

Profitability of Community Forestry Operations

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In 1997-1998 I conducted fieldwork in Oaxaca as a PhD student from UC Berkeley. Our survey team interviewed representatives in 44 community forestry operations in 7 of the 8 regions of Oaxaca, including the Coast, la Canada, Sierra Norte and Sierra Sur. The focus of the study was the structure of the community forestry industry. But I also collected data on revenues and costs to have an estimate of profitability.

This is the information I would like to share with you today to discuss whether community forestry operations represent a productive form which is profitable and able to survive into the future.

The main point is that community forestry operations are profitable.

- Whether selling stumpage, logs, sawn wood, or more processed secondary products.
- This includes also communities with small or large forests.

All the communities generated revenues which covered total labor and material costs. I will refer to this by its financial term, gross profit margin. Despite the challenges that communities have in making collective decisions and gaining access to technical expertise, communities are able to compete with the private sector as ongoing enterprises and to generate profits in a sustainable manner.

In the *folleto* appears a table depicting gross margins. Here is the table with the precise figures from 30 of the 44 communities where we had revenue and cost data.

In this table, I present figures by level of vertical integration according to the most processed end-product sold by the community.

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All groups generate revenues which cover total labor and material costs. The gross profit margins across groups are quite large, with the group selling sawn wood as an end product having the largest margin.

In fact, 60% (18 of the 30) communities had margins above 30%.

The variability is the largest for the stumpage communities, so they may be most at risk. This suggests that their particular contracting terms and production choices should be given attention. However, on average they are gaining financially, with the contractor usually bearing most of the production costs.

Now these results look very nice, so you may be asking: what am I leaving out? Yes, there are a number of other factors to consider, which I am going to discuss now to see their probable impact on profitability.

First, how are communities accounting for costs? Accounting practices were not consistent across this sample. A principle concern is the treatment of depreciation. For whatever capital that a community owns, logging roads that it builds or a long term management plan, the services are valued and, therefore, charged to the balance sheet over the life of the asset, not just the year the asset was acquired. It was not always clear how the communities considered depreciation in the total cost figures, and these are not necessarily included in these numbers.

To give you an idea about how the communities would be affected if we explicitly add these costs, I consulted a study of 4 communities in Oaxaca (Merlet et al. 2003) that obtained more detailed accounting data. I averaged their depreciation costs and found that those were about 22% of the labor and materials costs for those communities. I applied this same calculation to my sample to have an estimate of depreciation and deducted it from the profit figures. As you can see in the bottom line of the table, margins are still positive and fairly comfortable, except for the secondary products category, possibly because they are more capital intensive. It is also possible that I am overcounting the cost for those communities in my calculations.

I think that on the whole, costs of depreciation by themselves would not prohibit profitability of community forestry enterprises (CFEs), although they should be included.

Second, it is possible that administration and selling costs are underreported in communities. For example, in many communities, the *Comisariado de Bienes Comunales o Ejidales* acts a manager. Their labor costs may be compensated at a low rate or not at all. In our study we sought to include any direct payments to the *CBC* and *Consejo de Vigilancia*, both positions in the *cargo* system. Yet those direct costs do not reflect their total contribution at market rates and maybe this is why the costs are low.

Another subject is that their responsibilities involve more than forestry operations and deal with the community in general. Maybe it makes sense to contribute only a percentage of their payment to the CFE.

It also would serve to mention an indirect cost of administration and sales that could affect the capacity to survive in the market in the future. As in any firm, the CFEs need to provide a good service to the client. Some communities need to put more attention in on-time delivery, communication with the client, and responsibility to the client. The indirect cost of bad administration and sales can be high in the future.

Third, we need to ask about how are they managing the forest, their goals and planning horizon. Are they cream skimming? Reforesting? Reinvesting back into the forest? Or just using the cheapest methods possible despite the damage to the forest? All these would explain low costs now but imply the absence of profits in the future.

But evidence shows that they are harvesting in a fairly sustainable manner, as you'll see today later in the presentations. So this may not explain the margins.

And 30 of 44 said that they were reinvesting funds back into forestry, like capital assets and road maintenance and management plans.

We still need to consider the communities' management goals. If conservation is a goal or they use longer rotations, this would lower revenues in any given year. The forest can generate environmental services that one can value for air and soil and water quality and carbon sequestration.

Therefore, a profit calculation for one year can be low while profit over the length of the planning horizon is high. For example, while the secondary products group has the lowest gross profit margin, their average financial returns in the long run could be higher than the other groups.

Another very related aspect is to consider the opportunity costs over time. The value of the most valuable alternative is subtracted as a cost to give a final estimate of economic profit.

So what could be the opportunity costs for forestry production?

If an owner of forest land does not cut one year, he can cut the next year. An owner does not lose much if he does not cut one year or if he does not cut his total authorized level for one year.

They could clear the forest for agriculture or grazing, but these alternative uses can have a very low value, depending on various conditions such as soil and climate and market.

They could lease the land, which is what they are effectively doing through stumpage contracts. And maybe they can receive a higher return to capital. But this option

involves more risks for the community in their relations with the contractor and there are generally more transaction costs in this form of harvesting the forest.

These are all complex issues. There is not a definite answer. But I think that when we take into account all these factors, community forest management will remain as a viable option for a number of communities.

Finally, we can consider how they allocate their gross profits. Many invest in forms that have social impacts.

- 90% of the sample contributed to social services and public infrastructure
- They employ locally and provide training to the population
- They distribute sometimes a part of the profits to the community members
- Several diversify into nontimber forest products which diversifies employment and sources of income and alleviates pressure on the forest

One should consider how to treat these impacts in an accounting framework.

In sum, profitability is a key issue for the long-term stability of community forestry enterprises. The data from this research shows that they can be profitable and in some cases very profitable. Further research using consistent accounting practices will clarify the estimations.

They are functioning. They are important sources of employment and income for the communities. For questions of efficiency, productivity and competition, support through government programs for example in technical assistance, financing and training will allow them to function at a higher level.

Average Revenue, Cost and Profit by Level of Integration (New Pesos)

End product sold (number of communities)	Stumpage (12)	Roundwood (8)	Sawnwood (5)	Finished Products (5)
(1) Sales Revenue	573,549	1,688,274	3,020,021	9,578,861
(2) Labor and Materials	304,125	1,010,740	1,462,620	6,522,042
(3) Gross Profit = (1)-(2)	311,386	870,498	1,557,401	3,056,819
Gross Margin (3)/(1) (standard deviation)	39% (.32)	48% (.22)	54% (.19)	32% (.13)
Margin assuming 22% of (2) as depreciation cost	26%	36%	44%	17%

Source: Survey data, Antinori (2000)