

FUNDACIÓN AMIGOS DE LA NATURALEZA



# Joint Mitigation & Adaptation Indicators Framework

DEC 1st, Doha-Qatar

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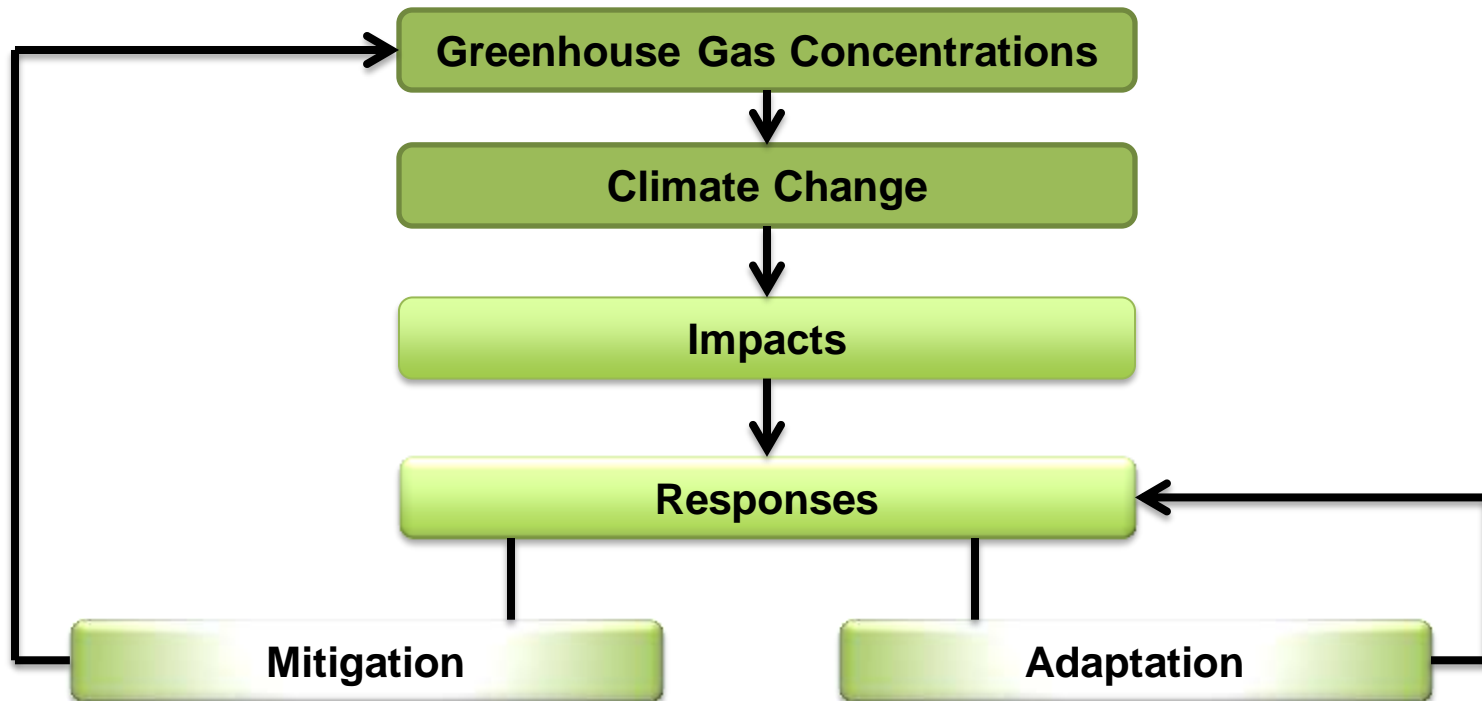
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# Mitigation & Adaptation

Two strategies for addressing climate change...



