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Are we adapting to climate change? The case of the Chilean agricultural sector

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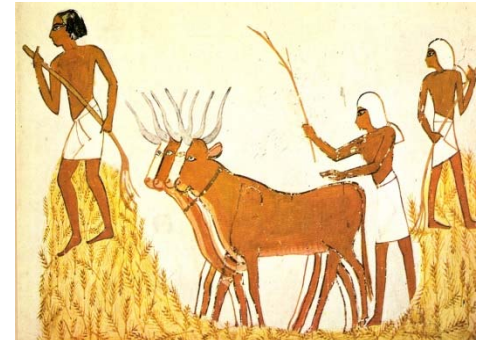


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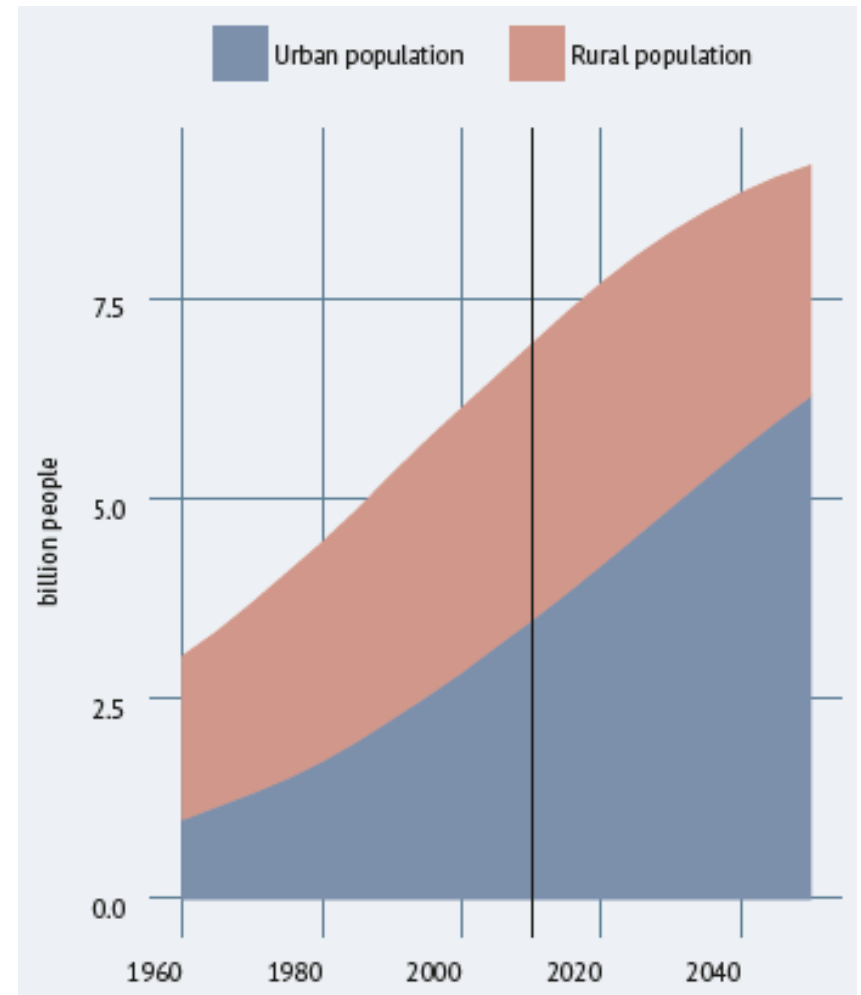


1. Why do we care about agriculture?

Agriculture relates not only to **economic resources** but also to **food security**

