

# CEPAL

## **REVIEW**

**NUMBER 62**  
**AUGUST 1997**  
**SANTIAGO, CHILE**

**OSCAR ALTIMIR**  
*Director of the Review*

**EUGENIO LAHERA**  
*Technical Secretary*



UNITED NATIONS

## CONTENTS

<b>The State, the community and society in social development</b>	<b>7</b>
<i>Fernando Henrique Cardoso</i>	
<b>Neo-liberal structural reforms in Latin America: the current situation</b>	<b>15</b>
<i>Joseph Ramos</i>	
<b>Indebtedness and fiscal stability: is history repeating itself?</b>	<b>41</b>
<i>Guillermo E. Perry</i>	
<b>Reforms in the oil industry: the available options</b>	<b>51</b>
<i>Fernando Sánchez Albavera</i>	
<b>Indigenous organizations: rising actors in Latin America</b>	<b>63</b>
<i>Rodolfo Stavenhagen</i>	
<b>Non-agricultural rural employment in Central America</b>	<b>77</b>
<i>Jürgen Weller</i>	
<b>Marginality and social integration in Uruguay</b>	<b>93</b>
<i>Ruben Kaztman</i>	
<b>Trade policy within the context of the World Trade Organization</b>	<b>121</b>
<i>Diana Tussie</i>	
<b>Trade and environment: green light or red light?</b>	<b>139</b>
<i>Helga Hoffmann</i>	
<b>Nominal anchors and macroeconomic coordination options in MERCOSUR</b>	<b>153</b>
<i>Gonzalo Rodríguez Prada</i>	
<b>Export promotion policies in Central America</b>	<b>173</b>
<i>Larry Willmore</i>	
<b>Recent ECLAC publications</b>	<b>188</b>

# Non-agricultural *rural employment* in Central America

---

**Jürgen Weller**

*Macroeconomic  
Policies Unit,  
Economic Development  
Division, ECLAC.*

Non-agricultural rural employment accounts for an increasing proportion of total rural employment in Latin America. Its potential for stimulating rural development has been noted, but it has also been analysed as a focal point of poverty. This article considers the magnitude and composition of this employment in some of the Central American countries and examines the conditions under which non-agricultural activities may help to improve rural employment and income. It is noted that non-agricultural rural employment is heterogeneous and different types of employment arise in response to different dynamics. Although there are potential sources of non-agricultural rural employment which have no connection with agriculture, in the countries analysed it is the characteristics of the agricultural sector which influence most heavily the composition and characteristics of such employment. Agriculture influences both the generation of non-agricultural productive employment and the creation of makeshift alternative jobs, primarily through demand for non-agricultural goods and services and the discharge of surplus labour. Consequently, in order for non-agricultural rural activities to make a significant contribution to rural development it is necessary to adopt an approach which integrates both the agricultural and non-agricultural elements of such development.

# I

## Introduction

Studies on employment in Third World countries generally concentrate on urban employment on the one hand and agricultural employment on the other, ignoring non-agricultural rural employment, which is of increasing importance in many countries. Recently, however, this type of employment has been seen as a low-cost option for solving the labour market problems of such countries, especially in the light of the slackening in the growth rates of productive urban employment since the early 1980s and the limitations which exist for any significant increase in agricultural employment.<sup>1</sup> It has been argued that non-agricultural employment could also be a stabilizing force for peasant agriculture by providing the family unit with income generated outside the farm, combating rural poverty and helping to reduce migration from rural to urban areas.<sup>2</sup>

As in other areas in Africa, Asia and Latin America, the share of non-agricultural rural employment in total employment in Central America has increased in recent decades. According to ILO calculations, the share of non-agricultural rural employment in the total rural labour force of a group of Central American and Caribbean countries rose between 1950 and 1980 from 11.3% to 24.3%, while its share in non-agricultural employment as a whole rose from 15.8% to 20.3% over the same period (ILO, 1983, p. 17).

However, these data –like the expected effects mentioned above– conceal a situation which is very heterogeneous as regards both the dynamics that generate this employment and its characteristics and the income levels it provides.

The two main hypotheses used to explain the expansion in non-agricultural rural employment (NARE) are the following:

i) Non-agricultural rural employment is mainly generated by the demand for non-agricultural rural goods and services: its expansion is therefore determined on the demand side and reflects dynamic growth;

ii) Non-agricultural rural employment is essentially a refuge for surplus labour from the peasant sector: its expansion is therefore determined on the supply side and reflects a further advance of poverty.

Obviously, these two basic hypotheses on the global behaviour of NARE and its underlying dynamics are not mutually exclusive, and it may be assumed that in the Central American countries both tendencies are at work, with their corresponding effects on employment. What is not so clear, however, is the relative weight of each of these factors (and possibly of others too) and the extent to which they serve to explain the global behaviour and composition of non-agricultural rural employment.

□ This article is based on a more extensive study carried out for the then Focal Point for Central America and Panama of the Regional Employment Programme for Latin America and the Caribbean (PREALC) of the International Labour Office (ILO), where the author worked as an associate expert and rural employment consultant (Weller, 1994).

<sup>1</sup> As Singer (1992, p. 112) points out, although there is some room for increasing both food production and employment in agriculture, the potential for absorbing labour by this means is limited. It is therefore generally recognized that much of the necessary expansion in rural employment must be of a non-agricultural nature.

<sup>2</sup> Saith analyses the various reasons for the strong current interest in non-agricultural rural activities, with special reference to the different institutional interests and theoretical contexts (Saith, 1992).

## II

### Non-agricultural rural employment and integrated rural development

The above two hypotheses emphasize the links between NARE and the performance of the agricultural sector. In particular, the relationship posited by the first hypothesis is highlighted by the concept of linkages, which describes the unequal effects of the growth of some sectors on the growth of others, from which the corresponding investment strategies have been deduced.<sup>3</sup> Authors such as Mellor and Hazell, among others, have drawn attention to the dynamic effect of the expansion of agriculture on the markets for non-agricultural rural goods and services, taking into account the demand for goods, services and inputs by the agricultural sector as well as the demand for consumer products generated by higher agricultural income (Mellor, 1976; Haggblade, Hazell and Brown, 1989).

In this sense, agricultural development would lead to integrated rural development.<sup>4</sup> Studies in Asian countries, for example, have found that NARE increases by 1% to 1.5% when agricultural production grows by 1% and that incomes in non-agricultural rural activities rise by US\$ 0.80 for every dollar of additional agricultural income (Hazell, 1987). In Africa, the linkages observed were less marked: each dollar of additional agricultural income generates US\$ 0.50 more non-agricultural rural income (Haggblade, Hazell and Brown, 1989).