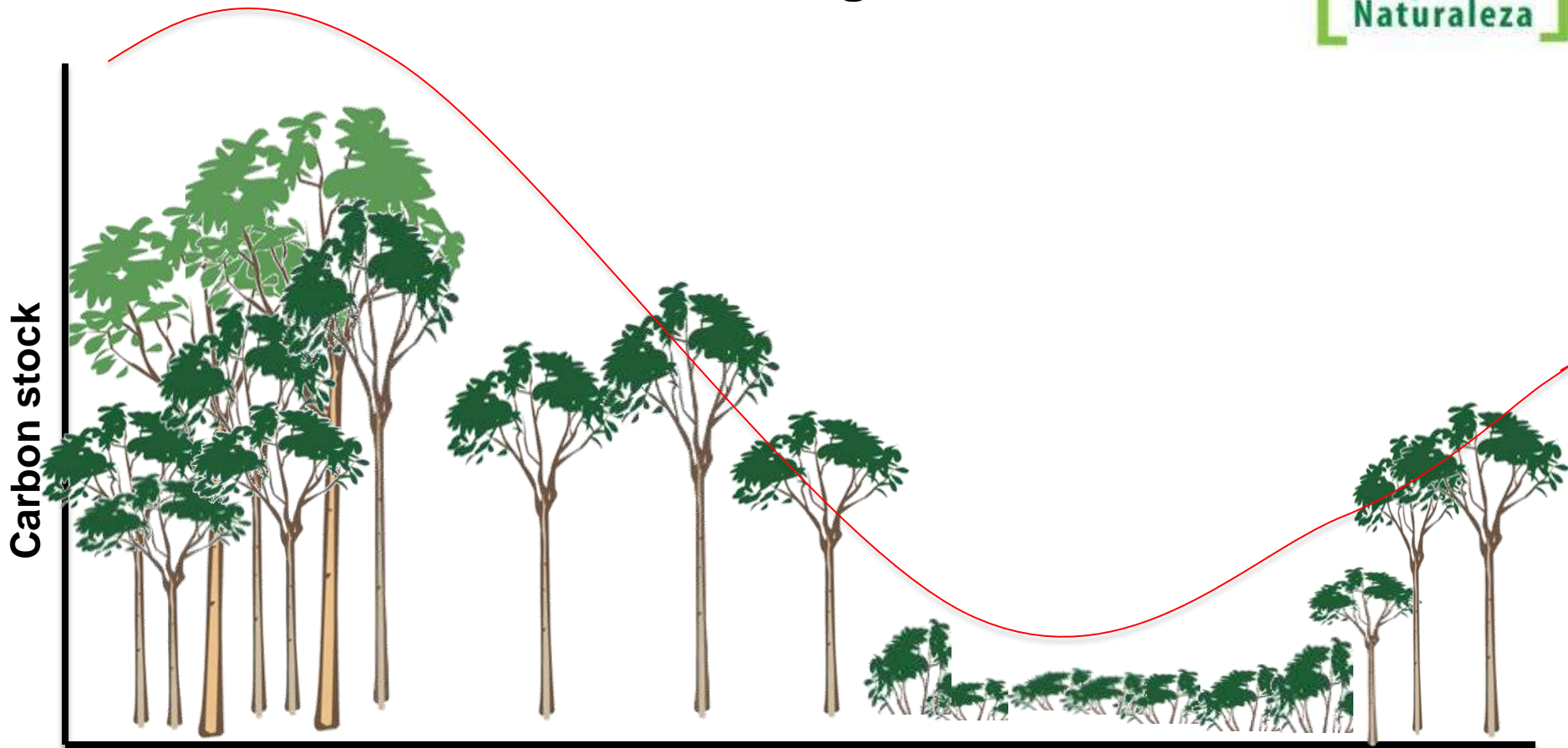
Source: Locatelli 2011

...both mitigation and adaptation are relevant  
to the agriculture and forestry sectors