It represents both a **lifestyle** and a **livelihood**

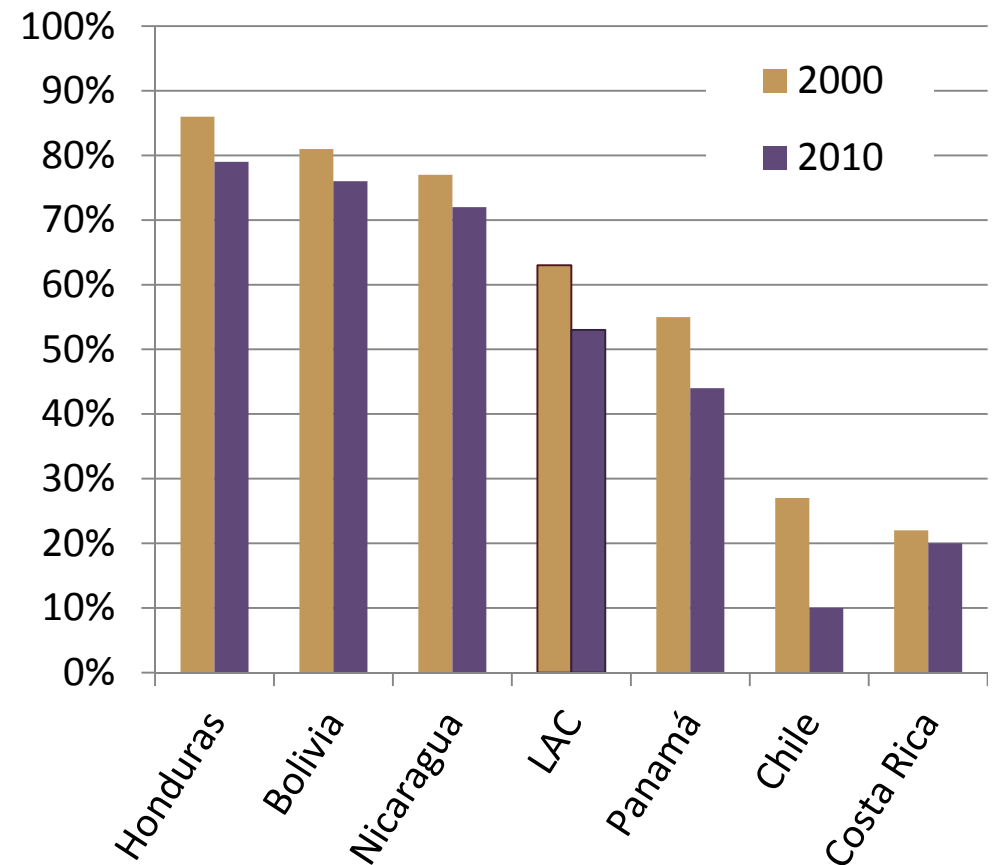
- **one third** of the world's population lives in **rural** areas
- largely corresponds to the **most vulnerable** portion of the population



World rural and urban population (1960-2050)
FAO, 2013.

1. Why do we care about agriculture in LA?

- In LAC more than half of the rural population lives in poverty
- Agricultural production in LAC grew at a rate of 1.9% in the last three decades, less than the rate of 2.4% for OECD countries



Evolution of rural population below poverty line in Latin American countries during last decade (%).
Own elaboration based on FAO, 2013.

2. Agriculture in a changing world

- It is necessary to **increase agricultural production by 80%** by 2050 to cope with the expected **35% increase of the region's population**
- This represents a **challenge**, especially under a **changing climate**, that is and will continue impacting the agricultural sector
- Agriculture needs to **adapt to new climate conditions**, both in order to mitigate negative impacts and to search for and take advantage of opportunities



3. What do we know about adaptation?

- IPCC 5AR: effort (policies and practice) has been concentrated on **mitigation rather than on adaptation**
- Key for advancing in adaption is **learning from our experiences**: studying what has been done
- **Little research** focuses on evaluating adaptation efforts, particularly within LAC



«Doctor, I have adaptation problems»

3. The Chilean case

- The Chilean climate is gradually evolving toward **higher average temperatures, lower rainfalls and more severe droughts**
- Many farmers in the country might not have enough tools to **deal with these changes**

