CHALLENGES OF A SILVOPASTORAL SUBSISTENCE SYSTEM: CASE STUDY IN RANCHILLO

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Adoption of new techniques

Driven by diffusion

Diffusion system → the centralized system &
→ the decentralized system

Problems of innovations diffused from North to South with, too often, a poor success rate

1. Context – Theoretical framework

Adoption of new techniques

Rogers (1983) identified five stages:

3 types of consequences

- Desirable vs undesirable
- Direct vs indirect
- Anticipated vs unanticipated

Adoption of new techniques

More participatory approaches

- Arvanitis et al. (1986) : not linear, whirling process with an iterative nature

- Savary (1986): importance of knowing the cultural aspects of alimentation and food production

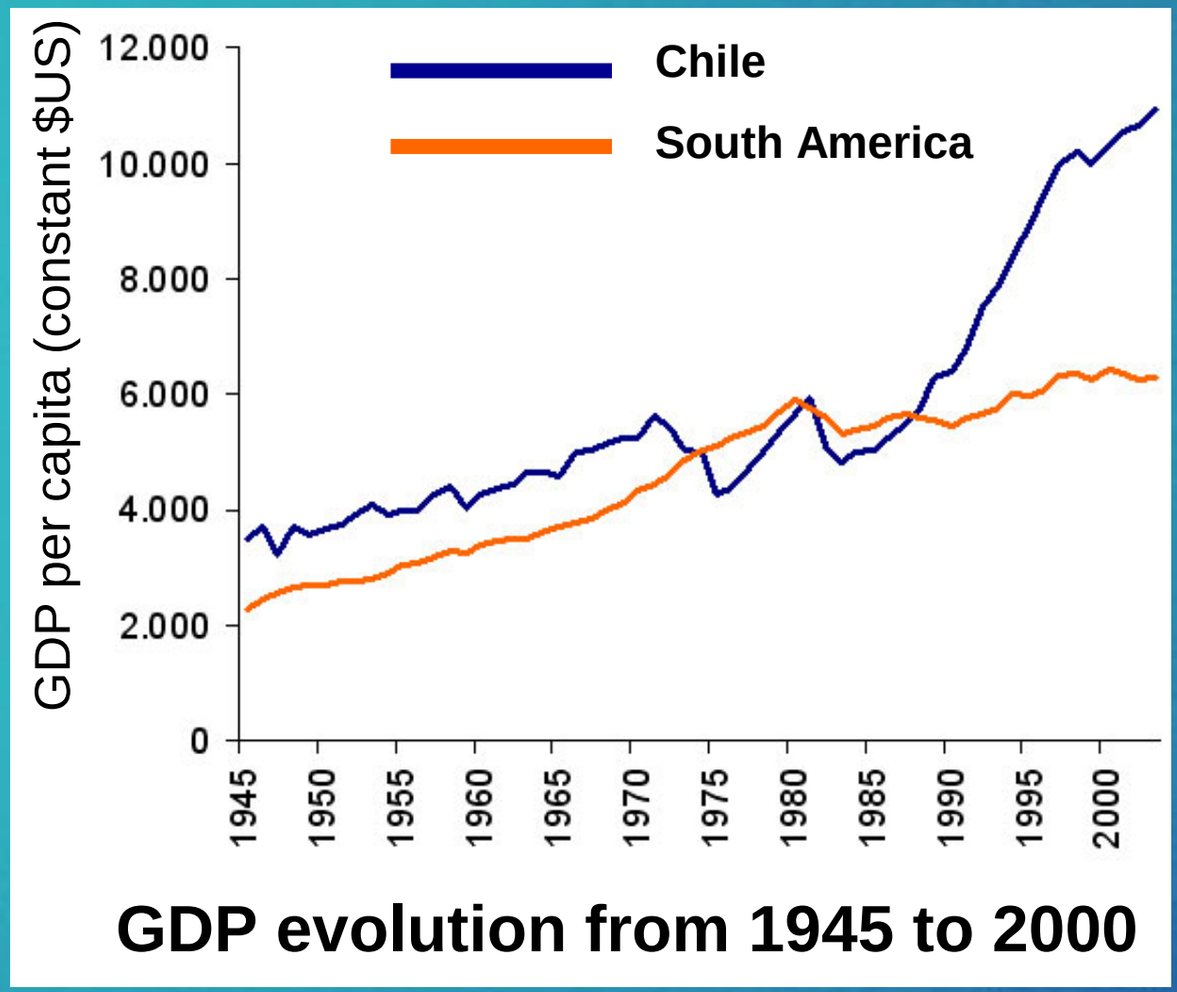
1. Context – Case study

Chile context

Economic « jaguar »