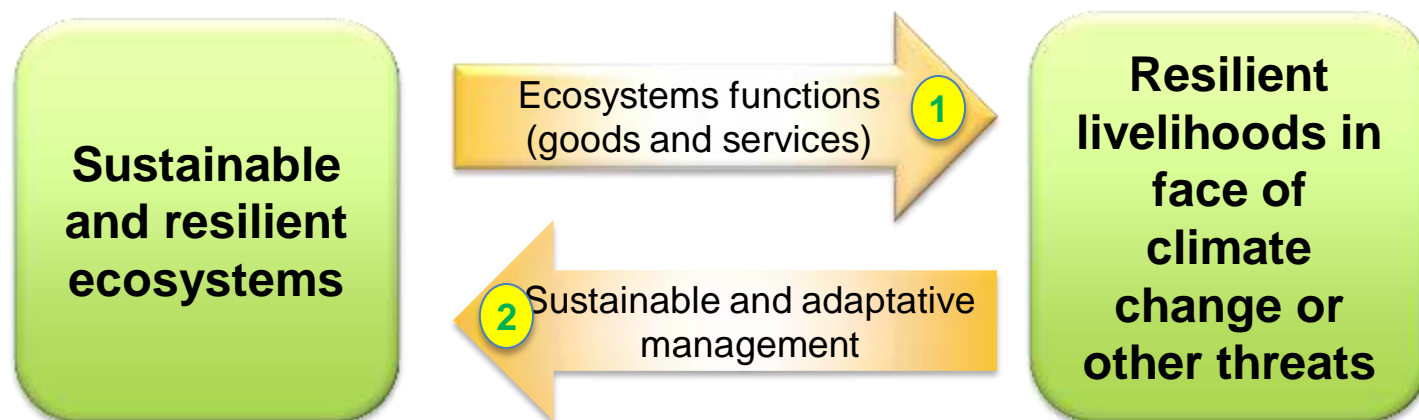
# Forest and Mitigation



Forests contribute to mitigation because of their capacity of remove carbon from the atmosphere and store it...