Increases in agricultural production and income can have very different effects, however, depending on the types of producers benefitted, the prevailing consumption patterns, the nature of the linkages with urban and rural markets for non-agricultural goods and services, the absolute levels of agricultural income involved, and the distribution of the additional income. Four examples can help to clarify this statement:

i) An increase in agricultural production can intensify its forward and backward linkages (for example, processing and inputs) and increase the demand for the corre-

sponding goods and services; this may make it feasible to produce them locally, but it can also make it cheaper to "import" them from urban areas, thus displacing existing small-scale rural activities (ILO, 1983, p. 38 *et seq.*).

ii) According to Engel's Law, when income increases there is a decline in the proportion of it spent on food and other basic products; the better-off farmers will tend to use the additional income mainly to obtain products which are not of agricultural but rather of urban origin. Consequently, the effects on the rural economy will be quite small when the agricultural expansion is concentrated in the larger production units, as has often happened in bimodal Latin American agriculture.<sup>5</sup>

iii) The expansion of agricultural production will not necessarily coincide with a substantial increase in employment or lead to higher wages that increase the purchasing power of the agricultural labour force, as shown by the experiences of polarized modernization of Central American agriculture since the war (García-Huidobro, Haan, Hintermeister, Klein and Tokman, 1986). There was thus only a limited increase in demand for consumer goods, despite the increased generation of added value.

iv) An increase in the demand for non-agricultural rural goods and services can lead to labour-saving technological changes (mechanization), so that in spite of the dynamic effects of agricultural expansion the effects on NARE would only be small.

In short, it is not possible to deduce the effects of an increase in agricultural production and income on NARE simply from these linkages: while there may generally be a possibility of generating or expanding the production of non-agricultural rural goods and services to replace "imports", there may also be a possibility that such "imports" may increase. The nature and volume of the residual effects will depend on the particular circumstances and cannot be determined in a generalized manner.

<sup>3</sup> The "father" of this concept is Hirschman (see Hirschman, 1961 and 1977).

<sup>4</sup> Understood here as a process which increases rural productivity and income and fulfills basic rural needs better through greater integration of the different rural economic activities with a broad social base.

<sup>5</sup> Saith, 1992, p. 23. The same trend would apply, however –if the level of development is higher– in the case of a generalized increase in agricultural income. Consequently, in such cases it is not so much the production of goods but of services which is in greatest demand (see UNDP/Netherlands Government/ILO/UNIDO, 1988, p. 29). The overall balance could be negative if these "imports" take the place of existing local production.

Another important aspect that should be taken into account when dealing with the strengthening of the linkages between the agricultural sector and the non-agricultural rural goods and services sector is the contribution that integrated regional development can make, through the spontaneous decentralization of secondary and tertiary activities and the appearance of different levels of rural functional centres, ranging from villages to small townships integrated into rural dynamics.<sup>6</sup>

Thus, rural development and regional development, which are two aspects of the effects of the

integration of agricultural and non-agricultural activities in rural areas, are closely interlinked, since the same factors which tend to reduce the effects of agricultural expansion on the production of non-agricultural rural goods and services and the generation of NARE also limit regional integration.<sup>7</sup> In contrast, where there is close integration of both sectors at the local and regional level under favourable framework conditions, the non-agricultural sector can provide positive feedback to the agricultural sector, supplying it with goods and services that increase its productivity and income.

### III

## Measurement of non-agricultural rural employment

The following analysis of non-agricultural rural employment in Central America is based on the information from household surveys of the countries of the region available to the ILO Data Bank on the Labour Market, Income and Poverty (previously the PREALC Focal Point in Panama), which made a special tabulation of these surveys.<sup>8</sup> Many questions on the dynamics of non-agricultural rural employment would have required the collection of additional data, which is beyond the scope of this study. Consequently, the present article will only refer to some issues of importance for the analysis of non-agricultural rural employment and present the information provided by household surveys in this respect. For the comparative analysis, data were available from Costa Rica, Guatemala, Honduras and Panama.

The use of these household survey data conditions some of the basic definitions of the study and thereby creates some methodological problems. Statistical de-

partments generally define urban areas on the basis of their position in the administrative hierarchy, their number of inhabitants, and/or the characteristics of their infrastructure, with the remaining areas being defined as rural. The definitions used in the countries of the region also differ slightly.<sup>9</sup>

The main measurement problem is the need to calculate non-agricultural rural employment on the

<sup>6</sup> "In many countries, small townships and marketing centres are displaying population growth rates much higher than those of larger urban complexes (although these growth rates start from a lower level). These tendencies indicate the spontaneous emergence of "growth poles" which can play an important function in integrated regional development" (ILO, 1983, p. 22).

<sup>7</sup> In a comparative analysis of three rural areas in Costa Rica, it was found that the highest levels of regional integration coincided with a more homogeneous agricultural structure (Altenburg, Hein and Weller, 1990, pp. 209-274).

<sup>8</sup> In view of the situation at the time this study was prepared, this source will be referred to as PREALC-Panama.

<sup>9</sup> The definitions of urban areas used in the different countries are as follows: *Costa Rica*: "... the administrative centres of the various cantons of the country, i.e., all or part of the first district, together with other adjacent areas. These areas were demarcated primarily on the basis of physical and functional criteria, taking account of tangible elements such as blocks, streets, sidewalks, electric light, urban services, etc." (DGEC, 1987). *Guatemala*: "Urban areas comprise all population centres with the category of city, township or village which are municipal administrative centres ..." (INE, 1989). *Honduras*: "... municipal administrative centres ... and other places which, although not municipal centres, are considered as urban areas, such as population centres with 2,000 or more inhabitants which have piped water services, access roads, a full primary school (six grades) and postal or telecommunications service, plus at least one of the following services: electric light, sewerage or a health centre" (Department of Statistics and Censuses, 1990). *Panama*: "localities with 1,500 or more inhabitants which have the following characteristics: electric light, public water supply, sewerage and paved streets. Such localities must also have secondary educational facilities, shops, social and recreational centres and sidewalks. The foregoing characteristics may apply to the entire locality or only part of it" (DEC, 1980). Although the definitions applied do not completely coincide in all the countries, they are quite similar, so that the differences probably do not affect the analysis much. Klein (1996, Annex) gives the corresponding definitions for other Latin American countries.

basis of the than where he works, the employed person lives rather than where he works, because the surveys do not give the latter information. Consequently, as it is not possible to identify people who travel each day from their rural place of residence to an urban workplace, there is a tendency to overestimate non-agricultural rural employment.

On the other hand, as an appreciable proportion of agricultural workers actually live in urban areas (10%

of all agricultural workers in the Central American countries), there may also be workers who travel daily from urban areas to work in non-agricultural rural activities (ILO, 1988, p. 57).

Although these and other measurement problems complicate the study of non-agricultural rural employment,<sup>10</sup> the comparative analysis nevertheless allows important conclusions to be drawn on the characteristics and dynamics of NARE.

## IV

### Volume and characteristics of non-agricultural rural employment in Central America

#### 1. Elements for interpreting the characteristics of non-agricultural rural employment

Table 1 shows that non-agricultural rural employment accounts for a significant share of the labour market in the four countries studied (between one-sixth and a quarter of total employment); the percentage is markedly higher in Costa Rica, but there are no major differences among the others.

