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**Wage labour instead of agriculture? The role of non-agricultural income for small-scale farms. Examples from Western Guatemala**

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**Abstract**

During the last years non-agricultural employment has gained importance for rural regions of many developing countries. Nowadays, in Guatemala's Western highlands agriculture is no longer the main source of income for many smallholders. The increase in population density, the decline in agricultural area per capita and the degradation of soil resources by inappropriate land use systems have resulted in wage labour and self-employment as well as financial remittances becoming major sources of income for small-scale farms. Apart from the access to land it is the type of farming system and, in particular, the ethnic identity of the smallholder which determine the composition of the non-agricultural income (NAI). In semi-permanent cultivation systems NAI mainly originates from local day-labour whereas systems with perennial crops obtain most of their NAI from migratory work. In contrast to *ladino* farmers who are almost totally dependent on low-paid work in local trade and services, the majority of Indian peasants earn their NAI from seasonal migration to both the Pacific lowlands, the United States or Mexico and from manifold self-employed work in arts and handicraft. Implications for poverty alleviation and for the agrarian policy of the Guatemalan government are discussed.

**1. Introduction**

Many peasants in the developing world are no longer able to subsist exclusively on agriculture. Over the past decades, the increase in population density in rural areas, the decline in agricultural area per capita, the degradation of soil resources by inappropriate land use systems, or the impacts of structural adjustment and trade liberalization have forced more and more smallholders to diversify their economic basis (Ellis 1998). Nonagricultural employment (NAE)<sup>1</sup> has in consequence gained great importance for

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In this article, non-agricultural employment includes both self-employment and wage-earning employment. The definition of "non-agricultural" covers all off-farm activities in the different economic sectors like self-employment in manufacturing and services or wage labour in trade and agriculture.

small-scale farms: Recent studies in Central America indicate that income from NAE represents between 16 and 77% of the total farm household income (de Janvry and Sadoulet 2001, Ruben and van den Berg 2001).

The factors determining the access to NAE and nonagricultural income (NAI)<sup>2</sup> are well-known from a series of regional investigations: It is mostly the poorest agricultural regions with low levels of infrastructure and the poorest rural households with insufficient resource endowment which depend to a high degree on nonagricultural sources of income (Corral and Reardon 2001, Lanjouw and Lanjouw 1995). Most available studies confirm that land scarcity is a major driving force for participating in NAE as data reveal an inverse relationship between size of land owned and the share of NAI (Adams and He 1995, Corral and Reardon 2001, Leones and Feldman 1998). The educational level is another powerful determinant: Better education sharply increases NAI from self- and wage employment (de Janvry and Sadoulet 2001, Reardon, Berdegue and Escobar 2001). Furthermore, ethnicity plays an important role in off-farm activities. Indigenous populations, usually handicapped by an educational lag, are disfavoured in accessing the more remunerative types of NAE (Weller 1997). Given these facts and in consideration both of household size and age and gender of the household members, typical regional patterns of the composition of NAI of small-scale farms can be identified.

However, there are only few detailed studies of the NAI of different farming systems within a single region. This paper explores two questions using data from Guatemala's Western highlands: (a) What is the pattern of income composition of typical smallholder farming systems? and (b) What are the effects of NAI on poverty alleviation for smallholders? Concluding remarks on political implications for the Guatemalan agrarian policy complete this article.

## **2. Data and sample characteristics**

The study is based on a regional survey of smallholder agriculture in the Guatemalan *departamento* of Huehuetenango conducted in 1995 and 1996. The investigation was sponsored by the UNDP rural development project "Los Cuchumatanes" and assisted by the Institute of Geography of the University of Hamburg.

The study area is part of the Guatemalan highlands which are characterized by *minifundio* agriculture and by severe land use constraints like steep slopes or low yielding soils extremely prone to erosion (Sandoval 1994). Huehuetenango's population is mainly indigenous: 66% of the total population are of Maya descent (Instituto Nacional de Estadística 1995).

The sample comprises income and agricultural production data of 978 households and includes cash as well as in-kind payments. All enterprise output is valued at local producer's prices of December 1996.

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Nonagricultural income refers to any source of income generated through off-farm activities. It includes agricultural income that is earned away from the family farm as well as financial remittances received from household members who live and work abroad.

Table 1 shows rural household characteristics and main agricultural features of selected farming systems, derived from the sample data and subdivided by ethnic groups.