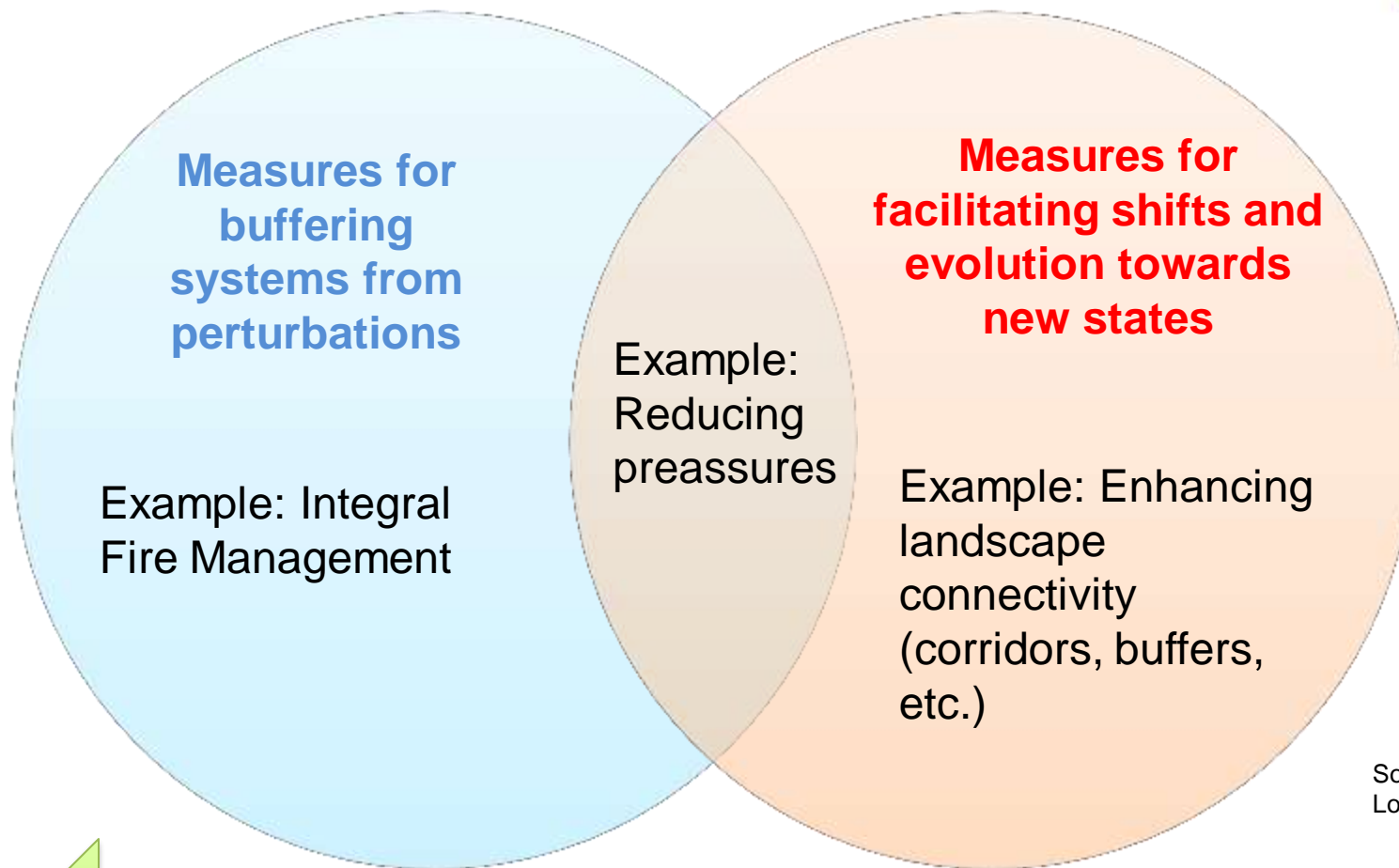
# Forest and Adaptation



Source: Locatelli 2011

1. **Forest for Adaptation** : as climate change will affect forests, adaptation measures are needed for forests to reduce negative impacts and maintain ecosystem functions.
2. **Sustainable management for sustainable provision of services + Adaptation for forest**: forest ecosystems contribute to adaptation by providing local ecosystem services that reduce the