

Fact sheet:

Assessing Smallholder Farmers and Forest Dynamics in the Peruvian Amazon



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In this document we provide an overview of smallholder farmers in the Amazon region of Peru. Smallholders are a key part of the forested landscape, but information about their activities and their relation to forests is scant and fragmented. Using official socio-economic statistics, as well as remote sensing-derived forest cover maps, we provide a general characterization of smallholder farmers in the Amazon region, and follow with a discussion of their relationship to and implications for deforestation. Our objective is that this factsheet becomes a useful input for discussion for the strategic planning of Peru's forest sector.

KEY MESSAGES

- Smallholder farmers are key for forest policy in Peru: they operate across a mosaic of forest and non-forest land, playing an important role in shaping the landscape and dynamics of change in the Peruvian Amazon region.
- To understand the relationship between smallholder farmers and forest cover, it is crucial to recognize that they are a diverse group that employs a range of livelihood strategies.
- Deforestation in the Peruvian Amazon occurs in small patches, and this has been taken to suggest that smallholder farming is a key driver of land conversion; but while the expansion of agriculture provides livelihoods for many, poverty in this region remains acute.
- A closer look at the relationship between smallholders and deforestation suggests a more complex picture: in addition to smallholders, medium-sized farmers have a larger role as agents of deforestation than is typically assumed.
- Public policies and social programs need to explicitly address the realities and needs of smallholders,

and take into account the landscape as a whole – in particular the relation between agriculture, livestock and pasture management, and forestry activities.

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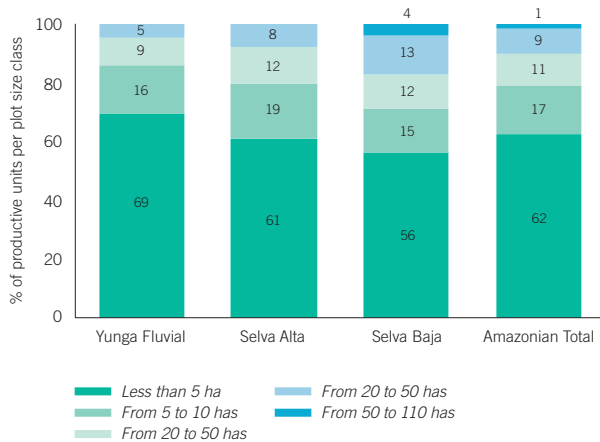
- *The management of forest land is also about agriculture.* The Amazon region of Peru is home to about a tenth of the country's population. Even though most of these people do not live in the forest itself, they are involved in agricultural activities at the forest margin which have a direct and indirect effect on forest cover. The livelihood strategies of these farmers have a significant impact on shaping a landscape mosaic of forest and non-forest land, fallow, and agricultural land including annual and permanent crops as well as pastures. In fact, farming is the major driver of deforestation in the Peruvian Amazon. So while farmers may appear to be outside the purview of forest policy, they must be an essential part of forest management in Peru.
- *Most farmers at the forest margin are smallholders.* The vast majority (98 percent) of these farmers living near the forest margin are smallholders¹. Although here we define smallholders as those producers having less than 50 hectares, most of them have much less than that: on average 62 percent of producers have 5 hectares or less and almost 80 percent have less than 10 hectares (Figure 1).

To understand the relationship between smallholder farmers and forest cover, it is crucial to recognize that they are a diverse group that employs a range of livelihood strategies.

- *Smallholders are sensitive to price signals and market incentives.* Despite the lack of transportation

¹ Unless otherwise noted, the information in this factsheet is based on the 4th National Agricultural Census (Instituto Nacional de Estadística e Informática, 2012, IV Censo Nacional Agropecuario CENAGRO).

Figure 1. Distribution of smallholder farmers in the Peruvian Amazon watershed according to landholding size and geographical unit* *The majority of smallholders in the Peruvian Amazon work on 5 hectares of land or less*



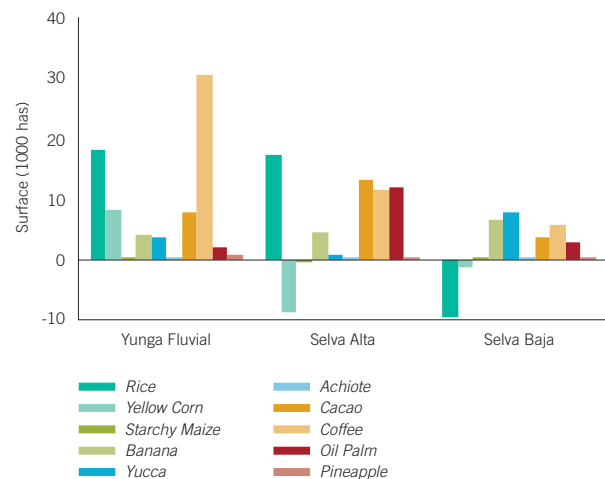
* Yunga Fluvial (Fluvial Yunga) corresponds to forests between 1000 and 2300 m above sea level; Selva Alta (high altitude forest), between 400 and 1000 m; and Selva Baja (low-altitude forest) from 0 to 400 m. Source: CENAGRO, 2012.