**Table 1** Characteristics of rural households and farming systems, Huehuetenango 1995/6

	Farming systems							
	Semi-permanent cultivation		Permanent rain-fed farming		Irrigation farming		Perennial crops	
	Ladino	Indigenous	Ladino	Indigenous	Ladino	Indigenous	Ladino	Indigenous
<i>Number of households</i>	32	56	196	428	21	35	76	30
Household size (persons)	7,1	6,3	6,6	6,4	7,4	7,4	6,6	7,1
Age of household head	40,5	44,7	42,4	40,6	45,8	43,6	42,0	47,3
Years of education of household head	2,3	1,8	2,1	2,2	2,5	2,0	2,3	1,7
<i>Farm size</i>								
Total area (ha)	3,3	2,1	2,2	1,2	3,6	1,8	1,6	1,3
Agricultural area (ha)	2,6	1,7	1,5	0,9	2,9	1,2	1,4	1,2
In % of total area	76,6	82,1	71,6	77,8	80,2	65,5	90,5	90,9
<i>Agricultural production</i>								
Gross agricultural output (qtzls.)	2399	2430	3351	2823	10779	5349	6653	5107
Gross output/agricultural area (qtzls./ha)	935	1391	2172	3057	3780	4507	4686	4179
Degree of commercialization (% of output sold)	4,2	7,4	27,2	17,9	46,1	40,0	73,6	68,1

All data are mean values. 1 US \$ = 6,56 qtzls. (Jan. 1997).

While there are only few differences in household characteristics, the distinctions between *ladino*<sup>3</sup> and indigenous farming systems are obvious. *Ladino* farms mostly exceed the indigenous holdings in farm size and gross agricultural output. Except for systems with perennial crops this results in a more intensive use of resources by indigenous smallholders as can be seen from the significantly higher values for gross agricultural output per land unit. Apart from semi-permanent cultivation systems with generally only a very small amount of their production commercialized, indigenous households use a greater share of their agricultural production for own consumption compared to *ladino* farmers.

### 3. Patterns in nonfarm earnings

A first examination of the income data indicates that agriculture is no longer the main source of income for many small-scale farms (Table 2). It is especially the farming systems with a low intensity of production and the indigenous households which obtain a major part of their total income from wage labour, self-employment and financial remittances. In particular, semi-permanent cultivation systems and permanent rain-fed farming systems depend on NAI: Up to 68,9% of their total household income originates from NAE and

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The term *ladino* usually does not only refer to all non-indigenous people but also includes those indigenous persons who have adopted a more “Western” life style (Rosada Granados 1987). To avoid any problems with ethnic “classifications”, in this study everyone is considered indigenous who assesses himself to belong to the Maya population.

transfers. The share of nonfarm in total income is generally higher in indigenous households: For example irrigation farming systems managed by Maya peasants draw almost 50% from NAI in contrast to only 25,7% in their *ladino* counterparts.

**Table 2** Composition of household income of different farming systems, Huehuetenango 1995/6

	Farming systems							
	Semi-permanent cultivation		Permanent rain-fed farming		Irrigation farming		Perennial crops	
	Ladino	Indigenous	Ladino	Indigenous	Ladino	Indigenous	Ladino	Indigenous
<i>Number of households</i>	32	56	196	428	21	35	76	30
<b>Total income (qtzls.)</b>	<b>6291</b>	<b>7833</b>	<b>6352</b>	<b>9017</b>	<b>14499</b>	<b>10441</b>	<b>9862</b>	<b>8354</b>
	[3808]	[6143]	[6371]	[10086]	[14864]	[6183]	[8519]	[4355]
Agricultural income	2399	2430	3351	2820	10779	5349	6653	5107
	[1904]	[1704]	[3843]	[3657]	[12168]	[3584]	[7649]	[3839]
<b>Non-agricultural income [NAI] (qtzls.)</b>	<b>3892</b>	<b>5403</b>	<b>3001</b>	<b>6197</b>	<b>3719</b>	<b>5092</b>	<b>3210</b>	<b>3247</b>
	[3534]	[5822]	[5198]	[9455]	[4405]	[5718]	[4754]	[2241]
NAI (% of total income)	61,9	68,9	47,2	68,7	25,7	48,8	32,6	38,9
<i>Composition of NAI</i>								
Agricultural wage labour (% of NAI.)	38,0	29,7	49,3	55,9	34,7	42,6	53,3	69,9
Non-agricultural wage labour(% of NAI)	25,8	5,9	21,1	3,3	15,4	12,2	16,9	14,4
Self-employment (% of NAI)	29,4	47,2	25,8	26,8	42,3	18,7	24,7	10,1
Remittances (% of NAI.)	6,8	17,2	3,9	14,0	7,7	26,5	5,0	5,5
Total income/capita	886	1243	962	1409	1959	1411	1494	1177
	[990]	[1170]	[918]	[1498]	[1461]	[1014]	[1105]	[604]