vulnerability of local communities and the broader society to climate change.

# Example of Forest Adaptation Measures



Source: Adapted from  
Locatelli et al 2008



# Joint Mitigation & Adaptation

Forest mitigation actions have the potential to facilitate the adaptation of forests to climate change...

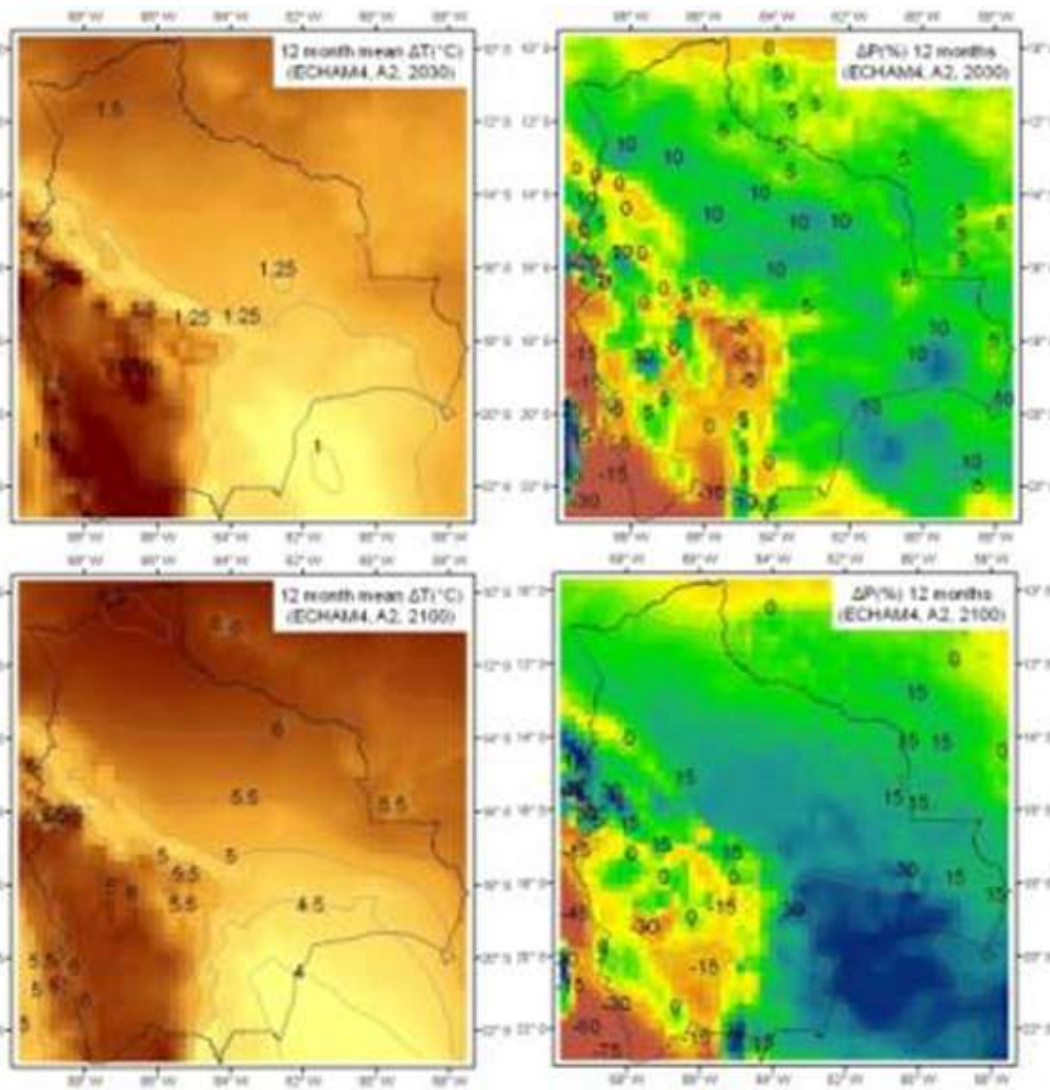
Adaptation actions can directly affect ecosystems and carbon stocks, thus having an impact on mitigation....