The share of NARE in total rural employment is naturally very considerable in countries with a low rate of agricultural employment. In Costa Rica and Panama,

where less than 30% of all workers are employed in agriculture, NARE reaches impressively high rates: 50% and 40% of all rural employment, respectively. Even in Guatemala and Honduras, however, where its level is around 30%, NARE accounts for a substantial proportion of the rural labour market.

NARE's share of non-agricultural employment as a whole is more uniform: it represents between a quarter and one-third. The smallest proportions correspond to Panama and Costa Rica, apparently because of those countries' higher levels of urbanization. In the process of differentiation between agricultural and non-agricultural activities, the latter are marked, in a first phase, by the predominance of activities linked with the agricultural sector and located in rural areas, but in later phases they are increasingly concentrated in activities which have nothing to do with agriculture and are located in urban areas. Consequently, NARE may continue to grow in relation to rural employment, but it stagnates or goes down in relation to non-agricultural employment as a whole.

When NARE is analysed from another standpoint, we see that there are a considerable number of dynamics, not mutually exclusive, which affect labour supply and demand in non-agricultural rural activities.

If we look at the generation of NARE in terms of its linkages with agriculture, which continues to be the

TABLE 1

**Costa Rica, Guatemala, Honduras and Panama:**  
**Size and relative importance of non-agricultural rural employment (NARE), around 1990**  
(Percentages)

	Costa Rica (1989)	Guatemala (1989)	Honduras (1990)	Panama (1989)
NARE (total)	239 372	487 535	258 701	127 583
NARE/total employment	24.3	17.2	17.4	18.6
NARE/rural employment	50.2	28.1	30.8	40.8
NARE/non-agricultural employment	32.9	34.2	30.8	26.4
Agricultural employment/total employment	26.2	49.9	43.3	29.6

Source: PREALC-Panama, data bank based on national surveys carried out and processed by national statistical institutions.

<sup>10</sup> Saith (1992, pp. 13 *et seq.*) and Weller (1994, pp. 21-24) analyse measurement problems and possible alternatives in greater detail.

most important branch of activity in rural areas of Central America, we see that some non-agricultural rural activities, and the demand for labour for them, depend directly on the performance of agriculture, whereas others are relatively or completely independent of the situation of that sector.

With regard to the generation of NARE originating from the non-agricultural rural goods and services market, we see that although the production of such goods and services obviously generates a demand for labour, there are factors external to that market which also influence NARE, either on the side of another type of demand, or on the supply side.

Table 2 shows what may be called five different dynamics of the generation of supply or demand in the non-agricultural rural labour market, marked by different relations with the factors mentioned above.

Dynamic A covers economic activities directly related with agriculture, either through the supply of goods and services that serve as production inputs (transport and trading of inputs, machinery and equipment, credit services, repairs, veterinary services, etc.) or through the processing, marketing and transport of agricultural products. These two types of economic activities represent backward and forward linkages, respectively. The generation of employment as a result of this dynamic is closely dependent on the performance of the agricultural sector, as changes in its demand for non-agricultural rural goods and services are channelled directly by the market to the corresponding activities (Klein, 1992, p. 7).

TABLE 2  
Dynamics affecting  
non-agricultural rural employment

	Dynamics directly linked with agriculture	Dynamics not directly linked with agriculture
Dynamics originating in the market for non-agricultural rural goods and services	A: Linkages with agriculture B: Rural final consumption	D: Non-rural final consumption not linked with agriculture
Dynamics external to the market for non-agricultural rural goods and services	C: Surplus agricultural labour force	E: Public services

Source: Prepared by the author.

Dynamic B generates NARE through the demand created by the rural population's consumption, as regards both the rural production of consumer goods and services and the provision of auxiliary services (transport, retail trade) in connection with the consumption of goods from urban areas. The link with agriculture is due to the preponderance of agriculture in rural areas, so that the generation of NARE through dynamic B is strongly influenced by the performance of agricultural activity. Both dynamic A and dynamic B influence the non-agricultural rural labour market on the side of the demand for non-agricultural rural goods and services.

Like the previous two dynamics, dynamic C also depends on the situation of agriculture, but in this case this sector affects the labour supply for non-agricultural rural activities through the surplus labour from agriculture which migrates to urban areas or seeks non-agricultural employment in rural areas, sometimes without leaving the family unit. It may be assumed that this labour is concentrated in the lowest-quality segment of NARE, which we may call the "refuge sector".<sup>11</sup>

Dynamic D generates demand for labour through activities which have no connection with agriculture, such as "folk" handicrafts, tourism and, more recently, assembly activities transferred to rural areas to take advantage of the wage differential with the cities.<sup>12</sup> In all such activities, the NARE generated depends more on the behaviour of the economy as a whole than on that of the agricultural sector.

Finally, dynamic E has no direct links either with the processes taking place in the non-agricultural rural goods and services markets or with the agricultural sector. The NARE generated by this means is due above all to public services in rural areas (education, health, security, etc.). The consequent expansion of NARE does partly reflect the needs of rural areas, but those needs are not channelled in the form of market demand, so that this expansion depends largely on factors which are not specifically rural (such as the budgetary situation).

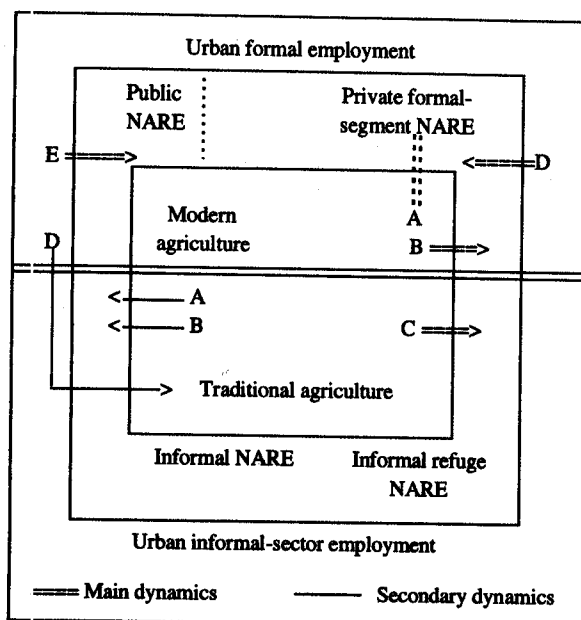
Figure 1 summarizes these dynamics and shows which segments of NARE they affect in a primary or secondary manner.

<sup>11</sup> This does not mean, however, that all the members of agricultural families employed in non-agricultural rural activities are concentrated in this "refuge sector".

<sup>12</sup> Klein (1992, p. 11) gives examples of assembly activities carried out in the workers' homes in Ecuador and Mexico.



FIGURE 1  
Dynamics affecting the volume  
and composition of non-agricultural  
rural employment (NARE)



Source: Prepared by the author.

