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CGIAR is a global research partnership for a food secure future



CGIAR Challenge Program on
WATER & FOOD
Andes • Ganges • Limpopo • Mekong • Nile • Volta

Breaking the trap: CGIAR experiences in resilience research

Alain Vidal
Resilience 2014, Montpellier

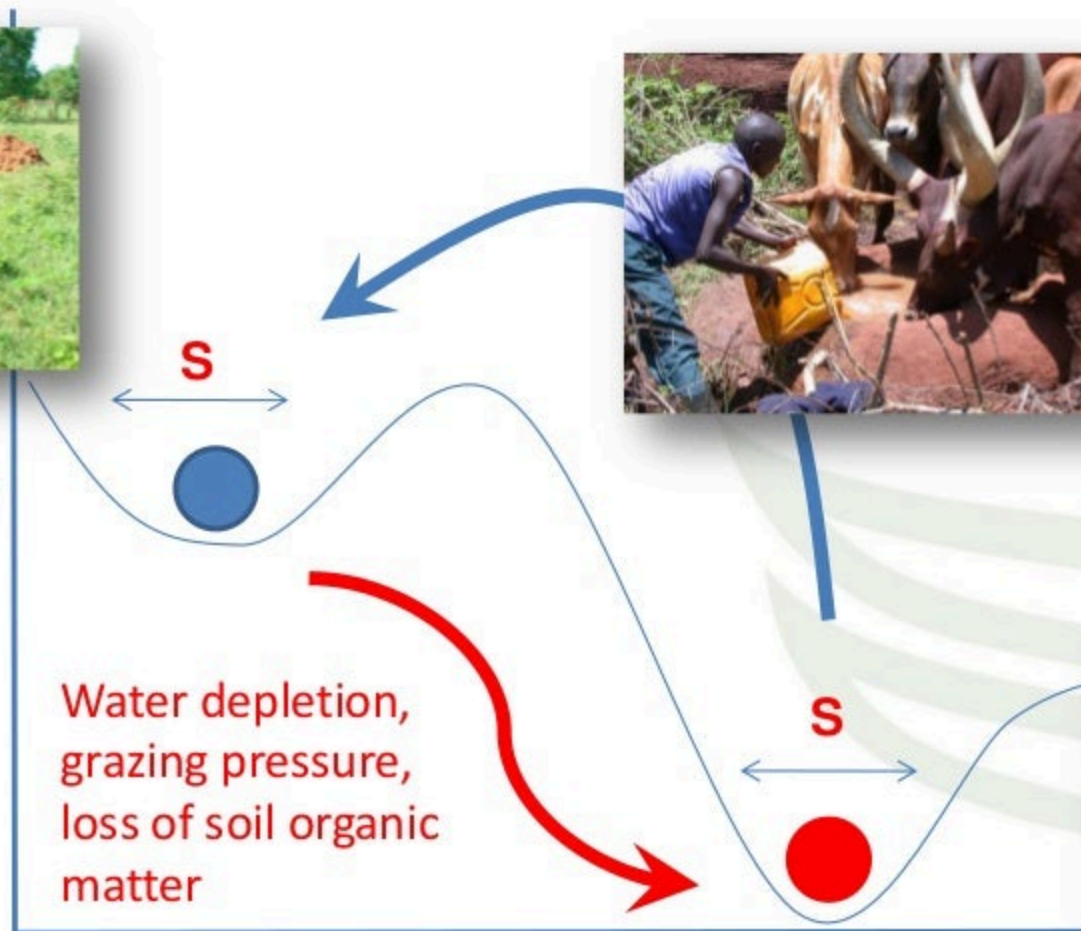
Resilience, cattle and termites



Wet Season:
Dry matter 4.5 T/ha
9 species / m²



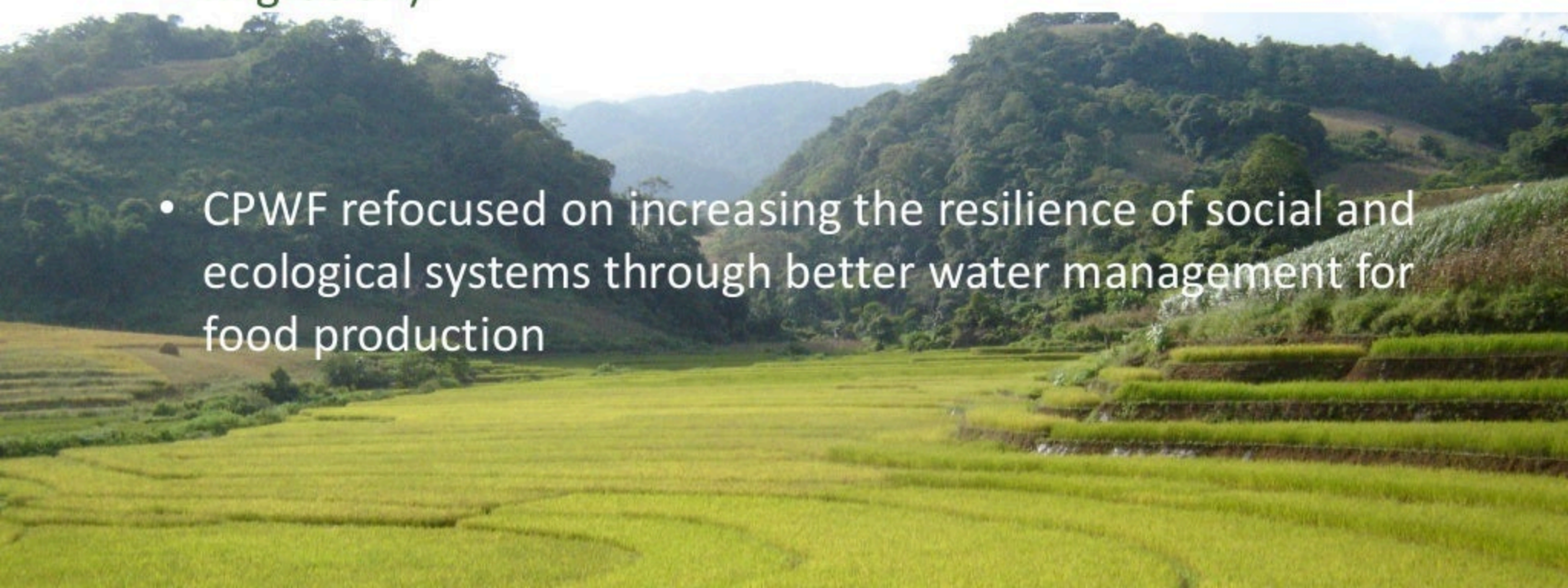
Manure applied through night corralling provides a preferred diet for the termites