3. The Chilean case

3.1 Goal of the study

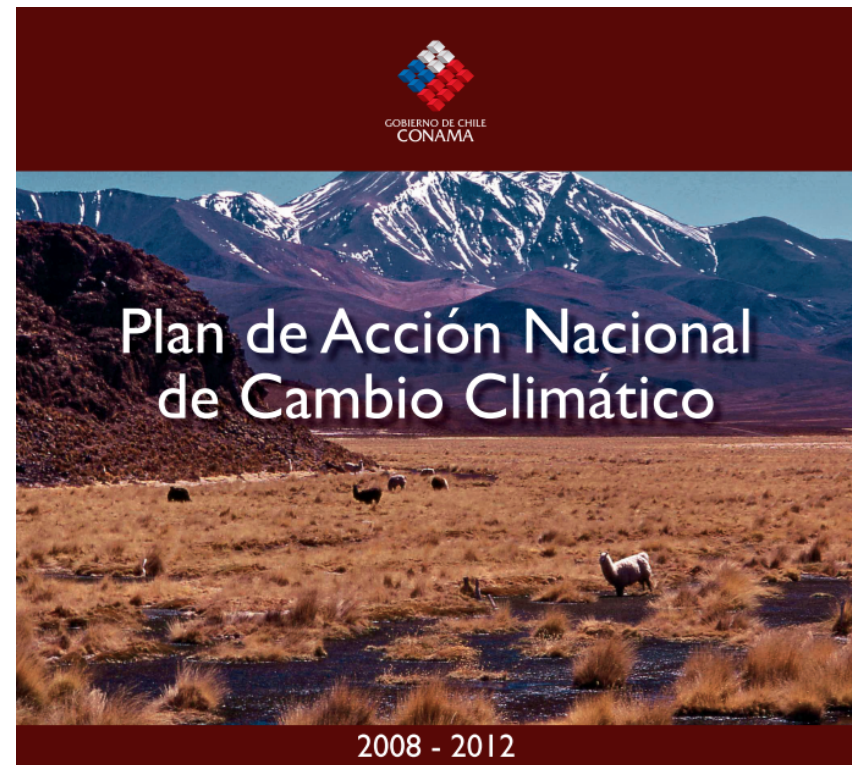
The goal of this study was to investigate the development of climate change adaptation in the agricultural sector in Chile and the most salient enablers and barriers emerging from these experiences



3. The Chilean case

3.2 What we did

We evaluated the achievements and the implementation process of the **National Action Plan for Climate Change (PANCC) 2008-2012**, the first formal institution created in Chile by the government to **guide all sectors in responding to climate change**

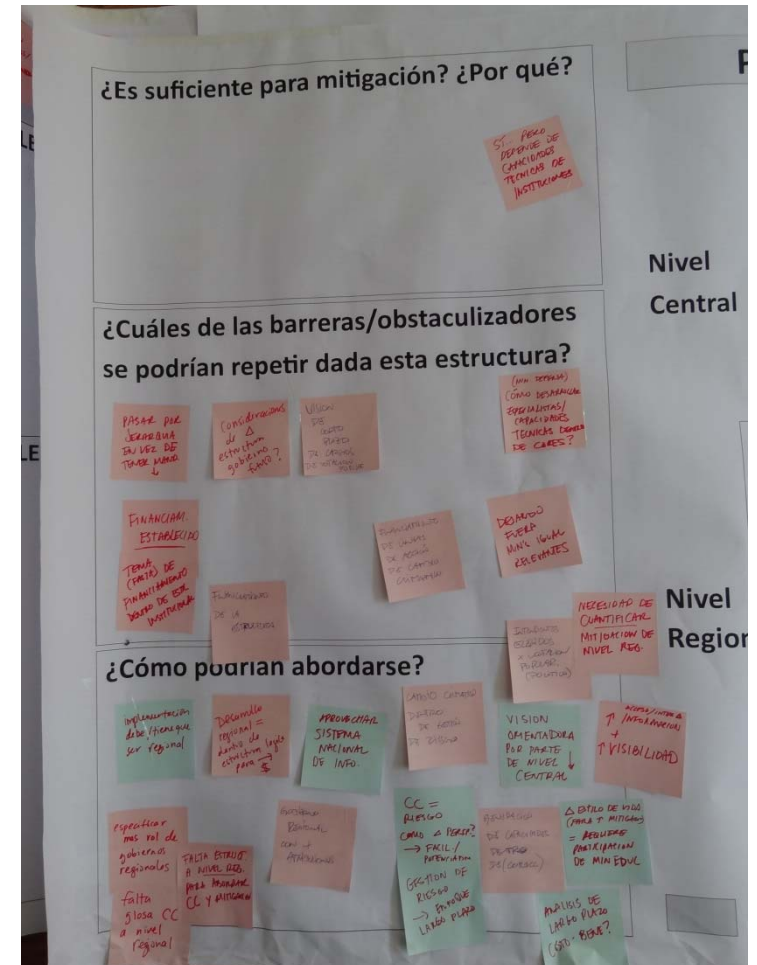


Cover of PANCC 2008-2012
(CONAMA, 2008)