Obviously, these dynamics are not mutually exclusive as far as the generation and nature of NARE are concerned but affect each other mutually, as may be seen from the following examples:

i) Expansion of NARE through dynamics A, B, C and D gives rise to bigger concentrations of population and hence to greater needs for health, education and other services (dynamic E).

ii) The construction of roads and highways with public funds tends to promote NARE through dynamics A and D, by facilitating access to new markets, but on the other hand—and with growing impact—it increases the competitiveness of “imported” goods (brought in from urban areas or from abroad) and facilitates changes in consumption patterns in the direction of the consumption of urban goods, and this limits the generation of NARE by dynamic B, since it reduces local production of such goods.

All the above-mentioned dynamics tend to increase non-agricultural rural employment, so that it may be assumed that there is a direct relation between their existence and the magnitude of NARE. However, the conditions of the employment they generate (such as income levels and the sex of the workers hired) vary widely depending on which dynamic predominates.

## 2. Non-agricultural rural employment formation dynamics in Central America

In order to analyse the impact of the different dynamics on NARE, we must on the one hand establish indicators which reflect the relative weight of these dynamics (the independent variables) in the different countries and, on the other hand, estimate the segments of NARE (the dependent variables) where the main effects of those dynamics will be felt. If they do in fact decisively affect the volume and composition of NARE, there should be a direct relation between the behaviour of the indicators of the independent variables and that of the dependent variables.

We will first examine the indicators for the independent and for the dependent variables. We will then present the figures corresponding to the indicators for the independent variables in the four countries studied and deduce hypotheses on the composition of NARE in those countries. Finally, these hypotheses will be compared with the data collected in the household surveys.

Dynamics A and B are based on the behaviour of agriculture, both in terms of its production linkages and in terms of the income they generate, which are converted into demand for final consumption goods and services. The weight of the demand generated by these dynamics depends mainly on the average productivity of the agricultural labour force. This largely reflects the incorporation of non-agricultural goods and services (inputs, machinery, transport) and also represents the net income of the economic agents of the sector as a whole, which is partly converted into demand for consumer goods and services.

If we use the average productivity of the agricultural labour force as the main component of an indicator for dynamics A and B, it would be desirable to supplement it, because the volume of demand generated obviously depends not only on productivity (the value added per capita) but also on the total value generated by the agricultural sector, as reflected in its share of GDP.

In order to determine the weight of dynamic C, which is based on the surplus agricultural labour force, we must use the percentage of the agricultural economically active population with employment problems (unemployment, visible underemployment and concealed underemployment). As an indicator of the weight of dynamic D, which reflects the demand for non-agricultural rural goods and services not connected with the agricultural sector, we must use the per capita non-agricultural GDP, while the indicator for

dynamic E, which reflects the effect of public services, will be central government expenditure as a proportion of GDP.

It may be assumed that the different dynamics affect different segments of NARE, in line with the existing linkages. When we go on to construct the indicators for the dependent variables, however, we see that the measurement problems deriving from the characteristics of the data base mentioned earlier are much more serious in this detailed analysis than in an appraisal of the global behaviour of NARE.

It is impossible to establish any links between these dynamics and certain branches of activity at the single-digit level of the International Standard Industrial Classification (ISIC). At the two-digit level, it is possible to identify some activities which are related with agriculture in terms of the processing of agricultural products (agroindustries). Other activities – such as commerce, transport, etc. – are seen to be connected with various dynamics (A, B, C). Construction, for its part, depends partly on the demand generated by these dynamics (especially with regard to building construction) and partly on public expenditure (construction of roads and bridges), that is to say, dynamic E.

Since we do not have any data on the linkages created by dynamics A, B and D of the demand for non-agricultural rural goods and services (input-output table), we will use the formal private segment of NARE (excluding public services) as an indicator of their overall effect on the non-agricultural rural labour market, on the assumption that the activities of this segment are a better reflection of the changes in demand generated by the three dynamics in question. At the same time, we will be obliged to construct a joint indicator for these dynamics, on the basis of the indicators for each of them. This joint indicator consists of a composite index in which agricultural productivity has a weighting of 50%, the relative importance of agriculture (agricultural GDP/total GDP) has a weight of 25%, and the purchasing power generated in non-agricultural sectors (per capita non-agricultural GDP) also has a weight of 25%.

Employment in the industrial and services branches of the traditional segment of NARE serves as an indicator for the effects of dynamic C. The assumption that it is this part of the labour market which best reflects the nature of NARE as a refuge sector is based on observations of the average incomes received in it. In the four countries studied, the traditional services segment registers average incomes below those generated in traditional agriculture. Traditional industry (better described as artisanal activities) generates average

incomes which are in almost all cases around the level of incomes in traditional agriculture (sometimes slightly higher, equal, or slightly below that level). It may be deduced that neither traditional services nor traditional artisanal activities have any attraction for the labour force of traditional agriculture. The low levels of income, especially in services, give grounds for assuming that members of peasant households only engage in such activities if they have no chance of obtaining better incomes in agriculture or other activities, so that these segments represent a refuge option for such persons.

Public employment is the most appropriate indicator for the effects of dynamic E on NARE. Table 3 summarizes the indicators for the independent and dependent variables.

Table 4 shows the indicators for the independent variables of the four countries studied, for the purpose of developing hypotheses on the composition of NARE for those countries, on the basis of the relationships analysed earlier. All the indicators vary greatly from one country to another, but some similarities are to be observed between Costa Rica and Panama, on the one hand, and Guatemala and Honduras on the other.

These data for the indicators of the independent variables of the four countries lead to the following hypotheses:

i) In Costa Rica, NARE is concentrated mainly in the formal private sector, because of high agricultural productivity, the large share of agriculture in GDP, and relatively high average non-agricultural incomes. There is also a significant level of public employment. Agricultural employment problems are less serious in this country, so that the Costa Rican refuge sector is not very large.

ii) In Guatemala, there is a large refuge sector because of the employment problems in agriculture. Public employment is only limited. Although agricultural productivity is low, the considerable weight of the sector can help to increase demand for goods and services produced by the formal private segment.

iii) The situation in Honduras is similar to that of Guatemala, the main difference being in the bigger share of public employment.

iv) In Panama, there must be a bigger share of public employment in NARE. The formal private sector may be assumed to be relatively large because of the levels of agricultural productivity and average non-agricultural income, but the small size of the agricultural sector will limit the volume of the demand for non-agricultural rural goods and services generated by

TABLE 3

**Indicators for measuring the effect of different dynamics  
on the composition of non-agricultural rural employment (NARE)**

Dynamics	Indicators for the independent variables <sup>a</sup>	Indicators for the dependent variables <sup>b</sup>
A, B and D	Index made up of: i) Per capita productivity of agriculture ii) Agricultural GDP/total GDP iii) Per capita non-agricultural GDP	Non-agricultural private formal sector
C	Proportion of persons with employment problems in the agricultural economically active population	Traditional segment of the industrial and services branches
E	Central government expenditure/GDP	Non-agricultural rural public sector

Source: Prepared by the author.