Progression of social inequalities

Rise of export-oriented and industrialized agriculture



GDP evolution from 1945 to 2000

https://retronomics.com/2010/01/18/chile-becomes-member-of-oecd/

1. Context – Case study

Chilean forest

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Forest transition

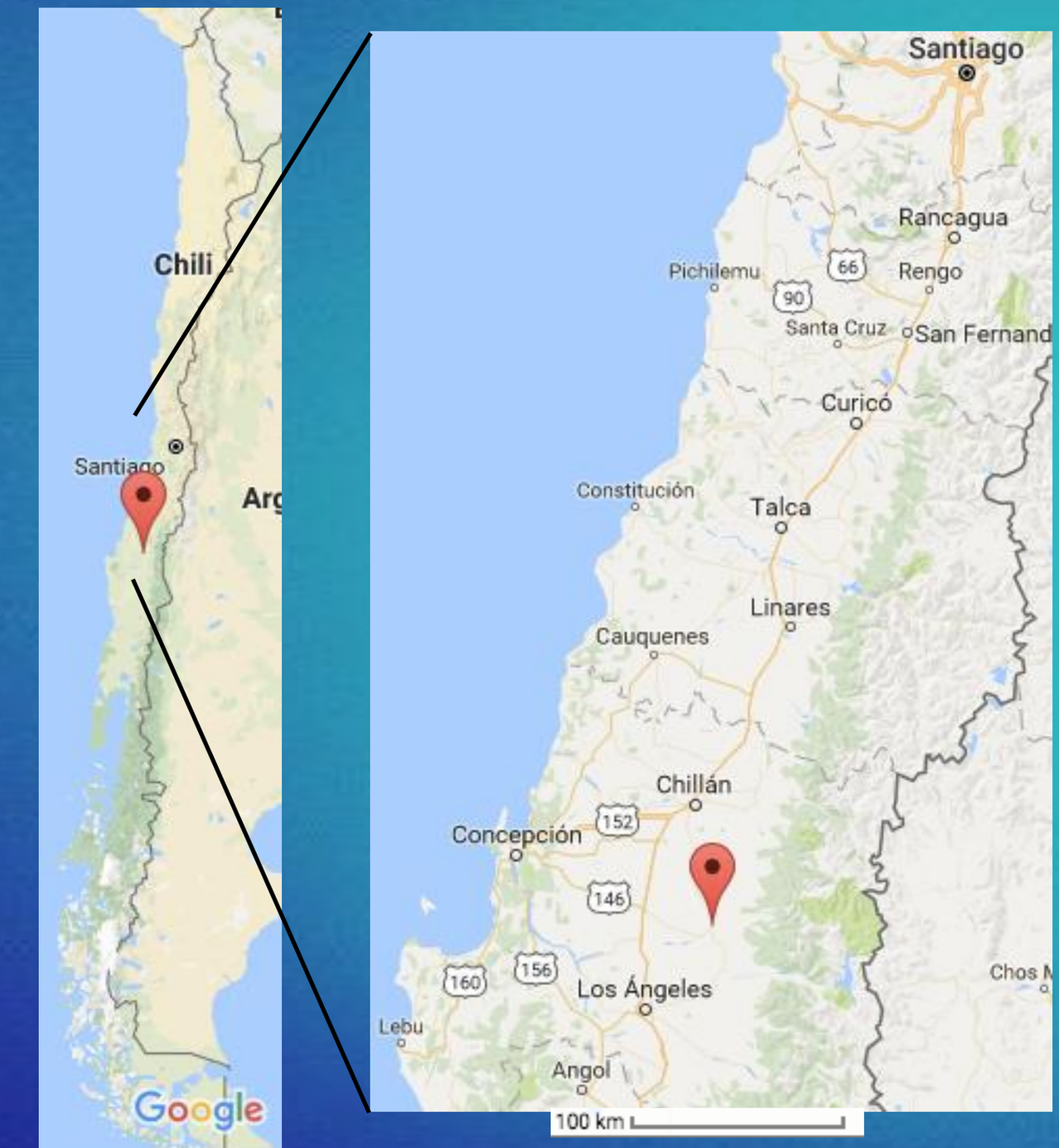
Natural forest degradation

Overgrazing

Reduced soil fertility

1. Context – Case study

Yungai region



Forestry: 43 000 ha (130 exploitations)

Agriculture: 38 000 ha (1200 units)

Rural area:

- 45 % of the population
- Pasture & low-yield rain-fed crops
- Subsistence agriculture
- High poverty rate

