The effects of monoculture tree plantations on small farmers’ livelihoods in the Mediterranean region of Chile: Data Collection and Preliminary Results

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Introduction
During the last 40 years tree plantations have become more expansive around the world, both in number and in size. These ‘new ecologies’, as presented by political ecologists, have raised questions about inequities to resource access and its implications on the sustainability of the particular livelihoods that surround these plantations. The debate has evolved from such issues as decline and scarcity, to questions such as: what kinds of ecologies are being produced, by who, and to whose benefit and/or detriment?

This poster presents the process and methods of data collection along with some preliminary results for this in-depth study focused on the cultural dynamics of ecological change as a consequence of monoculture forest plantations. Dynamics such as social cohesion, landscape perception and adaptation strategies.

Knowledge and Behavior

The main component in the present study is the recognition of specific adaptation strategies conducted by the household as a complete unit. These adaptation practices are constructed not only in observable behavior but also in knowledge. This is why semi-structured interviews were conducted with the purpose of linking local knowledge and its materialization into practical adaptation strategies.

Aiming to reveal the effects of landscape transition in the household livelihood, particularly; how the introduction and expansion of monoculture forest plantations have changed local knowledge, specially in the scope related to “making a living”.

Semi-structured Interviews

These interviews were conducted with the head(s) of the household who were approached at their homes. They are contributing with qualitative data focused on the household experience throughout the introduction and expansion of plantations in the area:

- Benefits and problems associated to this process
- Adaptations to this new scenario
- The local historical and ecological background of this transition
- Evolution of migration dynamics
- Hazards and improvements
- Their personal feelings and predictions for the future

After recording these ethnographic narratives they are being transcribed and analyzed in order to extract and reveal the human experience behind this socio-environmental process.

“I have always fought to keep agriculture going, I’m not saying that it should be 100%, but this region has a privileged climate...and to this day I still fight. Although, the little amount of land I have is the dirt under my nails, but come on!, we had to fight for agriculture, we are talking about agriculture and there is nothing left!, we are living in the shadows of the silent forests”

Mr. Omar, a 62-year-old local farmer

Preliminary Results

- In terms of landscape perception, both interviews and Q-sort tests concur in how respondents are very reticent, to say the least, about forest plantations. Having cases where their source of labor and specific products obtained through farming or native forests has been lost, fumigations have directly affected them and their animals, roads have been closed and properties fenced. Preferred landscapes are those that allow traditional production of diverse products with enough water.

- Narratives also focus on global process as climate change and rural migration. The first one particularly materialized in drought, changes in crops seasons, and higher temperatures. The latter confirms a rural depopulation process coming along with low prices in farm products, deregulated markets and more job opportunities in urban regions.

- In addition, pines and especially eucalyptus plantations have been pointed out by the respondents as the main reason behind water scarcity in the region. In this regard, most adaptations are directly related to this problem, where new ways to obtain water are sought (deeper wells, new water canals) and demanded (municipality water tankers, water rights).

- Confirming previous research on local small farmers, personal networks show higher density and strength (people know each other and they are usually very closely related) compared with larger industrial farmers. Although, this also reveals how ongoing issues related to social dislocation, loss in the sense of community and increase in individuality is affecting cooperation as an essential means of labor exchange in agricultural activities.

Landscape Perception

A key element in this study is the way rural households perceive their surrounding landscape and its transformations. The goal is to understand ideas about which landscape components are particularly critical for their livelihoods, and which changes are more conflicting. Not only the respondents are asked about their personal experience with their socio-environmental surroundings through the years, but also, they are asked to organize and classify a sample of diverse local landscapes with the use of Q-methodology.

Q-sort Test

This test is described as a method to “study subjectivity in an organized manner” [7]. For this research 23 photographs representing the range of local rural landscapes are provided for the respondents to sort them from most to least ideal according to their ideas and experience on rural livelihood.

Social Capital and Cohesion

Having social phenomena “not as the immediate result of the nature of individual human beings, but as the result of the social structure by which they are united” [8], this research proposes social structure and social capital theory [9] as key tools to understand the effects of plantations and environmental change in the context of Mediterranean campesinos. In a region where labor exchange and other forms of social capital are fundamental for agriculture it is important to asses the impact of forest plantations as a socio-ecological barrier between households.

Personal Social Network

Using EgoNet [10] software respondents were asked about people in their network [30] and the existence of relations between those people. This generates a unique personal network for each respondent with not only quantitative data, but also a qualitative visual representation.

Guess who?
One of the following social network belongs to a local small farmer the other one is from a local industrial farmer (Hint 1: Red nodes are men, Blue nodes are men. Hist 2: Node size is proportional to the age of each person)

Mediterranean Region of Chile

Leviquet’s family house surrounded by forest plantations

Mrs. Huglia arranging landscape pictures for the Q-sort test.

Sign outside a house close to pulp mill own by “Arauco” company.

Mr. Francisco showing his Nocha (Eryngium paniculatum) greenhouse, crafting native plant that used to be collected in native forests.

Industrial Farmer
More dispersed network
3-4 subgroups of people
Everybody knows everybody

Small Farmer
More dense network
These ecological barrier makes a living

See full page for figure.