



Income diversification of migrant colonists vs. indigenous populations: Contrasting strategies in the Amazon



Cristian Vasco Pérez ^{a,*}, Richard Bilsborrow ^b, Bolier Torres ^c

^a Facultad de Ciencias Agrícolas, Universidad Central del Ecuador and Universidad Estatal Amazónica, Ecuador

^b University of North Carolina at Chapel Hill, USA

^c Universidad Estatal Amazónica, Ecuador

ARTICLE INFO

Article history:

Received 2 April 2015

Received in revised form

22 August 2015

Accepted 13 September 2015

Available online xxx

Keywords:

Off-farm employment

Diversification of livelihood strategies

Mestizos and indigenous populations

Household survey

Amazon

Ecuador

ABSTRACT

How do migrant colonists and indigenous populations differ in their land and labor allocation in the Amazon, and what does this imply for their income levels/livelihoods and the environment? We address this by analyzing patterns of on- and off-farm employment of rural populations, both mestizo and indigenous, in the Ecuadorian Amazon. We use data from an unusual survey that covers both mestizo and indigenous households. As elsewhere in rural areas of the developing world, off-farm employment is found to be the principal income source for 68% of the population and accounts for 53% of total household income on average. Within off-farm employment, farm wage employment is most common for the poor, who usually have little human (education) or natural capital (agricultural land). For educated individuals, in contrast, *non-farm* wage employment is commonly the choice. In the Amazon, the government (national, provincial, municipal) is the main employer, which is linked to recent large government investment in infrastructure and decentralization, leading to significant expansion of non-farm employment opportunities for rural populations close to major towns. The implications of this for livelihoods, sustainable development and the environment are explored in the conclusions.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

How do the very different types of peoples living in the remote rainforest of the Ecuadorian Amazon survive? That is, what livelihood strategies do they adopt, do these differ between indigenous populations and mestizos who migrate to the region as colonists from elsewhere in the country? In particular, do they differ in their dependence on agriculture, the resources of the forest and rivers, and off-farm work? And finally, what are the implications for household levels of living and the future survival of the rainforest?

For some decades now, off-farm employment has become one of the main income sources for rural people in developing countries (Anderson and Leiserson, 1980). This is often true even in remote areas where people still rely heavily on environmental and forest income (Angelsen et al., 2014; Wunder et al., 2014). But is this also true in the Ecuadorian Amazon?

The Ecuadorian Amazon, one of the world's biodiversity hotspots (Bass et al., 2010; Myers et al., 2000), is under threat from a number of factors, including, on the one hand, in-migration, frontier colonization and the advance of the agricultural frontier, and on the other oil, mineral and timber exploitation (Hicks et al., 1990; Bilsborrow et al., 2004). Because of factors such as isolation from city centers and markets, lack of agricultural extension assistance to farmers, and low fertility, acidic soils, agricultural incomes in the region are likely to be lower than in the Highlands and on the Coast, the other two geographical regions of Ecuador (Vasco and Vasco, 2012). The situation is further complicated due to rapid population growth and the resulting ongoing process of farm subdivision which has turned land into a resource which is no longer plentiful for farmers in the case of Ecuador (Bilsborrow et al., 2004), where its Amazon region may be considered a closed territory, first, circumscribed by the Andes mountains on the west and the borders of Colombia and Peru on the other three sides; and within this region, large areas were appropriated by the State to create three large national parks and protected areas while more recently even larger areas were titled to indigenous communities via common property regimes, in the early 1990s.

* Corresponding author. Universidad Central del Ecuador, Facultad de Ciencias Agrícolas, Gerónimo Leiton y Av. La Gasca s/n, Ciudadela Universitaria, 170521 Quito, Ecuador.

E-mail addresses: cvasco@uce.edu.ec (C. Vasco Pérez), richard_bilsborrow@unc.edu (R. Bilsborrow), bolier@yahoo.com (B. Torres).

Despite prior studies, none has compared income levels or livelihood diversification patterns of colonist and indigenous populations in Ecuador or elsewhere in the Amazon. We address this gap by taking advantage of detailed data from a new household survey to analyze the drivers of off-farm employment and other livelihood strategies of colonist and indigenous (Kichwa and Shuar) populations in the Ecuadorian Amazon.

The rest of this paper is organized as follows: the next section presents the theoretical framework and hypotheses, followed by a review of the literature on livelihood strategies focusing on off-farm employment in the Amazon. The subsequent section introduces the study area, data source, and variables. Finally, the statistical estimation methodology is described, followed by the results and conclusions.

2. Theoretical framework

The rural household model (Ellis, 1993; Singh et al., 1986) is a useful starting point to examine income diversification decisions. Rural households may be seen to maximize their utility given a number of constraints, among them income, time and technology. The model posits that diversification is a function of the returns to labor time in on-farm employment compared to the returns from off-farm employment. With a fixed amount of initial assets (land, capital and technology) and household labor time, a household compares the returns from allocating labor to on-farm vs. off-farm work (each with several components), and rationally decides where to allocate labor (Ellis, 2000). Thus households or individuals tend to allocate labour to off-farm work provided it yields higher returns and is no more risky than farm activities (Reardon et al., 2000). The literature differentiates between risk management (*ex ante*) and risk coping (*ex post*) strategies (Ellis, 2000; Reardon et al., 2006). In the first, households choose to diversify income sources *a priori* to prevent income failures at the household level, while in the second households diversify activities to cope with unexpected events that threaten their livelihoods. Evidently, the approach here draws on the first version, of Ellis and many followers.