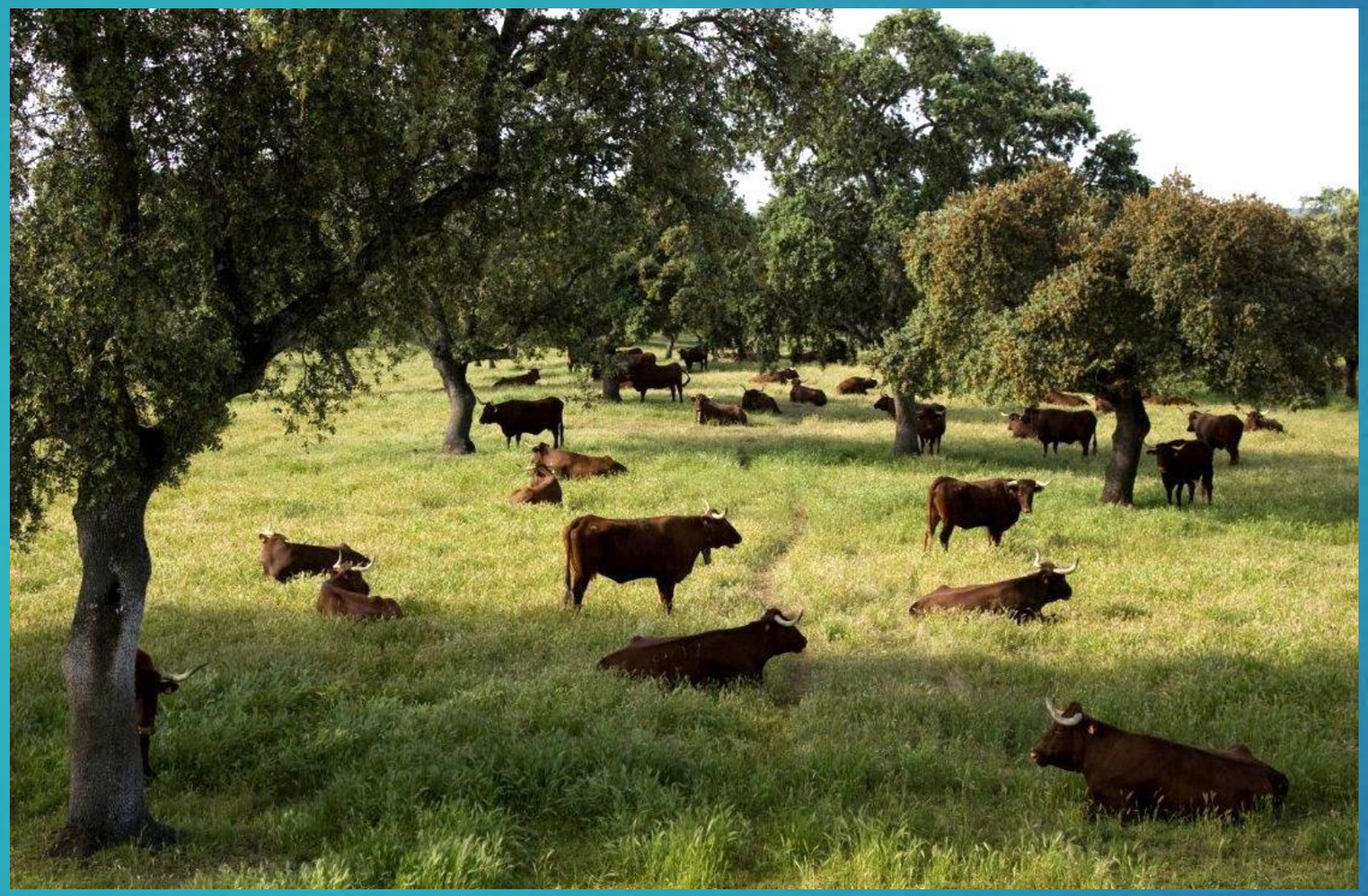
2. Project description

Silvopastoralism

Extensive system

2 layers of vegetation:

- Multifunctional trees
- Shrubs and forages



Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente, Espaqne

Areas of agricultural decline & arid or semi-arid areas → Perpetuation of activities

2. Project description

Project Ranchillo Alto

Yungay Township, Biobío

Management of an
ancient natural forest
Roble - Nothofagus obliqua
(oak) mostly &
Raulí - Nothofagus nervosa
(beech)

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3 sections of forest cover: open, semi-open and semi-closed

South area: 4 ha for each cover (total of 12 ha), with 3 replicas
North area: 2 covers of 3 ha each (total of 6 ha)

2. Project description

Preparation

Preparation and cleaning of the site

Installation of fences

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Sowing seeds for grazing

Setting up the grassland: forage production

Plantation for the restoration of the forest

Livestock rotation system

3. Objectives

- To draw a portrait of the participants perception about the established sylvopastoral system

- To have a first reflexion for the extension of the experimental site

4. Methodology

Semi-directed interviews with questionnaires

- 16 participants
  - 4 experts
  - With some predetermined factors

Photo-elicitation method exploration


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5. Results

Incentives for the Ranchillo Alto site

Availability of the workforce (76 %) and seasonal work

Women work (100 %)

Possibility of selling (59%)

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Availability of land (93%) and seeds (88%)

Large proportion of owners (54 %) or family-owned lands

Realization of the forest degradation state

5. Results

Benefits envisaged

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Facilitation and improvement of cattle breeding (100 %)

Benefits of trees (93 %)

Pooling of land

Ecotourism potential: preservation incentive

5. Results

Obstacles inherent to the site

Lack of specialized tools (89%)

Insufficient water (and too rocky soil) (76%)

Predation by pumas

Lack of protection for animals in winter (87 %)

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"Since there are plantations close by, we can no longer grow vegetables and the wells are drying up. "

- A participant

5. Results

Challenges for implementing a silvopastoral system

Extent of financial investments (100%)

Technical knowledge deficit (100%)

Long-term support necessity (89%)

"I only do my job, as I learned from my parents. I do not know much."

-A participant

“We have to reconnect ancestral methods and knowledge with the modern ones.”