3.4 How we did it

Multi-method, interdisciplinary and multi-actors approach:

- Methods: literature review, document analysis, consultation with experts, interviews, on-line surveys, workshops and focus-groups
- Research team: included professionals and researches from different disciplines and fields, from academia, NGOs and private sector, included from the start of the process



3. The Chilean case

3.5 Some important considerations

Given that the Plan's implementation **was initially delayed**, the Plan was evaluated from **2008 to 2014**

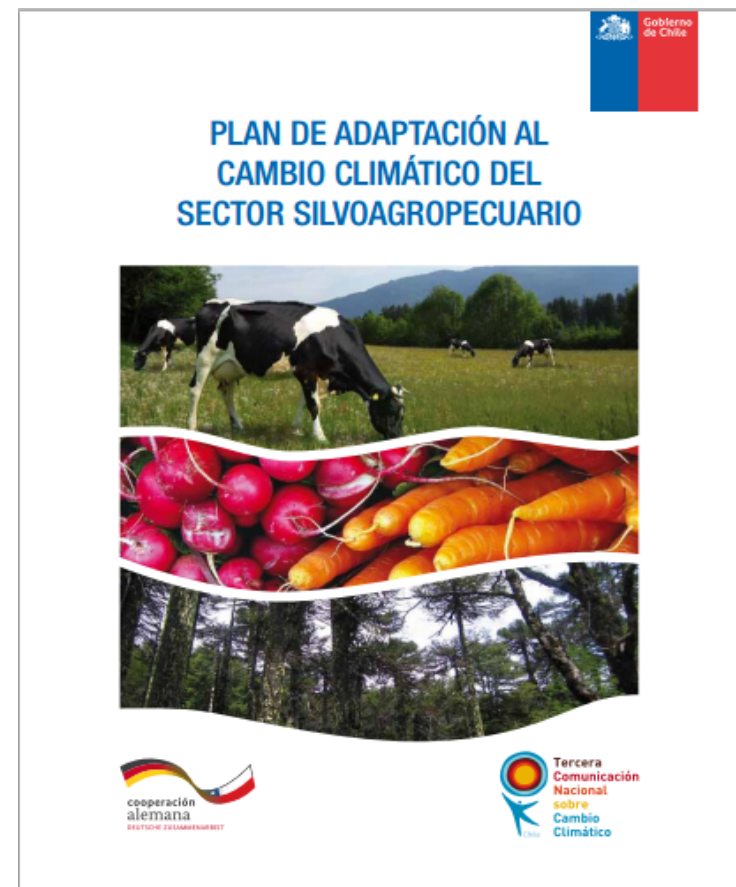
The design of the Plan was divided into three strategic areas: **adaptation, mitigation and capacity building**, with the agroforestry sector's primarily **focused on adaptation**