All data are mean annual values, standard deviations in parentheses. 1 US \$ = 6,56 qtzls. (Jan. 1997)

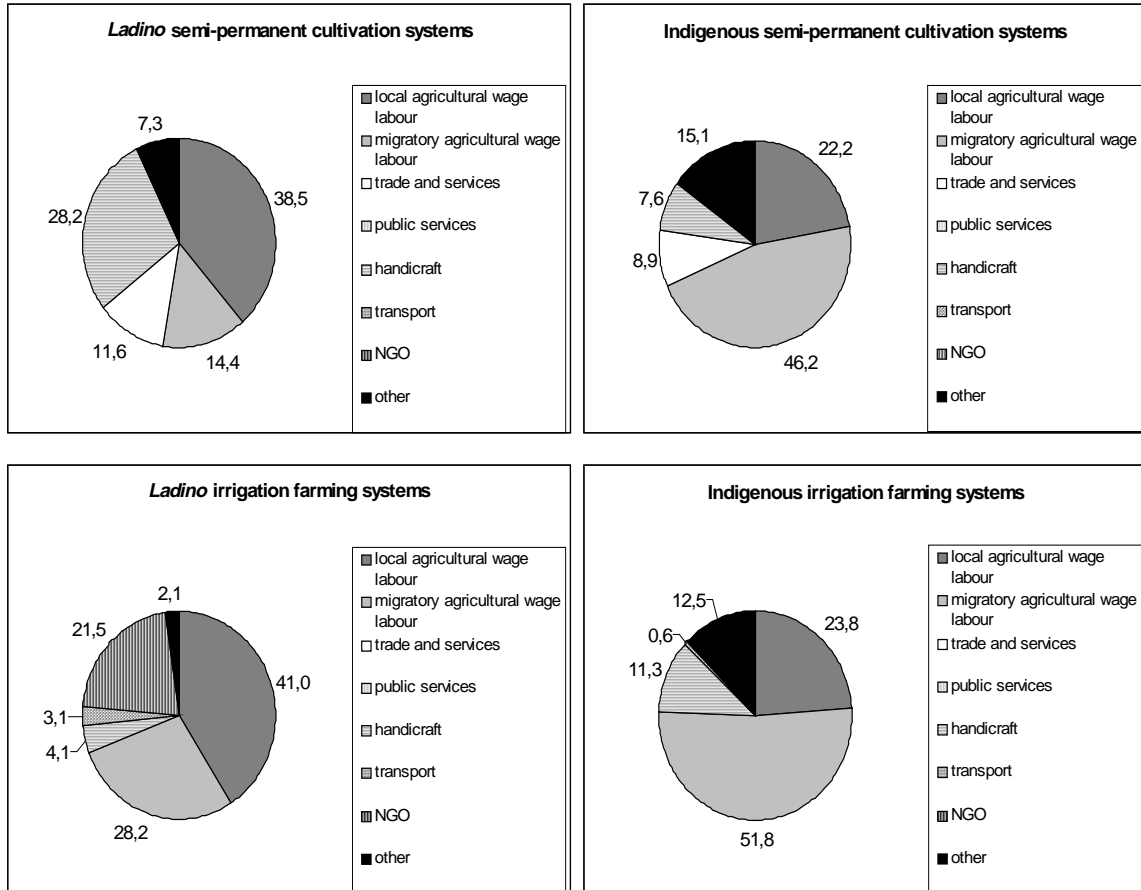
The share of NAI decreases at an inverse ratio to the degree of commercialization: Highly commercialized systems with perennial crops earn less than 40% of their total income from NAE and remittances opposite to more than 60% in semi-permanent cultivation systems with a very low degree of commercialization.

The composition of the NAI also varies by type of farming system and by the ethnic identity of the individual farmer. Agricultural wage labour is more important for permanent rain-fed farming systems and systems with perennial crops than for semi-permanent cultivation systems or irrigation farming systems. Indigenous peasants receive definitely more income from financial remittances than do *ladino* farmers.