infrastructure and considerable distances involved, national census data show that most smallholders, even those with very little land, gear their production towards sale in the market rather than for subsistence. Only about 15 percent of the smallholders use their farmed area for subsistence agriculture, and close to three quarters of farmers are specialized in one or two crops. Production data (Figure 2) shows that smallholders change their crops in favor of higher-value products like coffee or oil palm. In addition to farming, some 43 percent of smallholders in the Peruvian Amazon generate income through off-farm activities.

○ *But there are important regional differences that are crucial for policy-making:* Beneath the general trends, there is a wide diversity of smallholders depending on their land assets and livelihood strategies² (Figure 3). This means that there are no one-size-fits-all policies for addressing smallholders and influence their strategy to manage land and forest resources.

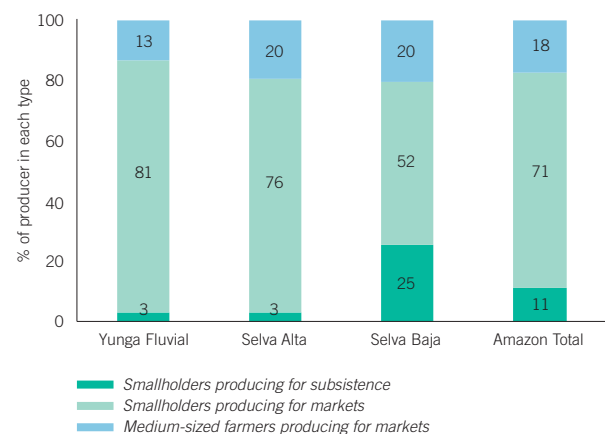
○ In Yunga Fluvial and Selva Alta small smallholders are specialized in coffee or cacao production (depending on elevation) for sale in the market; medium smallholders are somewhat less specialized, and many of them use part of their land as pastures for ranching.

Figure 2. Changes of crop area by geographical region, 2004-2010* *Changing crop areas suggest that smallholders are responsive to market signals*



* For definitions of geographical regions, see Figure 1. Source: CENAGRO, 2012.

Figure 3. R: Relative proportions of the three basic smallholder types in the Peruvian Amazon* *Regional differences among smallholder types are important for policy-making*



* For definitions of geographical regions, see Figure 1. Source: CENAGRO, 2012.

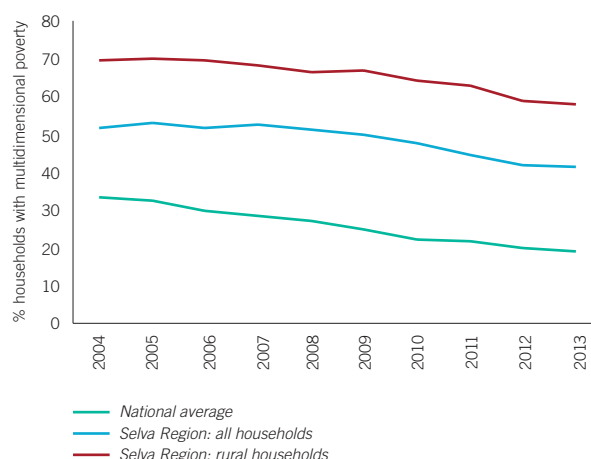
² We divide smallholders into two sub-groups: small smallholders, who have less than 10 hectares in Yunga Fluvial and Selva Alta and less than 15 hectares in Selva Baja, and medium smallholders, with 10-50 hectares in Yunga Fluvial and Selva Alta and 15-50 hectares in Selva Baja.

- In Selva Baja the landscape is more diverse. About a third of small smallholders –many of them belonging to indigenous communities– farm a variety of food crops such as maize or yucca, among others, for subsistence. Another group of small smallholders (about two thirds) specializes in cash crops such as plantain. Finally, medium smallholders have a more diversified productive strategy that includes ranching.

Deforestation in the Peruvian Amazon occurs in small patches, and this has been taken to suggest that smallholder farming is a key driver of land conversion; but while the expansion of agriculture provides livelihoods for many, poverty in this region remains acute.

