, local governments (municipal and provincial) control or participate in land-use planning decisions, in part of the educational system, in labor training, in certain levels of investment in public infrastructure works, in the awarding of permits and licenses for the establishment of nonfarm rural-based businesses, in guidelines and the content of technical assistance systems, in assigning resources to rural development projects, and even in levying taxes, which are frequently powerful barriers to entry for nonfarm activities.

To overcome these barriers, a greater percentage of public and private investment resources needs to be channeled toward areas of low potential for agricultural development that may find in RNFE a path to revitalization. In areas where there are more favorable conditions for agricultural development, local institutions may identify investments that contribute to strengthening linkages among agriculture, agroindustry, commerce and other services. Resources that depend on local decisions may be employed to break the traditional functional and structural disconnect between the urban nuclei and their rural surroundings, providing in exchange greater integration and complementarity between rural towns and the countryside.

Fifth, agricultural development policies should promote RNFE. It has already been noted that modernization and increased competitiveness of the agricultural sector can only be achieved with the development of primary production, but also of manufactures, commerce, and other services that are essential to modern agriculture. Technology promotion policies (research, technical assistance, and transfer of technology), skill-building and training of human resources, land and agrarian reform, and financing are essential. This consideration is often absent in the design of agricultural development policies. In other cases, even if there is a nominal willingness to consider providing for a strengthening of agroindustrial and agro-commercial chains, during implementation, conditions are established or decisions are taken that end up being counterproductive to this purpose. For instance, technological research is favored in areas with low potential for cooperation with industry or
services, training is provided only or primarily in tasks related to primary production, restrictions are established on credit in order for it to be aimed primarily at investments or working capital financing for farms, thereby marginalizing companies that provide services to agriculture or that process their products, agrarian reform settlements are designed with an exclusively agricultural logic, etc.

Sixth, in many countries there are gaps in public institutions that lead to RNFE becoming a type of "no-man's land." The ministries responsible for industrial policies, housing, public works, and education are more clearly urban-oriented. The agricultural sector ministries are characterized, as would be expected, by their orientation toward the agricultural. The result is that no one is or feels fully responsible for those policies which are indispensable for promoting the development of nonfarm activities responsible for no less than 40-45% of the income of the region's rural households!

Seventh, the studies presented in this special issue indicate that there are certain determining factors that universally apply in favor of strengthening RNFE. These specifically include education and road and highway infrastructure. Everything that can be done in these two areas will have a favorable impact on the development of rural nonfarm employment and income. But this effect can be maximized if the policies in these areas are associated with elements explicitly oriented toward promoting RNFE. For example, in several countries experiments are being carried out with plans for improving the quality and relevance of public education, including rural technical education. But these programs frequently assume that relevant rural education means that which prepares youths to work in the agricultural sector, without considering the increasing importance of nonagricultural activities as a basis for the rural sector. Similarly, infrastructure policies (roads, irrigation) at times contain components designed to prepare the population to take advantage of new conditions, but these are frequently reduced to the agricultural environment, ignoring new options in matters of tourism, industry and manufacturing, commerce and other services. A frequently ignored fact is that a highway will not only be used to convey agricultural production to market, but will also enable more city dwellers to travel to the country on weekends and on vacation, or that a new dam will not only allow intensified agricultural production but will stimulate an increase in tourism and recreational activities.

Eighth, policies and programs to support rural women must give much greater attention to facilitating their access to the wage-earning job market in agro-industry, trade and other services, reversing the current bias in favor of creating manufacturing microenterprises which, in light of available studies, seemed to offer fewer opportunities for real development of rural women as agents of sustainable economic processes over time. Education, labor training, the improvement of roads and transport systems that allow women to easily travel between their homes and places of work, the creation of day-care centers, revised labor and social security policies and their adequate financing are instruments indispensable to strengthening the capacity of women to gain access, with greater benefits, to the rural nonagricultural labor market.

Ninth, rural development projects with financing from multilateral and international cooperation agencies are frequently the primary face of public policies, especially in many countries and regions that are relatively poor. It is critical that these projects assume that in Latin America and the Caribbean, the term rural, increasingly, is not synonymous with agricultural. Consequently, they must be designed to include activities aimed at the rural environment as a whole, including the countryside and the small and medium-sized urban nuclei. They must generate incentives and develop capacities not only for agricultural activities, but also for all jobs important to rural inhabitants. They must consider not only farms, but also households as units appropriate for development. In addition, they must basically be capable of offering differentiated options for the various social strata comprising the rural population: farmers and landless rural inhabitants, men and women, the self-employed and wage-earners.

Finally, all of the above will be useless if the development of public policies and programs for the rural nonagricultural environment occurs at the cost of reallocating resources which up to now have been available for agricultural sector development. After all, agricultural employment continues to be directly responsible for 60% of rural income, and that percentage increases significantly if we consider nonagricultural income originating from activities directly related to and dependent upon agricultural production (agro-industry, trade in
inputs and products, machinery and transportation services, professional services, etc.). The promotion of rural nonagricultural employment and income cannot be made at the cost of developing the agricultural sector. The challenge consists of mobilizing additional investment and capacity, both public and private.

REFERENCES