<sup>a</sup> Agricultural or urban non-agricultural dynamics which affect NARE.

<sup>b</sup> Segments of NARE.

TABLE 4

**Costa Rica, Guatemala, Honduras and Panama:  
Indicators for independent variables, around 1990**

Indicators	Costa Rica (1989)	Guatemala (1989)	Honduras (1990)	Panama (1989)
Productivity of agriculture (1980 dollars per person employed)	3 244	1 171	1 048	1 857
Agricultural GDP/total GDP (%)	17.2	22.8	21.3	10.8
Per capita non-agricultural GDP (1980 dollars per capita)	1 168	613	473	1 308
Index made up of the above indicators <sup>a</sup>	100	64	57	72
Proportion of agricultural labour force with employment problems (%) <sup>b</sup>	36.2 <sup>c</sup>	80.8	64.9	37.7 <sup>d</sup>
Central government expenditure/GDP (%)	19.3	13.2	22.1	36.8 <sup>e</sup>

Source: ECLAC, 1992; DEC, 1991; PREALC-Panama data bank.

<sup>a</sup> For the way the composite index was prepared, see section IV.2.

<sup>b</sup> (Unemployed + underemployed) / agricultural economically active population \* 100.

<sup>c</sup> 1990 figure.

<sup>d</sup> This figure is underestimated because of the exclusion of peasants from the underemployment measurements.

<sup>e</sup> Figure refers to 1987. Because of the political and economic crisis which broke out in that year, the budgets for the following years were sharply reduced, without however any mass layoffs of staff in the public sector. Consequently, use of the figures for 1989 (the year to which the employment figures refer) would have distorted the ratio in question.

that sector. The refuge sector may be expected to be smaller than in Guatemala and Honduras.

Table 5 gives data on the shares of the three segments of NARE selected as indicators for the dependent variables.

As suggested by the hypotheses, it is observed that the formal private sector is very large in Costa Rica, public employment is large in Panama, and the refuge sector is large in Guatemala and Honduras. Figures 2,

3 and 4 show the ratios between the indicators of the independent variables and those of the dependent variables. Figure 2 shows the ratio between, on the one hand, the composite index representing the demand for non-agricultural rural goods and services originating in both the agricultural sector (indicated by the productivity of labour in the agricultural sector and the relative weight of that sector in GDP) and in activities not connected with the agricultural sector (indicated

TABLE 5

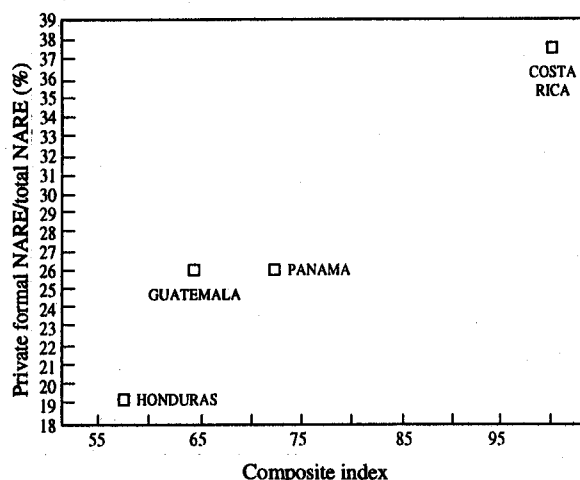
**Costa Rica, Guatemala, Honduras and Panama:**  
**Shares of selected segments in non-agricultural**  
**rural employment, around 1990**  
*(Percentages)*

Segments	Costa Rica (1989)	Guatemala (1989)	Honduras (1990)	Panama (1989)
Private formal segment	37.6	25.9	19.1	26.0
Public segment	17.8	8.4	12.8	26.5
Refuge segment	23.1	35.5	33.6	24.0
Other informal segments	21.5	30.2	34.5	23.5
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Same as table 1.

FIGURE 2

**Costa Rica, Guatemala, Honduras and Panama:**  
**Share of private formal segment in**  
**non-agricultural rural employment (NARE)**



by the per capita non-agricultural GDP), and on the other hand, NARE in the formal private segment. It is clearly visible that in the countries studied, a higher level of the composite index coincides with higher levels of employment in the formal private segment. The stagnation observed in the case of Panama, where the levels of employment do not fully correspond with the high level of the composite index, may be explained by the high levels of urbanization of that country, which, together with Panama's small size and well-developed road system which efficiently links the main rural areas with the metropolitan area, may

FIGURE 3

**Costa Rica, Guatemala, Honduras and Panama:**  
**Share of refuge-type employment in**  
**non-agricultural rural employment (NARE)**

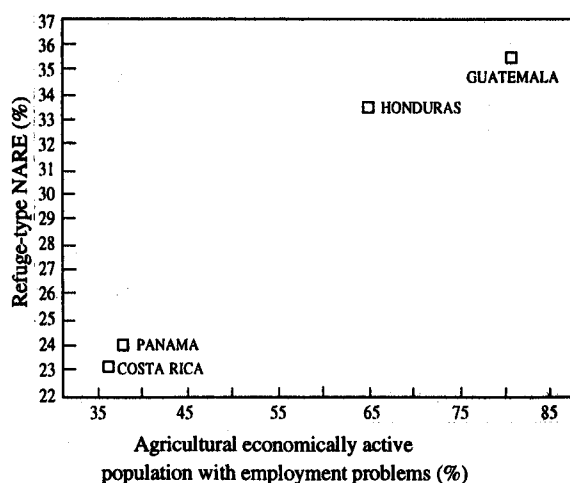
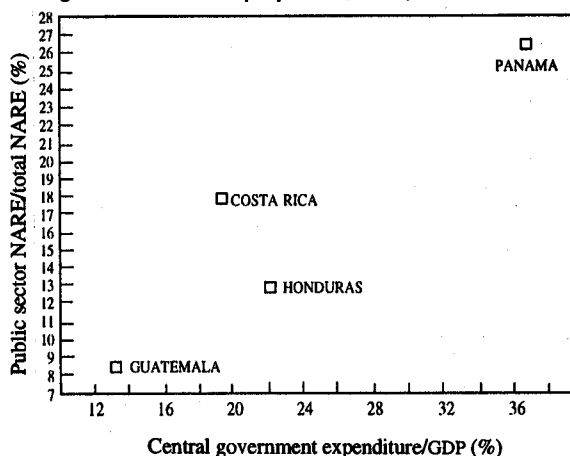


FIGURE 4

**Costa Rica, Guatemala, Honduras and Panama:**  
**Share of public employment in**  
**non-agricultural rural employment (NARE)**



mean that there is too much competition for many rural activities.

Figure 3 shows the ratio between the percentage of the agricultural economically active population who have employment problems and the proportion of NARE in the refuge sector. In this case, the relationship is even clearer: the countries with the fewest agricultural employment problems (Costa Rica and Panama) display a smaller proportion of NARE in the refuge sector, while the countries with bigger problems of this type (Guatemala and Honduras) register high proportions.