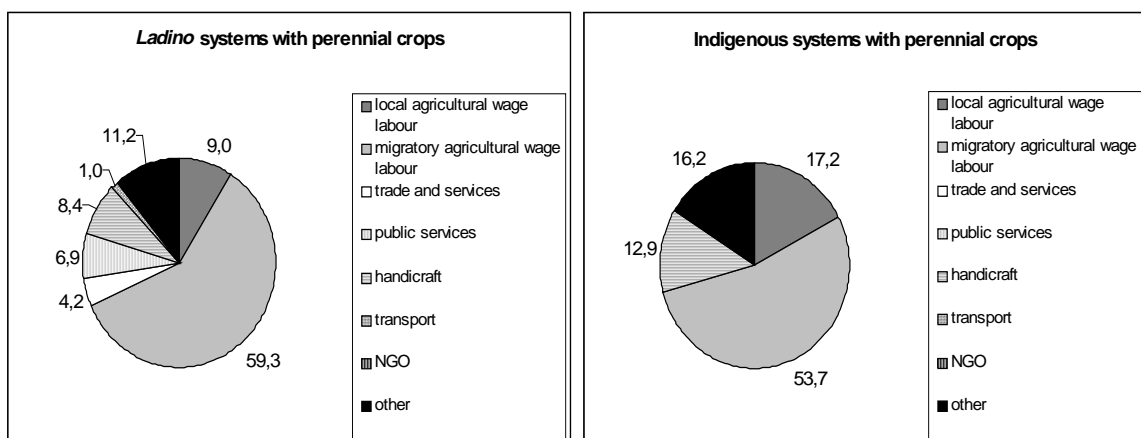
Considering the different types of NAE, typical patterns can be observed. Fig. 1 shows the composition of income from wage labour of different farming systems and ethnic groups. The major part of income from wage labour in *ladino* households as well as in indigenous ones stems from day-labour in agriculture. The kind of activities is different however: *Ladino* peasants obtain their income mainly from local work on plantations and *haciendas* whereas indigenous farmers rely upon seasonal migration to both the Pacific lowlands, the United States and Mexico. Besides, *ladino* smallholders seem to have a better access to local off-farm employment in handicraft, trade and services or NGO. Due to labour

organization, only in systems with perennial crops both indigenous and *ladino* farmers depend mainly on migratory work (Fig. 2).

**Figure1** Semi-permanent cultivation systems and irrigation farming systems: Composition of income from wage labour, Huehuetenango 1995/6

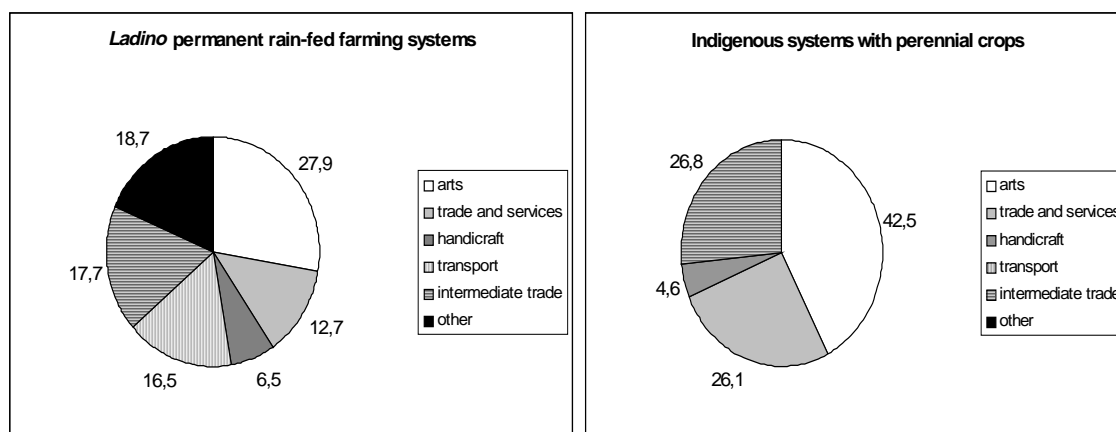


**Figure 2** Systems with perennial crops: Composition of income from wage labour, Huehuetenango 1995/6



A look on the composition of income from self-employment shows similar results: Fig. 3 depicts typical activities of different farming systems.

**Figure 3** Permanent rain-fed farming systems and systems with perennial crops:  
Composition of income from self-employment, Huehuetenango 1995/6



*Ladino* peasants are engaged in a broad variety of different occupations compared to their indigenous neighbours. While Indian smallholders restrict self-employment to (although manifold) activities in arts, handicraft or trade, ladino farmers generate income from arts and handicraft as well as from transport, trade and services or other activities like credit business. In ladino farming systems the importance of self-employment remains constant as the degree of commercialization raises - a remarkable aspect because it is the other way round in indigenous holdings.