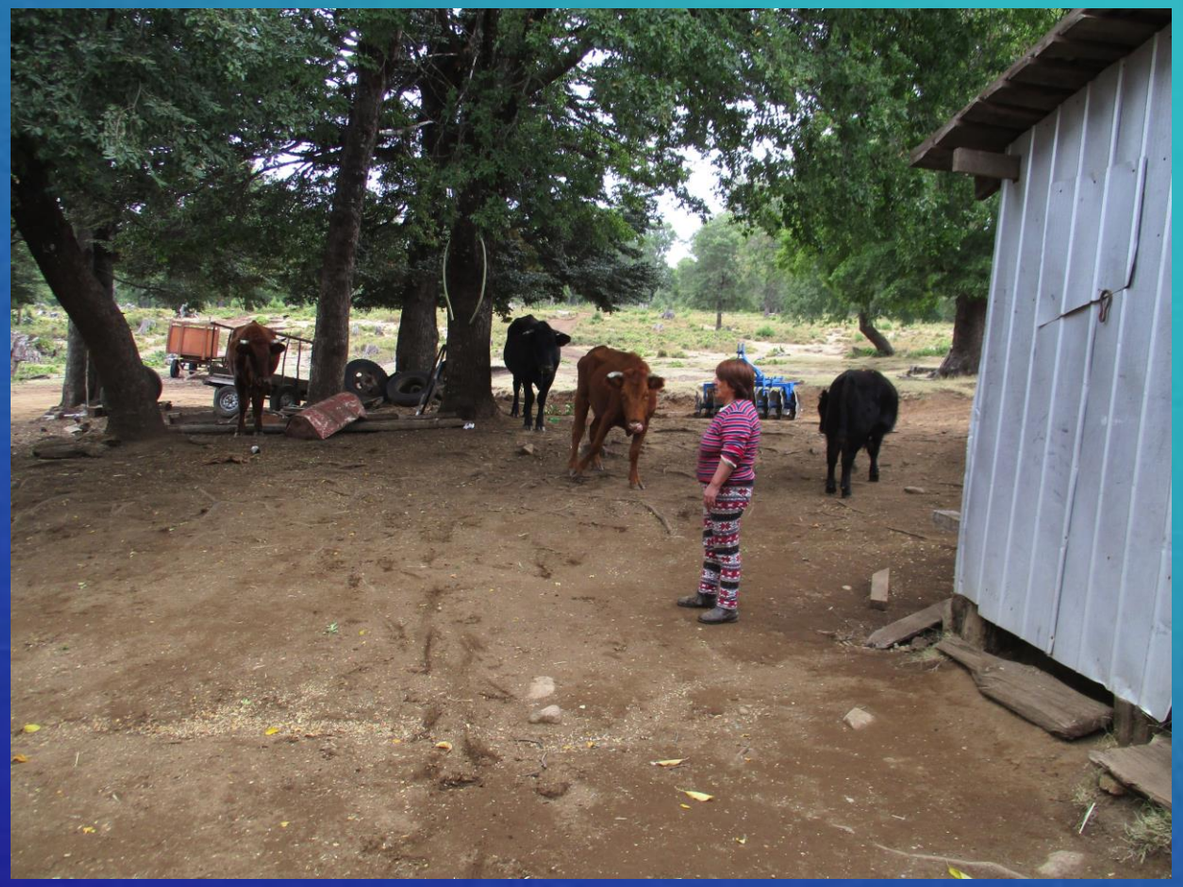
- The sociologist

Photo taken by a participant

"Our bulls serve us a lot for fieldwork, we take care of them. Whereas we sometimes lose our cows during the winter. "

- A participant

Photos taken by a participant



5. Results

Future prospects

Expand the site with the same sylvopastoral model

Consider other productions:

- Other tree species (wood and fruit trees)
- Dairy farming, sheep farming, apiculture;
- Greenhouse vegetables and berries, mushrooms;
- Cultivation of the wild rose fruit (*Rosa mosqueta*);
- Wild boars, ostrich, horses

Become a demonstration site, even if it is not an optimal area

6. Conclusion

Workforce, land and seeds availability

Problems of water, money and predation

Lack of investment and knowledge specific to alternative systems. Need of capacitation and empowerment.

Important to consider the surrounding environment also

Interest in preserving natural resources and developing tourism

"There is a lack of organization, it's cultural, people are not used to invest."

- A participant

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THANKS !

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Los campesinons de Ranchillo Alto

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