A striking feature of figure 4 is that, although this would seem to be the most immediate causal relation, the link between central government expenditure and the proportion of public employment in NARE is not as clear as the other relations, although the trend does indeed seem to coincide with the corresponding hypothesis (figure 4). Public employment has a higher share in Costa Rica and a lower share in Honduras than is suggested by the hypothesis.<sup>13</sup> This deviation is probably explained by the fact that the samples used in the surveys excluded military installations. Because of

the structure of the respective security forces, their share in the total population should be greater in Honduras than in Costa Rica.

It may be concluded that the size and composition of NARE are determined by the relative weight of the different dynamics. NARE's potential for contributing to integrated rural development does not therefore depend solely on growth. In the following sections, we will go into this matter more deeply, analysing the labour income generated in the various segments of NARE and its relation with the agricultural sector.

## V

### Income from non-agricultural rural employment, and rural development

In the previous section, it was suggested that there is a clear relationship between the relative weight of the different dynamics identified and the relative weight of the segments making up NARE. If we analyse NARE's potential for contributing to integrated rural development, we see that dynamics A and B play a leading role. Although other factors may be important for the generation of employment opportunities and income (dynamic D) and also for improving the general conditions for agricultural employment (dynamic E), it is the first two dynamics which, through the integration of production at increasingly high levels of productivity, can help to generate virtuous circles in which supply and demand in rural areas stimulate each other.

In order to gain a better idea of the prospects for integrated rural development of this type, this section will review some of the relations between agricultural and non-agricultural labour income (i.e., dynamic B). This can only be done in an indicative manner, however. On the one hand, not all the labour income of the agricultural sector is paid in rural areas themselves, while on the other hand, only part of the non-agricultural labour income in rural areas comes from the demand for consumer goods and services generated by the labour income of the agricultural sector (dynamic B). Although part of the impact of these other dynam-

ics—that which generates labour income in the public sector (dynamic E)—can be separated out using the available data, this is not possible for the other dynamics. Consequently, the comparison of agricultural and non-agricultural labour income only allows us to establish indicative, not causal, relations.<sup>14</sup>

As a first step, table 6 shows the relative levels of rural labour income, in the formal and informal sectors of agriculture and non-agricultural activities, for three Central American countries. Average agricultural labour income for the respective reference years was US\$ 147 in Costa Rica, US\$ 42 in Honduras, and US\$ 113 in Panama, which is important for our subsequent interpretation.<sup>15</sup> It may be noted from the table that the income levels of the modern segments are noticeably higher than those of the informal or traditional segments, both in the agricultural sector and in non-agricultural activities. A striking feature is the high level of labour income in the modern agricultural sector of Honduras and Panama: higher than average labour income in the modern segment of NARE. In Honduras, this income even exceeded the average labour income for the country as a whole. The reason for this situation is the fact that modern agriculture forms a kind of enclave in both countries: relatively small and with relatively high wages. In Costa Rica, in

<sup>13</sup> The same ratios are obtained if the calculations are based on the expenditure of the non-financial public sector rather than that of the central government.

<sup>14</sup> An exception in this respect will be mentioned later.

<sup>15</sup> The calculations were based on income data from the PREALC-Panama Data Bank and the exchange rates taken from CMCA, 1992. In the case of Panama, only agricultural wages were used.

TABLE 6

**Costa Rica, Honduras and Panama: Index of average rural labour income and income gap, by sector and segment of activity, around 1990**  
(Average national labour income = 100)

	Costa Rica	Hondura	Panama
<i>Index of income</i>			
Agriculture	64.8	65.0	72.0
Modern agriculture	80.2	119.0	93.9
Traditional agriculture	52.4	50.7	29.4
Non-agricultural rural employment (NARE)	87.4	76.8	62.7
Formal NARE	104.9	117.2	83.4
Public sector NARE	120.8	139.9	94.6
Private formal NARE	96.0	101.5	73.1
Informal NARE	63.2	57.9	38.7
Refuge-type NARE	48.4	34.8	28.3
NARE in other informal activities	81.5	80.3	49.8
<i>Average income gap between the modern-formal segment and the traditional-informal segment</i>			
Agriculture	1.53	2.35	3.19
NARE	1.66	2.02	2.16

Source: Same as for table 1.

contrast, the difference between average incomes in the modern and traditional segments of agriculture is much smaller, reflecting a less heterogeneous production structure and a more productive type of peasant agriculture.

The difference in income between formal and informal activities is also marked within NARE, especially the low level of income in refuge-sector activities. The difference between average incomes in the informal and formal segments of agriculture and non-agricultural activities is quite uniform in all the countries,<sup>16</sup> which would appear to indicate a structural relationship. The segmentation of agricultural employment would appear to be reproduced in NARE, linking together the higher-income (formal) segments and likewise the lower-income (informal) segments. This would obviously militate against the possibility of generating NARE with satisfactory income levels as an alternative for surplus peasant-sector labour and against the possibility that non-agricultural activities could stimulate the agricultural sector.

<sup>16</sup> This difference is greater in Panama, which is probably attributable to the exclusion of own-account agricultural producers from the measurements.

TABLE 7

**Costa Rica, Honduras and Panama: Composition of rural labour income, <sup>a</sup> around 1990**  
(Percentages)

	Costa Rica	Hondura	Panama
Modern agriculture	19.8	19.9	14.2
Traditional agriculture	21.3	41.7	24.8
Subtotal agriculture	41.0	61.6	39.0
Public service	14.7	8.9	23.8
Non-agricultural private sector	44.3	29.4	37.2
Formal sector	25.1	9.7	20.4
Informal sector	19.2	19.7	16.8
Subtotal non-agricultural	59.0	38.4	61.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Same as for table 1.

<sup>a</sup> Rural income was calculated by multiplying the average incomes of the different subsegments by the numbers of persons employed in them, with the average incomes of the corresponding subsegments being imputed to those persons whose incomes were not known. As unpaid family workers are included in the calculation of average income in Costa Rica and Honduras, the corresponding average was imputed to them in the case of both countries. In the case of such persons in Panama, the average income of agricultural wage-earners in the subsegments corresponding to own-account workers was imputed to them.

Table 7 shows the composition of overall rural labour income, by main employment segment of the workers in question. NARE has great relative weight in rural labour income in Costa Rica and Panama, with public sector employment accounting for a larger share in Panama and private sector employment (both formal and informal) having greater weight in Costa Rica. In spite of the high average income levels in the modern sector (see table 6), almost two-thirds of agricultural income in Panama is concentrated in the traditional sector, whereas in Costa Rica the relative weight of the two sectors is very even. In contrast, almost two-thirds of rural income in Honduras is generated in the agricultural sector, with the traditional sector predominating despite the big difference between the average income levels of the two sectors. In non-agricultural activities, income from the informal sector predominates, while the public sector and the formal private sector account for only limited proportions of the total.

