



The importance of agriculture in isolated areas in the Peruvian Andes

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The particular geography of the Andean region implies for some towns to be very isolated from the rest of the economy. The mountainous structure of this region increases the cost of road construction, imposing a slow pace in the integration of these towns through road infrastructure. In some areas, it is necessary to walk for several hours in order to get to the market town, to a health center or to public school.

The isolation of these areas generates very high poverty rates as shown in table 1. Additionally, this isolation is strongly correlated with a higher importance of agricultural activities as sources of income, as shown in table 2. This correlation is surprising, given the low productivity of land in isolated areas (table 3), which could be caused by lower availability of inputs. The positive relationship between isolation and importance of agriculture was already found for the Peruvian rural areas in Escobal (2005). Berdegué et al. (2000) explain that this relationship might come from the demand of nonagricultural products or services that arises the nearest a town is to a city, as well as from the possibilities of working in the labor market of this city.

On the other hand, a long distance to the market discourages selling the agricultural production, generating a move towards subsistence agriculture, as it can be seen in table 4. Besides the gains from specialization that are lost due to this movement towards subsistence agriculture, this type of agriculture constitutes a refuge from the risk that is associated with changes in prices. In that sense, Escobal and Agüero (1995) found that after the prices shock from 1990, the consumption of calories decreased less for the poorer rural households than for the richer ones. The authors attributed this pattern to the presence of production for subsistence in the poorer households.

Besides being an important share of total income, as well as a way of insuring against the risk associated with price changes, agricultural activities in isolated regions contribute to consolidate a social net that serves several functions in the economic and social sphere. Various ethnographic studies (Mayer 2001, Glave undated) show that agricultural activities are undertaken using labor under a type of exchange characterized by reciprocity. This type of exchange usually happens between relatives and it implies, in its more common form that for one day of labor the current worker will receive another day of labor when he or she requires it.

The persons with whom a particular peasant have had exchanges of labor constitutes a social net that allows for future exchanges of labor that this peasant could use for building houses, organizing traditional ceremonies or others. According to the same interview, this social net can also provide the necessary support that is needed when negative shocks occur.

In sum, in isolated areas in the Peruvian Andes, agriculture constitutes a very important share of total income, due to the low possibility of expanding non agricultural income and agriculture activities also insures the agents against changes in food prices and finally these activities consolidate social nets that serve several functions in the economic and social sphere.

References

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Note about the data:

It is important to mention the data come from a survey of households in poor rural areas of the Andean region, in Peru. The areas surveyed are on average significantly poorer than the rest of the rural Andean region.

The broader Andean region, on average, presents lower poverty rates (50%), higher access to public goods such as electricity and a lower percentage of income coming from agricultural activities (40%) than the areas sampled in this survey. The relationship between this sample and the average confirms the finding that regions with less access to electricity, have a higher percentage of income coming from agricultural activities (Escobal (2005)).

Table 1
Poverty rates

(Percentage of households whose members live with less than 1 dollar a day)

Distance to the market	Non motorized access	Motorized access	Total
Less than one hour	58,7	62,8	61,7
Between one and three hours	77,0	70,9	75,1
More than three hours	78,4	65,7	68,2
Total	68,8	64,4	65,9

Source: Household Survey of Impact Evaluation of Foncodes (JBIC PE-19 PE-24) 2006

Table 2
Agricultural Income Share

(Percentage of Total Income)

Distance to the market	Non motorized access	Motorized access	Total
Less than one hour	71,3	79,7	77,5
Between one and three hours	84,6	78,7	82,7
More than three hours	90,0	65,7	70,5
Total	79,4	75,0	76,4

Source: Household Survey of Impact Evaluation of Foncodes (JBIC PE-19 PE-24) 2006

Table 3
Net Agricultural Income per Hectare
 (US \$ per year)

Distance to the market	Non motorized access	Motorized access	Total
Less than one hour	782,3	910,6	875,8
Between one and three hours	526,4	686,4	577,8
More than three hours	449,4	813,5	743,0
Total	629,1	858,8	785,1

Source: Household Survey of Impact Evaluation of Foncodes (JBIC PE-19 PE-24) 2006

Table 4
**Percentage of agricultural production that is used for household
 consumption**

Distance to the market	Non motorized access	Motorized access	Total
Less than one hour	20,4	19,6	19,8
Between one and three hours	27,1	18,5	24,7
More than three hours	28,1	19,3	21,3
Total	24,3	19,4	21,0

Source: Household Survey of Impact Evaluation of Foncodes (JBIC PE-19 PE-24) 2006