- ✓ Mitigation actions that **reduce anthropogenic pressures on forests**, enhance connectivity between forest areas and conserve biodiversity hotspots.
- ✓ Ecosystem-based adaptation actions that either **increase or maintain carbon stocks**.



# Climate Change in Bolivia



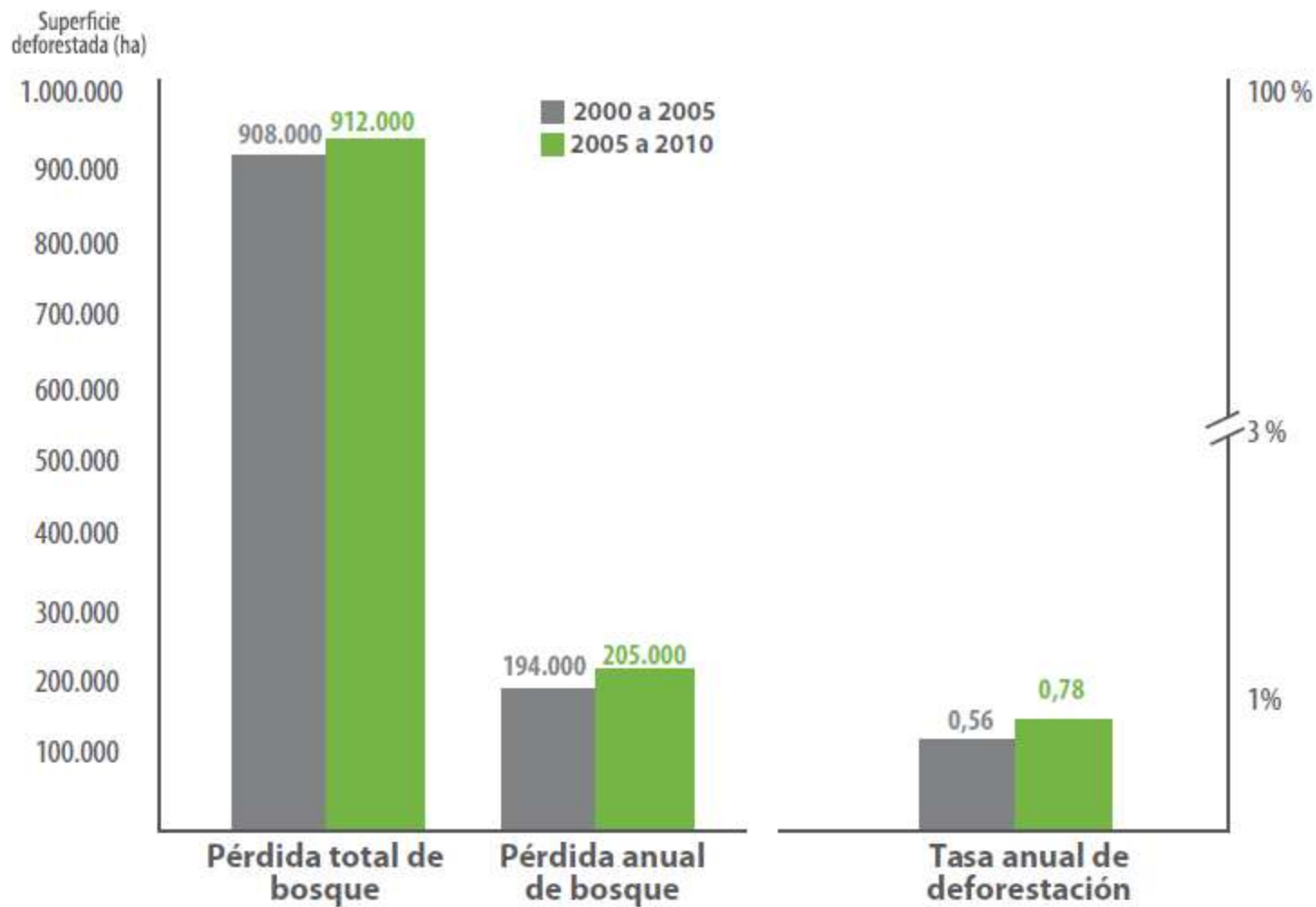
## Temperature

- Increase all over the country (1-2<sup>0</sup>C by 2030, 5-6<sup>0</sup> C by 2100)
- Extreme increases in the Lowlands and the sub-Andean mountain.