Wet Season:
Dry matter 0 T/ha
0 species / m²

CPWF's resilience lens

- Facing situations where social-ecological systems trapped on undesirable low-productive pathways
- Research cannot halt the factors contributing to agricultural land degradation (climate change, population growth, and migration)
- CPWF refocused on increasing the resilience of social and ecological systems through better water management for food production





Regime shifts - moving upwards while preventing falling over the edge

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BSMs in the Andes trigger change between alternate resilient states



Annual net income:
US\$ 2,183/ha

Revolving fund credit:
+180 farmers /year

Farmers' insufficient gain and risk aversion: only 11% converted



Conservation agriculture and paramo restoration supported by revolving fund

Potato cropping, grazing pressure, degradation of paramo

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Annual net income:
US\$ 1,870/ha



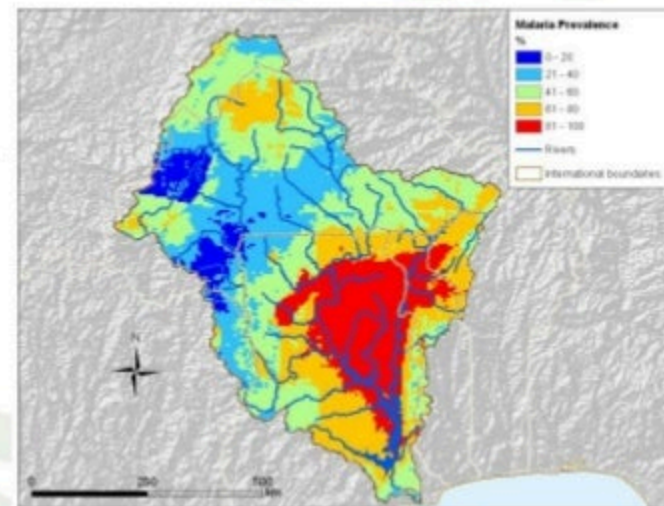
Fair enough but...

How about traps ?

Resilience traps identified by CPWF

- Risk traps

- High risk situations (eg drought, health risk, financial collapse) reduce internal incentives to invest in the system



- Consumption/production traps

- Rate of bio-resources consumption too close to the production rate
- Resource mining



Resilience traps identified by CPWF

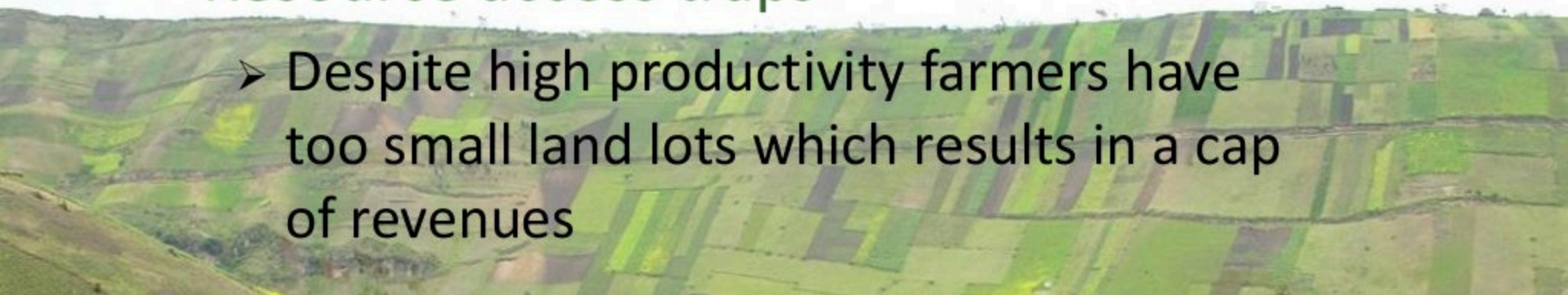
- Variability traps

- Small investments do take place but variability (eg climate) and resulting losses of capital limit development changes



- Resource access traps

- Despite high productivity farmers have too small land lots which results in a cap of revenues



Resilience traps identified by CPWF

- Policy traps

- Disabling policies and lack of transparency prevents markets and resources being used effectively

- Cultural traps

- Mindsets prevent change, eg “food security means production not income”



Concluding questions

- Are we ready to test how resilience thinking could help stop digging and identify pathways to sustainable intensification?
- Has anyone been successful using a 'resilience lens' to get an ecosystem and/or a poor community out of any of these traps?