- *Deforestation occurs in small patches.* A recent study³ showed that about 90 percent of deforestation in the last decade has occurred in plots of land smaller than one hectare, and that plots larger than 10 hectares contributed only one percent of deforestation. This fine-grained spatial pattern of deforestation has been interpreted as suggesting that most deforestation is carried out by smallholders. However, it is not clear from the remote sensing data whether these small patches of forest conversion belong to many small individual land holders or to a few larger ones.
- *Deforestation is not leading to wealth creation.* Smallholder farmers clear forests to expand their arable land, often through slash-and-burn methods, or to expand pastures for cattle ranching. Such practices may be necessary to increase production, especially in the absence of financial means and other capacities, but overall the Amazon region remains one of the poorest in Peru, and farmers in this region are particularly poor⁴ (Figure 4). This suggests that the loss of forest is not generating adequate social dividends.

|| Figure 4. Percentage of households with multidimensional poverty* *Poverty is much higher in rural households of the Selva Region than in the rest of the country*



* Multidimensional poverty is an index that combines a measure of a household's quality of housing, overcrowding, access to sewage, children's access to school and economic dependency.

Source: INEI, Encuesta Nacional de Hogares 2004-2013.

A closer look at the relationship between smallholders and deforestation suggests a more complex picture: in addition to smallholders, medium-sized farmers have a larger role as agents of deforestation than is typically assumed.

- *The Amazon region is still largely forested.* Despite deforestation, most districts (administrative regions) in the Amazonian region retain a large portion of forest cover⁵. Just under half of all districts are between 75 -100 percent covered in forest, and only 15 percent have forest covers of 0-25 percent. Regional differences reflect the fact that areas that were colonized earlier (Yunga Fluvial and Selva Alta) have undergone more absolute deforestation than those that were settled later; however, in recent years (2000-2011) deforestation has proceeded more quickly in Selva Baja.
- *Smallholders are concentrated in forested districts.* Smallholders are present in areas with all types of

³ Forest Investment Program (FIP) Peru. Documento de trabajo -borrador- versión V20/06.

⁴ Instituto Nacional de Estadística e Informática (2004-2013). Encuesta Nacional de Hogares, 2004-2013.

⁵ Information on deforestation is based on: MINAM/MINAGRI (2014). Bosque, No Bosque y Pérdida de Bosques Periodo 2000-2011.

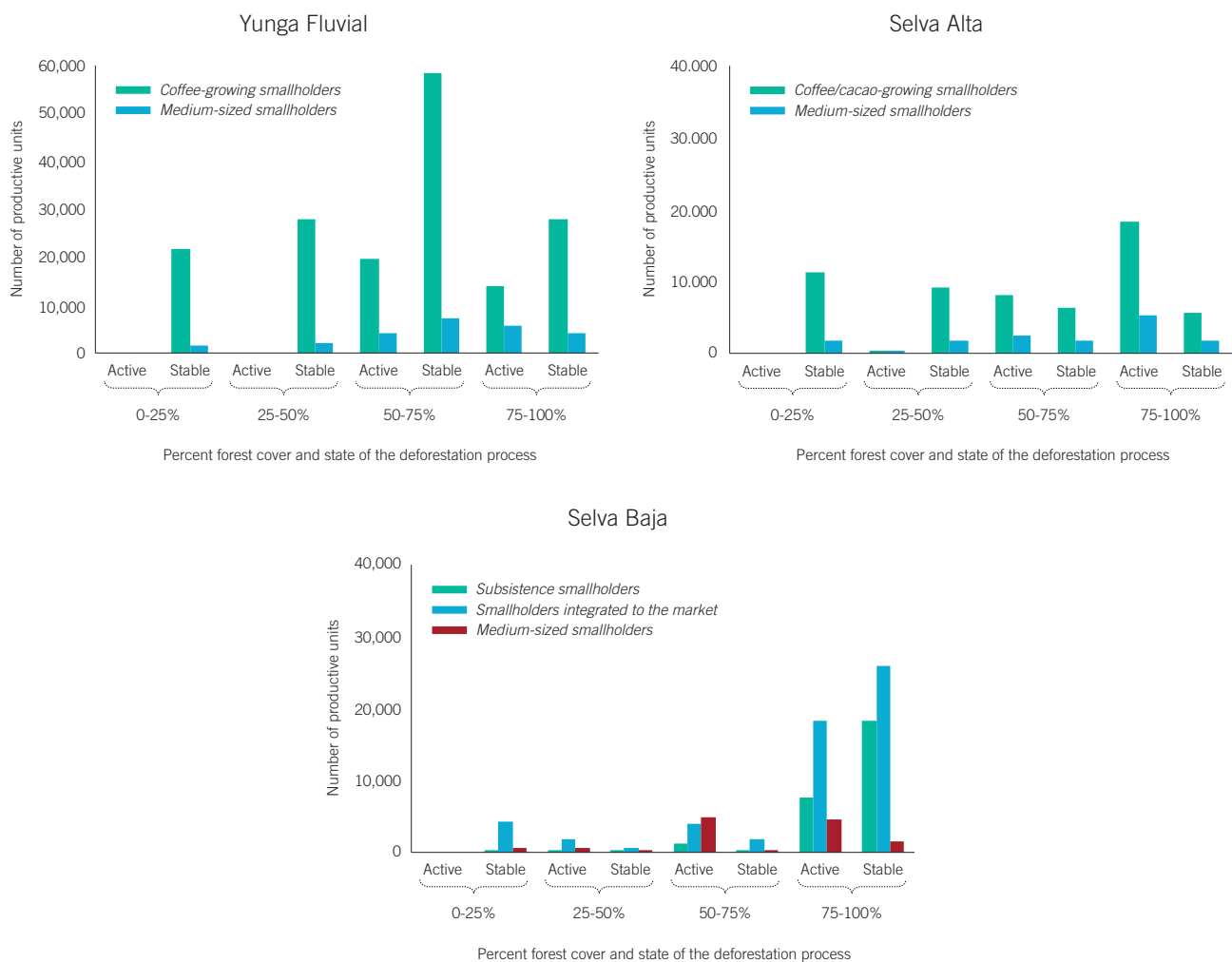
forest cover, but most of them (75 percent) live in districts with more than 50 percent forest cover. This pattern is even more accentuated in Selva Baja, where almost 90 percent of smallholders live in districts that have 50 percent forest cover or more. This seems to suggest that smallholders are far more active in forested than in deforested landscapes.