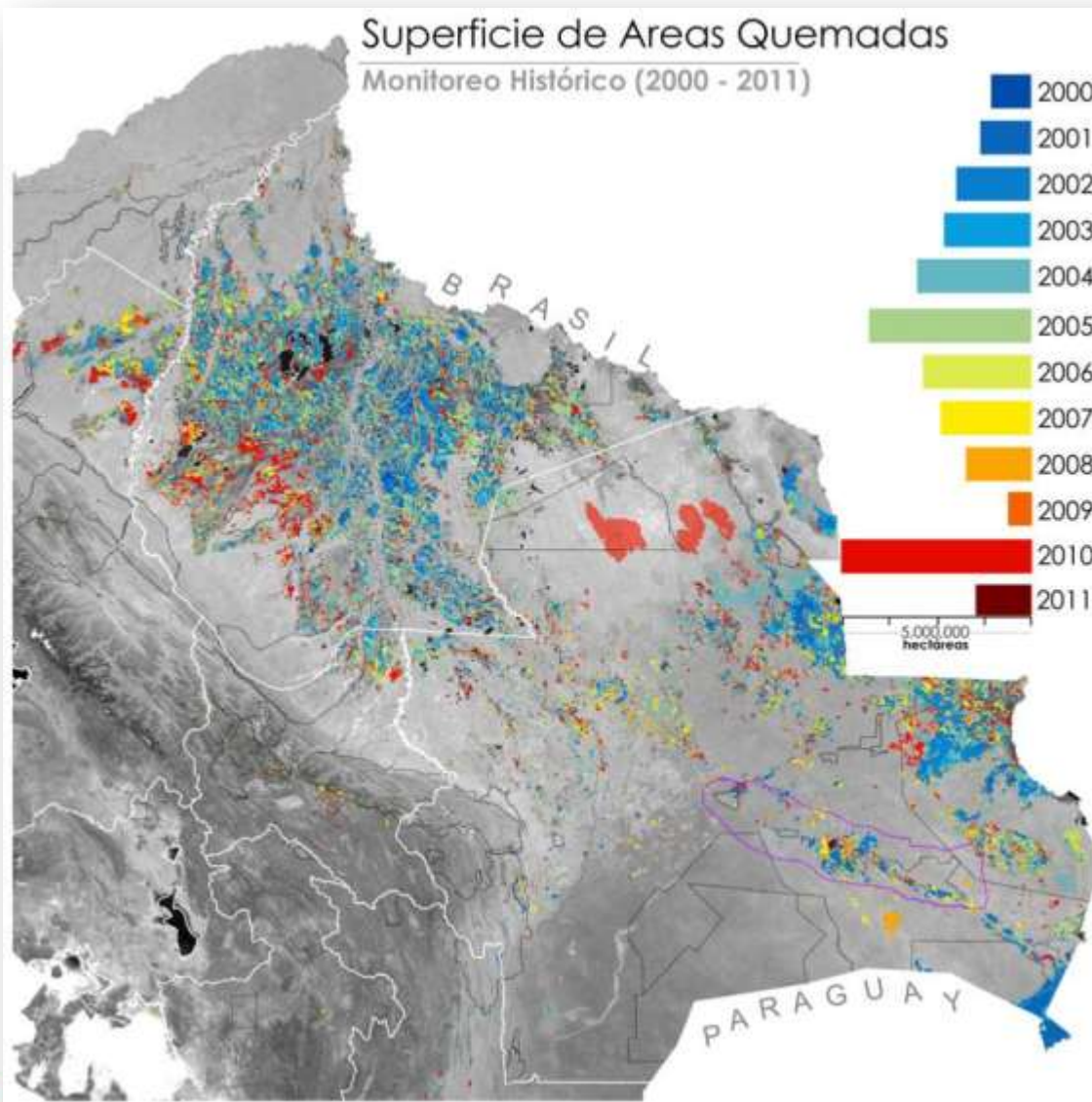
## Precipitación

- Intensification of the precipitation cycle
- More rain in the rainy season ( $\Delta P_{max}$  +53% Lowlands, 2100)
- Less rain during the dry season ( $\Delta P_{max}$  -36% Lowlands, 2100)
- Annual precipitation decrease
  - Sub-Andean mountain
  - North-Azononia