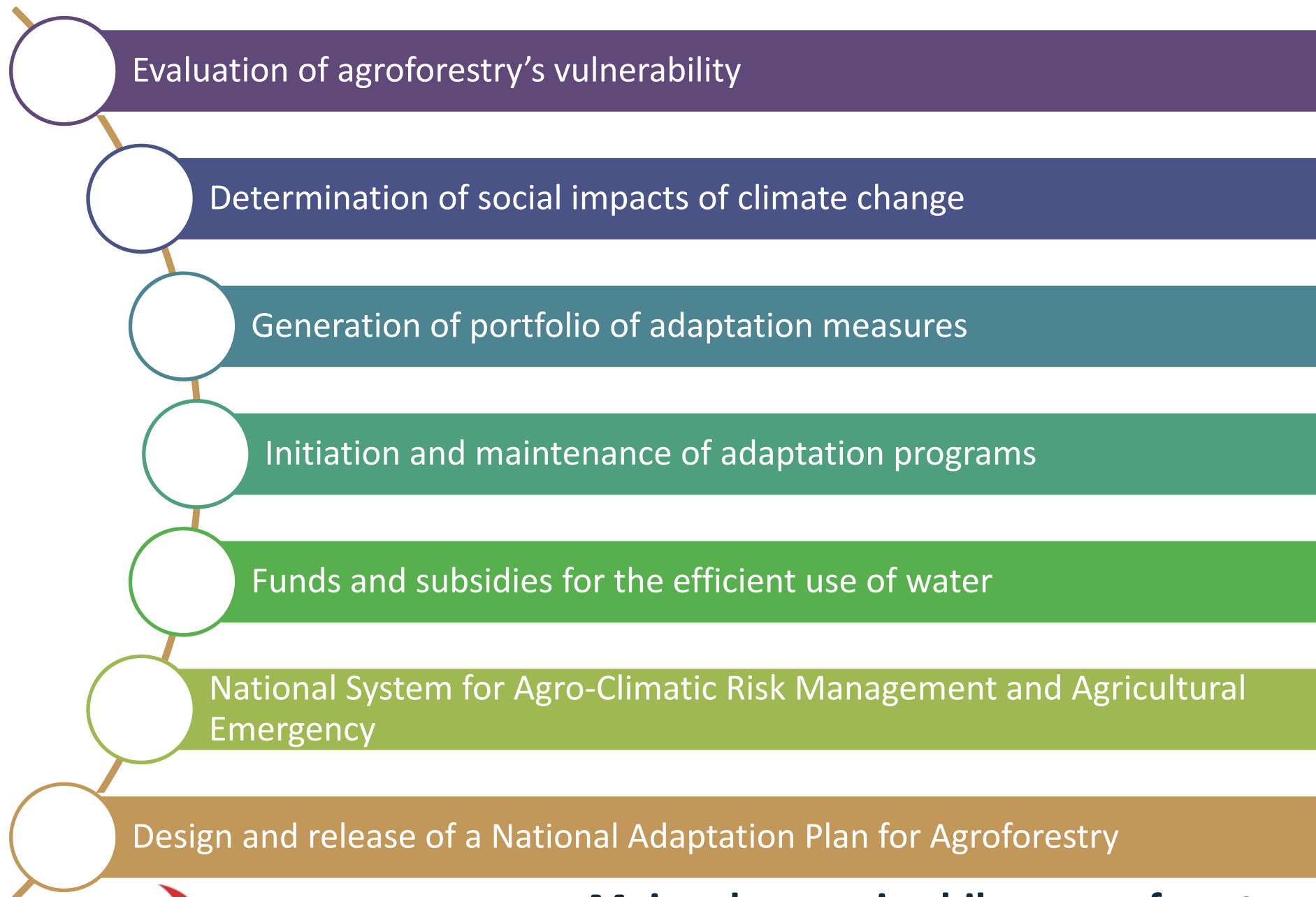
3. The Chilean case

3.6 Results

The agroforestry sector in Chile was the one that accomplished **the greatest and most sustained advancement** among all **sectors** considered for adaptation