The results of table 7, which are summarized in table 8 below for analytical purposes, show that the ratio between the volumes of agricultural and non-agricultural labour income is much greater in Costa

Rica and Panama than in Honduras. How should we interpret this fact?

Let us assume that there is integration in terms of production among the formal modern segments and among the informal/traditional segments of agriculture and non-agricultural activities, as already shown in figure 1. Thus, the demand arising from modern agriculture in line with dynamics A and B generates labour income in non-agricultural rural activities in the formal segment, while that arising from the peasant sector mainly generates income in informal activities. On the basis of this assumption, we can compare the generation of non-agricultural labour income at the level of the different segments.

In analysing the ratio of agricultural sector income to income in the formal segment of non-agricultural activities, however, we should exclude the public service from the latter, because its behaviour is due to causes unconnected with changes in the rural economic situation (dynamic E). Because of the relative weight of the public sector in the composition of rural income (see table 7), this leads to a reduction in that ratio, especially in Panama.

Even so, in Costa Rica and Panama the ratio of this income is much higher in the case of the modern private sector than in that of the traditional informal sector. This may be due to the size of the demand for non-agricultural rural goods and services that arises in non-rural areas (urban areas, or abroad), as suggested by dynamic D. On the other hand, however, this may be due to the measurement problem mentioned earlier: a certain percentage of the population registered as rural may in fact work in urban areas.<sup>17</sup> Because of the considerable number of dynamics that affect formal NARE and the generation of income which is not measured by the surveys (capital income) in the formal modern sector, it is not possible to calculate the effects of the linkages between agriculture and non-agricultural activities in the modern subsegments.

At least in Costa Rica, where there is a more homogeneous structure of agricultural income (see table 6), however, it may be assumed that in reality a large proportion of this income generates demand for

non-agricultural goods and services, and hence NARE. In contrast, the very low ratio of non-agricultural to agricultural income in Honduras suggests that the highly polarized structure of agricultural income could limit the generation of NARE in the formal private subsegment, because it may be that the relatively high income generated in modern agriculture largely generates demand for urban or imported goods and services.

The ratio of non-agricultural to agricultural rural labour income in the traditional informal sector is considerably higher in Costa Rica than in Panama and, especially, Honduras. This may be explained by the greater homogeneity of agricultural income and the higher income levels in traditional agriculture in Costa Rica, which give rise to greater demand for non-agricultural rural goods and services. In contrast, the high degree of polarization of agricultural income in Honduras and Panama, with very low absolute and relative levels in the traditional segment, generates little purchasing power for the workers in that segment, which moreover, according to Engel's Law, would be directed mainly to the agricultural sector itself. Likewise, Mellor found that in India an increase in the income of the poorest peasant units was used mainly to buy foodstuffs, thus generating little additional employment in non-agricultural activities (Mellor, 1976, pp. 164 *et seq.*); only the middle- and higher-level groups spent a substantial part of the increased income on non-agricultural products (although Mellor did not distinguish between the geographical destinations of that demand). To sum up, there is only limited generation of income in non-agricultural informal activities that mainly depend on such demand in a situation of marked heterogeneity and low income in traditional agriculture.

Table 8 shows the effects of the linkages between the traditional agricultural sector and the informal segment of NARE. These effects are so because, firstly, in traditional informal segments labour income is practically identical to total net income,<sup>18</sup> and secondly, it is assumed that the balance of the demand for non-agricultural goods and services from the informal segment comes entirely from tradi-

<sup>17</sup> This problem could be more serious in Panama, where nine years passed between the cartographical definition of urban and rural areas and the date of the survey which was used; the corresponding period was five years in Costa Rica and three years in Honduras.

<sup>18</sup> Capital income is only minimal, because of the preponderance of microenterprises and own-account activities.

TABLE 8

**Costa Rica, Honduras and Panama:**  
Ratio of total labour income in  
non-agricultural rural activities to total  
labour income in agriculture, around 1990

	Costa Rica	Hondura	Panama
Total <sup>a</sup>	1.44	0.62	1.56
Total private sector <sup>b</sup>	1.08	0.48	0.95
Modern private sector <sup>c</sup>	1.27	0.49	1.44
Traditional rural sector <sup>d</sup>	0.91	0.47	0.68

Source: Table 7.

<sup>a</sup> Total labour income in NARE/total labour income in agriculture.

<sup>b</sup> Total labour income in the private sector of NARE/total labour income in the private sector of agriculture.

<sup>c</sup> Total labour income of the formal private sector of NARE/total labour income of the modern private segment of agriculture.

<sup>d</sup> Total labour income of the informal segment of NARE/total labour income of the traditional segment of agriculture.

tional agriculture.<sup>19</sup> Thus, for each monetary unit generated in traditional agriculture, the income of informal NARE increases by 0.47 (Honduras), 0.68 (Panama) and 0.91 (Costa Rica). These figures are very similar to those for some countries in Asia (0.80) and Africa (0.50). The differences –both between the three Central American countries studied and between the Asian and African cases– indicate that the linkages increase as income rises in traditional agriculture and there is an increasing degree of replacement of home-produced non-agricultural goods for domestic consumption.

The information presented on the relations governing the demand for non-agricultural rural goods and services generated by increased agricultural income therefore confirms the results of the previous section:

i) In Costa Rica, the agricultural sector plays a very important role in the generation of NARE.

ii) In Honduras, in spite of its large total volume agricultural income generates only a limited demand for NARE.

iii) In Panama, non-rural factors (dynamics D and E) have greater relative weight.

It may be concluded that there is a circular causality which permits but also limits the effects of NARE on the improvement of rural income. NARE depends to a large extent on agricultural income and agricultural demand for non-agricultural rural goods and services. The expansion of NARE as an income option in rural areas is therefore closely linked to increases in agricultural productivity and income, especially in traditional agriculture, and hence ultimately to a reduction in the heterogeneity of agriculture. Unless there is a growing demand for non-agricultural rural goods and services by agriculture, the rural labour market for non-agricultural activities becomes saturated and income in the informal segment sinks to very low levels.

If, on the other hand, relatively homogeneous expansion of agriculture stimulates demand for those goods and services, this gives rise to better-paid employment opportunities and this in turn leads to better agricultural wages.<sup>20</sup>

NARE can therefore make an important contribution to integrated rural development and help to overcome rural poverty. The promotion of NARE must be closely linked with agricultural development, however. Otherwise, the high degree of heterogeneity of the agricultural sector is reproduced in NARE too, with relatively high incomes in a small pole of formal activities (both private and public) and a large informal segment with low incomes and high poverty indexes.

<sup>19</sup> It is therefore assumed that the income of traditional agriculture which generates demand for agricultural goods and the income of informal NARE which generates demand for non-agricultural goods and services cancel each other out. Moreover, as noted in the previous section, the demand for these goods and services generated by dynamic D is felt in the formal sector of NARE.

<sup>20</sup> This relationship between opportunities for NARE and better wages in agriculture has also been observed in Asia (see Ray, 1987).