In the case of the Ecuadorian Amazon, participation in off-farm employment may be driven by “push factors” such as declining soil fertility, low yields and small land holdings, which negatively affect agricultural incomes (Bilsborrow et al., 2004). In this line, Murphy (2001) notes that off-farm wages can compensate for low farm earnings resulting from small parcel size and isolation from markets. Nevertheless, partaking in off-farm employment may also be a consequence of “pull factors”, including higher returns to off-farm employment, which is partly due to higher wages linked to wage levels offered by oil companies (Murphy et al., 1997), and more recently to the growing demand for employees due to decentralization and the growth of the public sector (Jara Alba and Umpierrez de Reguero, 2014; SENPLADES, 2012). The implications of this broad theoretical framework for hypotheses regarding the specific effects of sets of individual, household and community characteristics on the choice of main income-earning type of work a person engages in are presented in section 5.2 below.

3. Literature review

A number of studies have examined the diversity of livelihood-seeking behavior in developing countries, often focusing on the determinants of participation in off-farm work. In the case of Latin America, Berdegué et al. (2001) found that female-headed households in Chile with good education and access to credit are more likely to participate in non-farm work. Escobal (2001) found that education, credit, electrification and road infrastructure are important determinants of income diversification in Peru. Also in

Peru, Laszlo (2005) found that Peruvian households in districts with more population centers and a more developed tourist sector are more likely to engage in non-farm self-employment. Isgut (2004) determined that farm wage labor is principally undertaken by low-educated men. On the other hand, non-farm self-employment is common among women, while non-farm wage employment is carried out mainly by those more educated. In Nicaragua, Corral and Reardon (2001) found that educated men are concentrated in non-farm wage employment, while both women and household heads tend to be self-employed. Ferreira and Lanjouw (2001) studied the determinants of non-farm work in Northeast Brazil, finding that well-educated men are more likely to engage in well-paid non-farm jobs, while women tend to undertake low-income non-farm jobs. Also in Brazil, Jonasson and Helfand (2010) found that the shorter the distance to population centers, the higher the odds for rural Brazilians to take part in non-farm work activities.

Several case studies have focused on off-farm employment in the Amazon. In a qualitative analysis on the Brazilian Amazon, for example, Steward (2007) noted that young people prefer off-farm jobs –mainly in the public sector– to agricultural jobs, the returns to which are considerably lower due to low market prices, lack of credit and lack of extension services. VanWey and Vithayathil (2013) found that the likelihood of taking part in off-farm work is higher for males, those more educated, and those residing closer to urban areas.

The determinants of land use of migrant colonists has been the focus of some considerable research in the Northern Ecuadorian Amazon (provinces north of Pastaza). Although these studies do not have off-farm employment as their focus, its importance is noted. For example, based on the first survey of 419 migrant colonist households in the Ecuadorian Amazon implemented by Bilsborrow and Pichon in 1990, Murphy et al. (1997) found that 36% of colonist households in Sucumbios and Orellana were engaged in some form of off-farm work, and that this was positively linked to household income and wealth. Pichón (1997b) observed that off-farm earnings of educated households are considerably higher than those with less educated household heads. Later Murphy (2001) argued that off-farm employment is a livelihood strategy of increasingly land-constrained colonists to cope with low harvests and drops in market prices (the price of the major cash crop, coffee, plummeted starting in the late 1990s). A second survey of colonist households was conducted in 1999 on the same approximately 400 plots of land and found the population had doubled. Research based on this second, much larger sample revealed changes over time in land use (increased deforestation) and labor allocation. Barbieri et al. (2005) reported that the share of households engaged in off-farm employment grew from about 30% in 1990 to almost 50% in 1999, seen as related to the reduction in farm sizes during 1990–1999 due to subdivision. Similar results are presented by Bilsborrow et al. (2004), who linked increasing off-farm work also to the growth of urban labor markets and improvements in infrastructure, especially roads, factors also noted by Rudel et al. (2002b) in the southern Ecuadorian Amazon.

Another relevant but small body of literature is that on off-farm employment of rural households in Ecuador. Using data from the Living Standards Measurement Survey (1995), Elbers and Lanjouw (2001) found that persons in the Amazon (albeit a small sample from the region) were *less likely* to participate in off-farm activities than those in the Highlands. In contrast, using data from the national Labor Force Survey –including 823 Amazon households– (2010), Vasco and Vasco (2012) found that the likelihood of participation in non-farm work is higher for residents of the Amazon. Further research based on a more detailed new survey, such as that used here, is thus desired to clarify this.

In sum, the data suggest rising participation in off-farm employment in Ecuador over time. As in most developing

Download English Version:

<https://daneshyari.com/en/article/6545563>

Download Persian Version:

<https://daneshyari.com/article/6545563>

[Daneshyari.com](https://daneshyari.com)