In conclusion, it can be stated that, apart from the access to land, it is the type of farming system and, in particular, the ethnic identity of the smallholder which decisively influence the composition of NAI in the Western Guatemalan highlands. *Ladino* farmers who are on an average better endowed with agricultural resources also seem to have a more favourable access to local sources of income while Indian peasants strongly depend on wage labour or self-employment outside the “formal” local economy.

#### 4. Effects on poverty alleviation and political implications

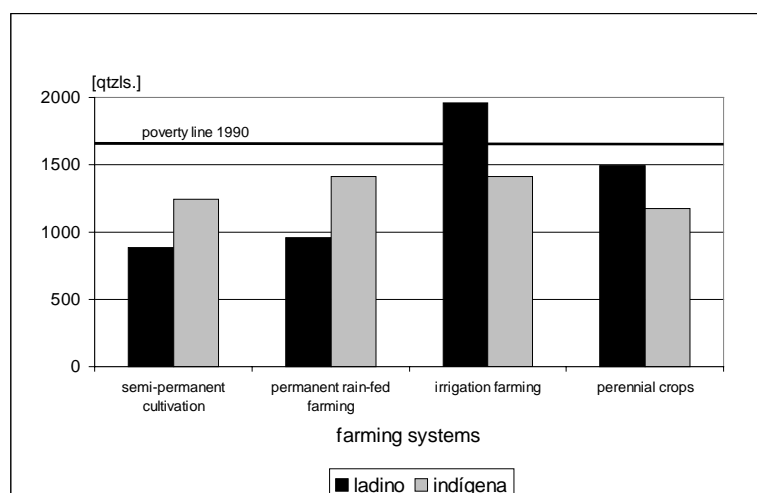
NAE is generally appreciated for its positive contribution to poverty alleviation in rural regions of developing countries as many smallholders succeed in overcoming poverty by off-farm employment (Araghi 1995, Bryceson 2000). In Western Guatemala this is not the case: A comparison between the 1990 Guatemalan poverty line<sup>4</sup> of 1680 qtzls. and the average annual per capita income in different farming systems reveals that, despite their engagement in NAE, most of the investigated small-scale farmers in Huehuetenango do not escape from poverty. Except for *ladino* irrigation systems, all the different types of farming systems obtain a mean per capita income well below the critical value (Fig.4).

Commercialization of farming seems to be only in part responsible for poverty alleviation. This holds true especially for the indigenous population as the more commercialized farming systems differ only slightly from subsistence-oriented systems in mean total per capita income.

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The poverty line is calculated from the annual costs of those goods that are absolutely necessary for satisfying basis needs per capita. All reliable data at hand for Guatemala are based on the national survey of poverty 1989/90 (INE 1991).

**Figure 4** Total income per capita in different farming systems, Huehuetenango 1995/6



Tab. 3 underlines this impression: Just every third holding with irrigation farming could generate a mean income above the poverty line - and this only with the help of NAE and remittances.

**Table 3** Share of holdings with an total income per capita above the poverty index, Huehuetenango 1995/6

Semi-permanent cultivation systems		Permanent rain-fed farming systems		Irrigation farming systems		Systems with perennial crops	
Ladino	Indigenous	Ladino	Indigenous	Ladino	Indigenous	Ladino	Indigenous
18,8%	26,8%	18,4%	26,2%	33,3%	34,3%	26,3%	26,7%

So neither agriculture nor NAE can actually contribute to a general improvement in household income for small-scale agriculture. It is only the *ladino* population with sufficient agricultural land and access to the more lucrative professions that can gain enough from NAI as to overcome poverty conditions.

Despite its re-orientation towards small-scale agriculture, the agrarian policy of the Guatemalan government actually does not take these facts into account. Rural development planning still aims at the expansion of non-traditional export crops and the commercialization of smallholder agriculture, without considering the important role of NAI for the total income of peasants households (MAGA 1995). A fundamental change in the national agrarian policy is required: Even though NAE is far from being a panacea to the problems of rural regions in general and smallholder agriculture in particular, a new policy mix which both increases the access of the poor, mostly indigenous population to agricultural resources and which promotes NAE within the region to make efficient use of the poor's most abundant asset, i.e. labour, is overdue.

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