## VI

### Conclusion, and the future outlook

This article has tried to analyse the potential of non-agricultural rural activities for generating employment and furthering integrated rural development strategies in some Central American countries. An attempt has therefore been made to differentiate empirically between the effects of the various dynamics that affect the size and composition of NARE.

It was observed that the relative weight of segments that generate employment of higher or lower quality depends on factors external to NARE, most especially the performance of the agricultural sector. Thus, in all the countries there are segments of NARE which are in a mutually favourable relationship with dynamic sectors of agriculture (i.e., virtuous circles), together with segments characterized by the reproduction of the poverty affecting broad strata of the peasant sector.

Differences were observed between the countries which further emphasize these results. Thus, a relatively homogeneous agricultural sector, with a smaller income gap between the modern and traditional sectors, generates greater purchasing power (especially in the peasant sector) which stimulates the production of non-agricultural goods and services in rural areas. In contrast, where there is still a large peasant sector with very low absolute and relative income levels, the demand for this type of goods and services remains low, and the incomes generated in NARE are further depressed by the increased supply of labour coming precisely from the peasant sector.

The recent behaviour of NARE in two countries of the region (Costa Rica and Panama) shows how important the performance of the dynamics analysed in this study is (Weller, 1994, pp. 170 *et seq.*). In both these countries, during phases of severe economic crisis, stabilization and recovery between the early 1930s and the 1990s, NARE increased its contribution to rural employment and became more informal, while the formal sector (both private and public) lost relative weight.

Since the late 1980s, all the Central American countries have pursued structural adjustment policies. The future behaviour of NARE will depend on the way these policies affect the different dynamics important

to NARE, which is not at all clear. By way of hypothesis, however, the following points may be made:<sup>21</sup>

i) The adjustment policies tend to promote export agriculture and –in the Central American context– to increase the heterogeneity of the agricultural sector. It may therefore be expected that modern agriculture will generate more demand for non-agricultural rural consumer goods and services (dynamic B), but the expansion of such export activities usually generates few local linkages (dynamic A).

ii) In the absence of a policy designed to improve the supply conditions of the peasant sector, this sector will be in danger of losing its former opportunities without being able to take advantage of the new ones. This would reduce the generation of demand for non-agricultural rural goods and services connected with agricultural production (dynamic A) and with consumption (dynamic B) and would increase the pressure on the labour supply side (dynamic C) because of the accessible options (rural-urban migration).

iii) Policies of greater openness, favoured by peace processes, can give rise to new sources of employment which are independent of the agricultural sector (dynamic D), such as tourism and assembly (maquila) activities.

iv) Policies designed to contain public expenditure tend to limit the growth of public employment (dynamic E). If specially targetted policies are applied, however, rural areas might be less affected, because of their big deficits in terms of social and physical infrastructure.

The conclusion of this article is that policies to promote NARE should be aimed mainly at increasing the demand for non-agricultural rural goods and services, especially from agriculture and above all from the peasant sector, in order to strengthen dynamics A and B. Without this stimulus, programmes designed to improve

<sup>21</sup> For a more detailed discussion of these aspects, see Weller, 1994, pp. 157-163.

supply (through credit facilities, technology transfer, marketing, etc.) run the risk of failing because of the absence of substantial unsatisfied local demand. The prevailing macroeconomic policies, however, although intended to promote agricultural development

as a matter of priority, tend to repress such demand, especially from the peasant sector, when they do not take account of the prevailing heterogeneity of Central American agriculture.

(Original: Spanish)

### Bibliography

- Altenburg, T., W. Hein and J. Weller (1990): *El desafío económico de Costa Rica. Desarrollo agroindustrial autocentrado como alternativa*, San José, Departamento Económico de Investigaciones (DEI).
- CMCA (Consejo Monetario Centroamericano) (1992): *Boletín estadístico*, San José.
- DEC (Dirección de Estadística y Censo) (1980): *Censos nacionales de 1980. Octavo censo de población, cuarto censo de vivienda*, vol. IV, Características Económicas, Panama City.
- (1991): *Panamá en cifras. Años 1980-1990*, Panama City.
- DGEC (Dirección General de Estadística y Censos) (1987): *Censo de población 1984*, San José.
- Dirección General de Estadística y Censos (1990): *Censo nacional de población 1988*, Tegucigalpa.
- ECLAC (Economic Commission for Latin America and the Caribbean) (1992): *Statistical Yearbook for Latin America and the Caribbean 1991*, LC/G.1698-P, Santiago, Chile.
- García-Huidobro, G., H. Haan, A. Hintermeister, E. Klein and V. E. Tokman (1986): *Cambio y polarización ocupacional en Centroamérica*, Geneva, International Labour Organisation/Regional Employment Programme for Latin America and the Caribbean (ILO/PREALC).
- Haggblade, S., P. Hazell and J. Brown (1989): Farm-non farm linkages in rural sub-Saharan Africa, *World Development*, vol. 17, No. 8, Oxford, U. K., Pergamon.
- Hazell, P. (1987): Economic policy for diversification, in T. J. Davis and I. A. Schirmer (eds.), *Sustainability Issues in Agricultural Development*, Proceedings of the Seventh Agricultural Sector Symposium, Washington, D. C., World Bank.
- Hirschman, A. O. (1961): *La estrategia del desarrollo económico*, Mexico City, Fondo de Cultura Económica (FCE).
- (1977): A generalized linkage approach to development, with special reference to staples, in *Essays on Economic Development and Cultural Change, in Honor of Bert F. Hoselitz*, vol. 25, Chicago, Illinois.
- ILO (International Labour Organisation) (1983): *Promoción del empleo y los ingresos entre la población rural pobre, incluidas las mujeres, mediante actividades no agrícolas*, Tenth Meeting of the Advisory Commission on Rural Development, Geneva.
- (1988): *Rural Employment Promotion*, International Labour Conference, 75th Session, Report VII, Geneva.
- INE (Instituto Nacional de Estadística) (1989): *Encuesta nacional sociodemográfica*, Guatemala City.
- Klein, E. (1992): *El empleo rural no agrícola en América Latina*, Documentos de trabajo, No. 364, Santiago, Chile, PREALC, August.
- Mellor, J. (1976): *The New Economics of Growth*, London, Cornell University Press.
- Ray, S. (1987): *Returns to Rural Labour in Asia*, Working Papers, Rural Employment Policy Research Programme, World Employment Programme Research, Geneva, ILO.
- Saith, A. (1992): *The Rural Non-Farm Economy: Processes and Policies*, Geneva, ILO.
- Singer, H. (1992): *Research of the World Employment Programme: Future Priorities and Selective Assessment*, Geneva, ILO.
- UNDP (United Nations Development Programme)/Government of the Netherlands/ILO/UNIDO (United Nations Industrial Development Organization) (1988): *Lessons from experience, Development of Rural Small Industrial Enterprise*, Vienna.
- Weller, J. (1994): *El empleo rural no agropecuario en el Istmo Centroamericano*, Panama City, ILO.