# Deforestation in Bolivia



# Degradation caused by forest fires in Bolivia



**2000 - 2011**

**≈ 23 millions ha**

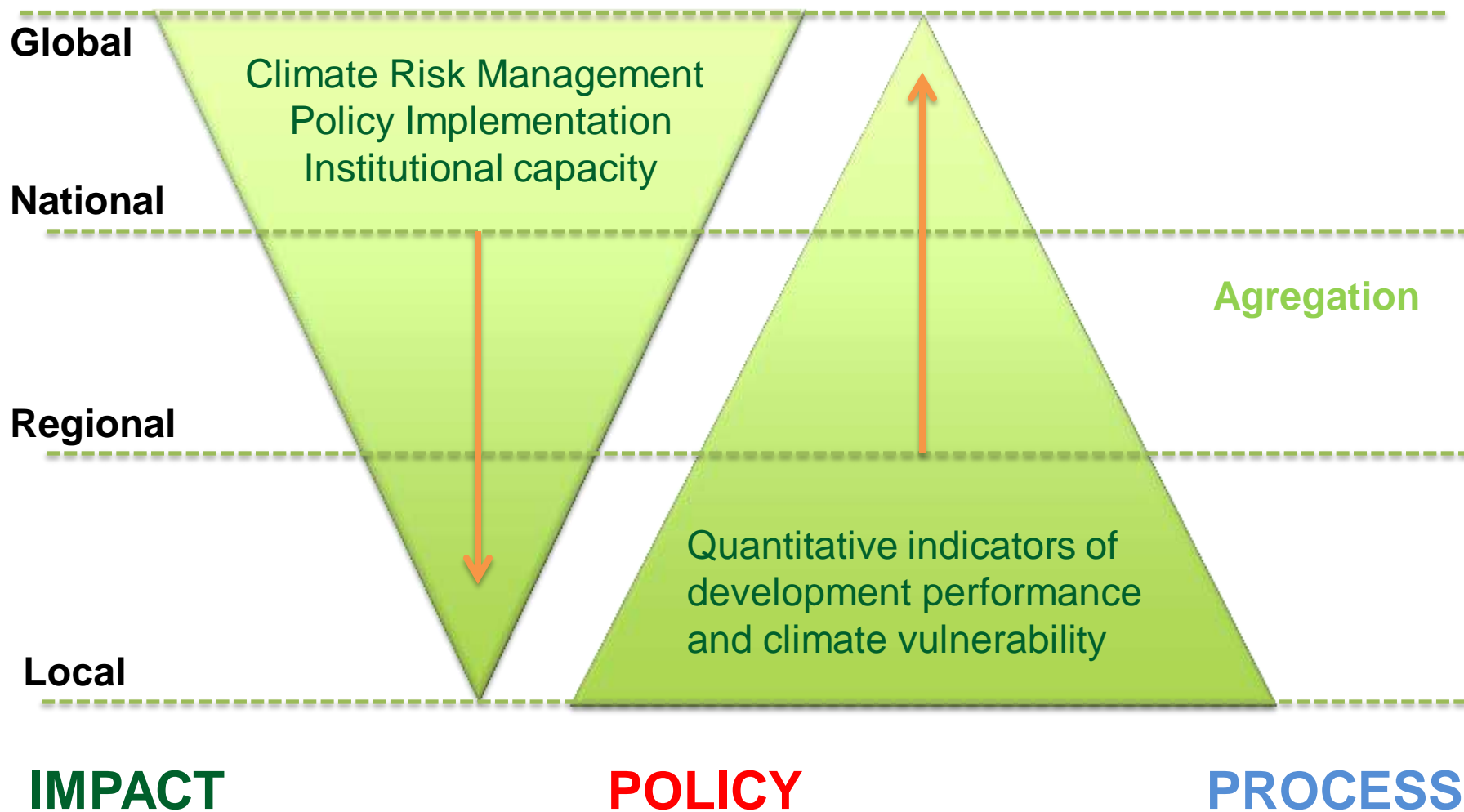
**20% Forest Fires**  
**4,6 millions ha**

**80% Burning of grasslands**  
**18,4 millions ha**

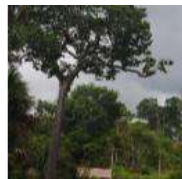
**2010 ≈ 5 millions ha**



# M & A Indicators Framework



# M & A Indicators Framework



## IMPACT

- Deforestation reduction (ha)
- Forest fires reduction (ha)
- State of conservation
- Ecosystem Functionality
- Integral Management Plans
- Livelihoods improved
- Vulnerability



## POLICY

- Mother Earth Law
- Forest Law
- Forest Governance indicators
- Auto-management capabilities



## PROCESS

- Institutional Framework (Mother Earth Authority, Joint M&A Mechanism)
- Financing mechanism (Mother Earth Fund)



## Some ongoing initiatives



The challenge is to integrate the conservation of biodiversity into the region's economic development processes while ensuring the sustainability of the forests and reducing their vulnerability to climate change through integral management of forest.



Implementing an innovative community-based approach to fire management as a means of adaptation to climate change, to reduce forest fires negative impacts on biodiversity and society.





# Final remarks

- Mitigation and adaptation are relevant to the agriculture and forestry sectors.
- Forest mitigation actions have the potential to facilitate the adaptation of forests to climate change.
- Adaptation actions can directly affect ecosystems and carbon stocks, thus having an impact on mitigation.
- JOINT M&A: Mitigations actions that reduce anthropogenic pressures on forests and adaptation actions that increase or maintain carbon stocks-> Fire management!
- Climate change is altering fire regimes through changes in moisture, vegetation structure and fuel composition, which make forests more susceptible to fires.
- The “vicious cycle of fire” could be leading to the loss of forest cover in a much larger area which is lost through deforestation or any other threat in Bolivia.
- The Joint M&A Indicators Framework is under construction, any suggestion is welcome!



**Generamos  
oportunidades  
e innovación para la  
conservación de la  
biodiversidad**