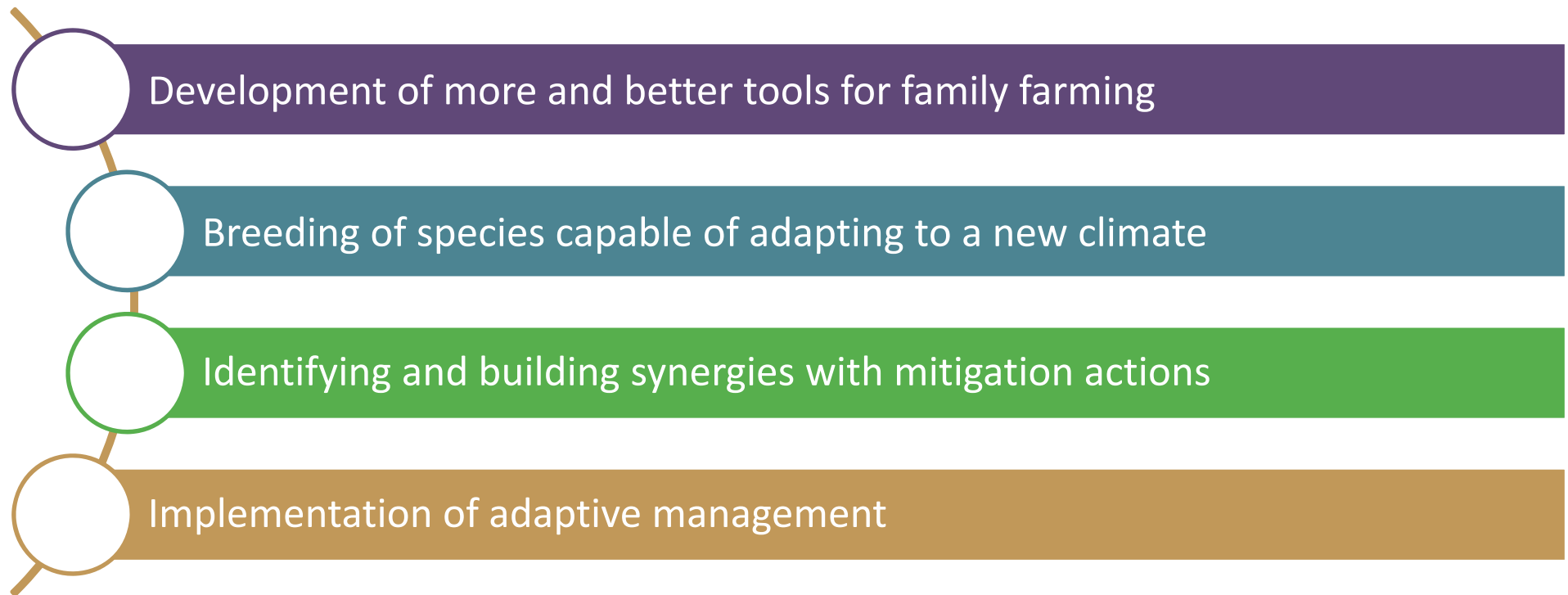


Cover of the National Adaptation Plan for Agroforestry (Ministry of Agriculture, 2013)



3. The Chilean case

3.6 Results: gaps



3. The Chilean case

3.6 Results: enablers and barriers

Type	Enabler	Mentions Agr. Sec.
Institutional / Legal	Parallel initiatives	
	Changes in the institutional environment	
	Interagency cooperation-collaboration	PANCC
	Institutional architecture	
Leadership	Presence of leaders	
Policy	Institutional decision (political will)	PANCC
Social	Concern about climate change (awarness)	PANCC
	Communication and information	PANCC
Scientific or technological	Scientific or technological	
Financial	Financial	
International activity	International activity	
External factors	Extreme events	

Type	Barrier	Mentions Agr. Sec.
Institutional / Legal	Parallel initiatives	
	Changes in the institutional environment	PANCC
	Change of personnel within organizations	PANCC
	Interagency cooperation-collaboration	
	Institutional architecture	
	Short-term vision	PANCC
	Deficient formulation	
Leadership	Absence of leaders	
Policy	Institutional decision (policy)	
	Limited sense of commitment	PANCC
Social	Concern about climate change	
	Communication and information	
Scientific or technological	Scientific or technological	
Financial	Availability of financial resources	PANCC
External factors	Extreme events	

Key features (IADB, 2006)	Barriers	Enablers
Stability of policy instruments institutions over time	<ul style="list-style-type: none"> - Short-term vision - Change of personnel - Changes in the institutional environment 	<ul style="list-style-type: none"> - Growing concern about climate change - Institutional decision
Adaptability of institutions and instruments under changing circumstances	<ul style="list-style-type: none"> - Deficient formulation (Lack of indicators in PANCC) 	
Inter-organizations coordination		<ul style="list-style-type: none"> - Interagency cooperation-collaboration
Coherence with other policies instruments	<ul style="list-style-type: none"> - Changes in the institutional environment 	
Quality and effectiveness of implementation	<ul style="list-style-type: none"> - Absence of leaders - Institutional architecture - Financial resources 	
Efficiency (better results with limited resources)	<ul style="list-style-type: none"> - Financial resources 	

Inter-American Development Bank's key features for public policies (2006) and their relation with barriers and enablers identified by public institutions in PANCC 2008-2012

4. Where do we go from here?

- Chile has **advanced a great deal** in confronting the challenges of climate change for the agricultural sector; however, **there is still a long way to go**
- The results presented in this study provide **helpful insights** that inform theory, policy design, and the implementation of climate change adaptation
- These results are also part of the design process for the **new PANCC, 2016-2021**
- One of the most important elements for integration is **adaptive management**

THANK YOU

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