- *But they tend to live in districts with lower recent reforestation.* If we divide the districts between those where recent (*i.e.* 2000 to 2011) deforestation has been above 5000 hectares (“active”) and those where it has been below 5000 hectares (“stable”),

a different pattern emerges: only about 30 percent of smallholders live in districts with active deforestation, suggesting that smallholders are concentrated in areas where active deforestation is lower.

- *Middle-sized smallholders have an important role in deforestation too.* Moreover, medium-sized (more than 50 hectares) smallholders are split almost evenly among active and deforested districts. In Selva Baja, about 80 percent of medium-sized smallholders are concentrated in districts with active deforestation; in addition, this group accounts for about half of the producers in districts with 50-75 percent forest

|| **Figure 5.** Number of different types of farmers per region, according to their district's percent of forest cover and degree of recent deforestation*



* “Active” means >5000 ha deforested from 2000-2011, and “stable” means <5000 ha deforested in that period. For definitions of geographical regions see Figure 1.

Source: CENAGRO, 2012, and MINAM/MINAGRI, 2014.

cover with active deforestation. Taken together, these results suggest a much stronger role for middle-sized smallholders as agents of deforestation. This is in line with what other studies in the Amazon have found, namely that farmers that are better off usually have more means of converting forest to arable land or pasture than poor farmers⁶.

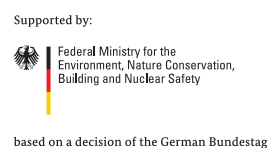
Public policies and social programs need to explicitly address the realities and needs of smallholders, and take into account the landscape as a whole – in particular the relation between agriculture, livestock and pasture management, and forestry activities.

- *Smallholders are not going away.* Strategies to tackle deforestation and to foster the sustainable development of forested areas need to acknowledge that smallholders are and will continue to be an integral part of the Amazonian landscape in Peru.
- *Policy needs to be diverse and flexible.* Given their large number and the diversity of livelihood strategies

and geographical differences, there is no easy fix, and certainly no one-size-fits-all approach to smallholders. The areas of high deforestation by subsistence farmers will require different approaches than those of established coffee farmers in higher altitudes. Policies must be flexible enough to address the realities and needs of smallholders and to develop solutions *with* them, not *for* them.

- *Understanding the causes of deforestation is essential for policy.* Many smallholders clear forest to increase their small incomes, but it is far from clear that this is the only or the main driver of deforestation. Larger smallholders also clear forests, so increasing farm incomes in no way guarantees deforestation reduction: higher incomes also imply more means to invest in enlarging their productive plots. Moreover, farmers clear forests so that they can enter the land market, regardless of productive concerns. Understanding the causes of deforestation is crucial for designing appropriate forest policy, as well as complementary measures aimed at promoting rural development more broadly.

⁶ Pokorny B. (2013). Smallholders, forest management and rural development in the Amazon. Earthscan Forest Library/Routledge, Oxon.



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