

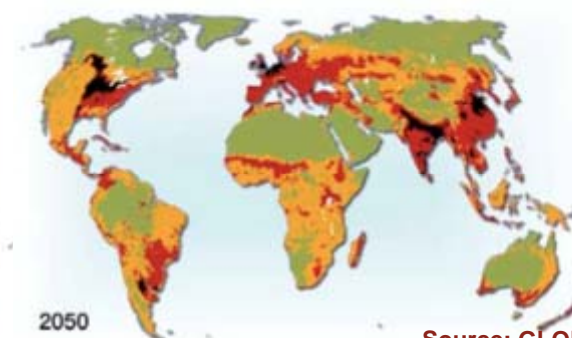
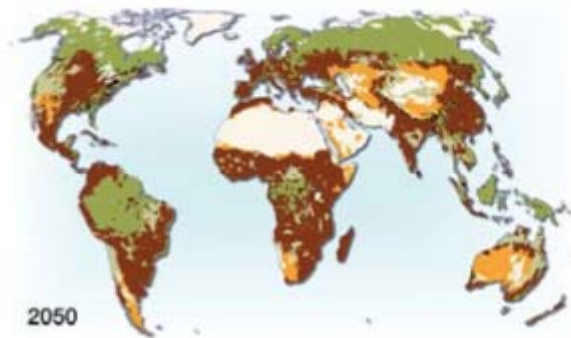
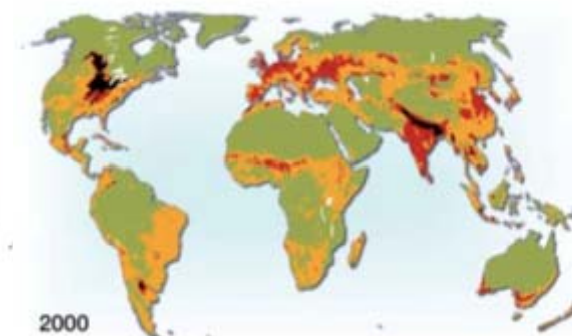
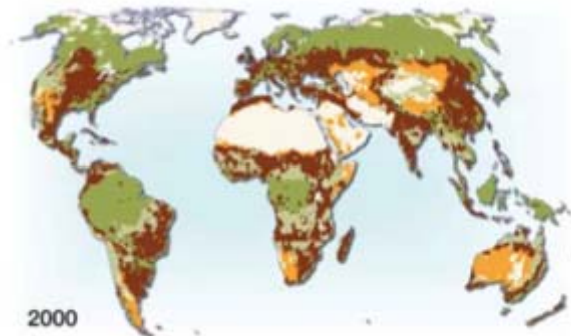
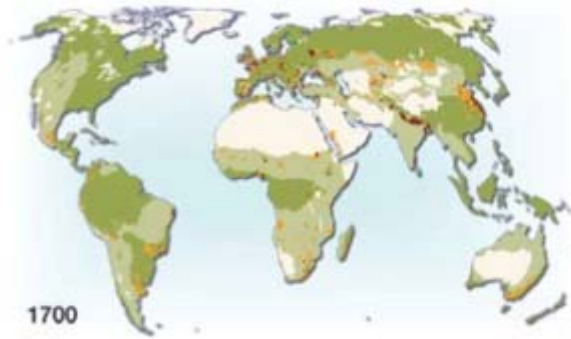
4 returns: a holistic framework for landscape restoration

**Willem Ferwerda
Green Week, IUCN, 31 MAY 2016**



Land use

Biodiversity



Land use and agriculture

- Agricultural land
- Extensive grasslands (incl pasture)
- Regrowth after use
- Forests
- Grasslands
- Non-productive land

Biodiversity, as ratio of species abundance before human impacts

- High impacts 0 - 25
- High-medium impacts 25 - 50
- Medium-low impacts 50 - 75
- Low impacts 75 - 100 %

Mean species abundance (%)

Source: GLOBIO; Alkemade et al., 2009

Many policies and actions plans in place

Bonn Challenge

Action 2020

UNCCD

Land

New York Declaration 2014

Degradation Neutrality

UN Climate Change

Sustainable Trade
Initiative - IDH

Africa 100m ha

CoP 21 Paris

Global Landscape Forum

Global Partnership on Forest
and Landscape Restoration

Climate Smart Agriculture



Loess Plateau (China)
1995



Photo credit: Kosima Liu

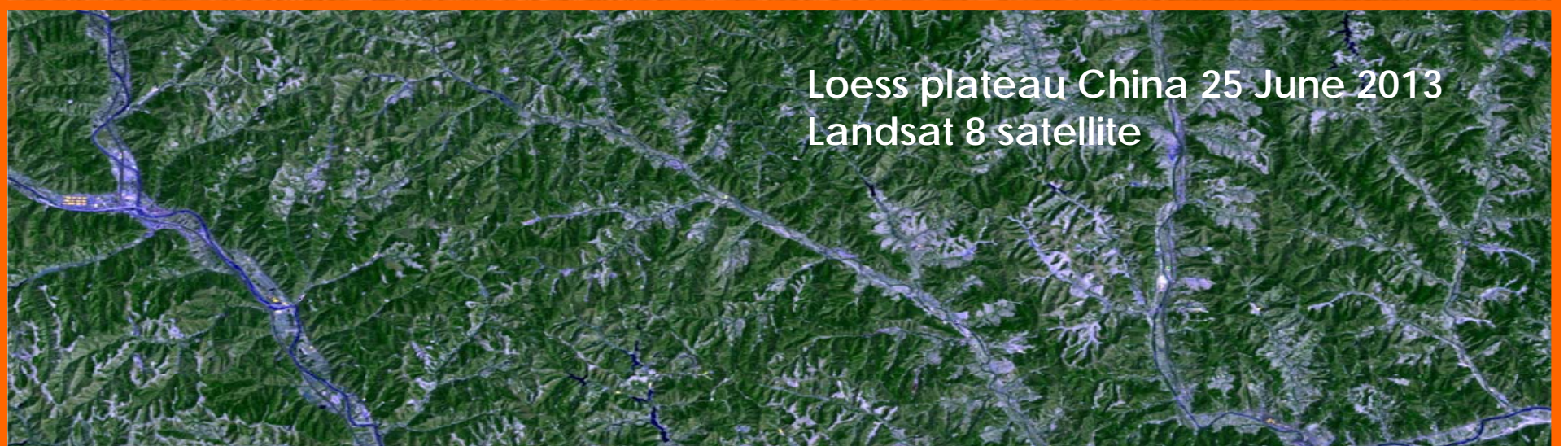


Loess Plateau (China)
2009

Photo credit: Kosima Liu



Loess plateau China 8 June 1995
Landsat TM 4/5 satellite



Loess plateau China 25 June 2013
Landsat 8 satellite

2.5 million
people were lifted
out of poverty

Low-value agricultural
commodities were replaced with
high-value products

In 10 years farmers' incomes
tripled

Employment
diversified

Grain output increased from
365 kg to 591 kg
per capita per year

**Sediment flow into
the Yellow River**
Reduced with 80% since the
start (> 1 billion tons annually)

Perennial vegetation cover
increased from **17% to 34%**

Opportunities for women
to work **increased significantly**

Employment rate
increased from
70% to 87%



Source: World Bank

Large investable landscape restoration projects are needed but non-existent.

How to built a pipeline of large scale projects to accelerate a restoration industry?

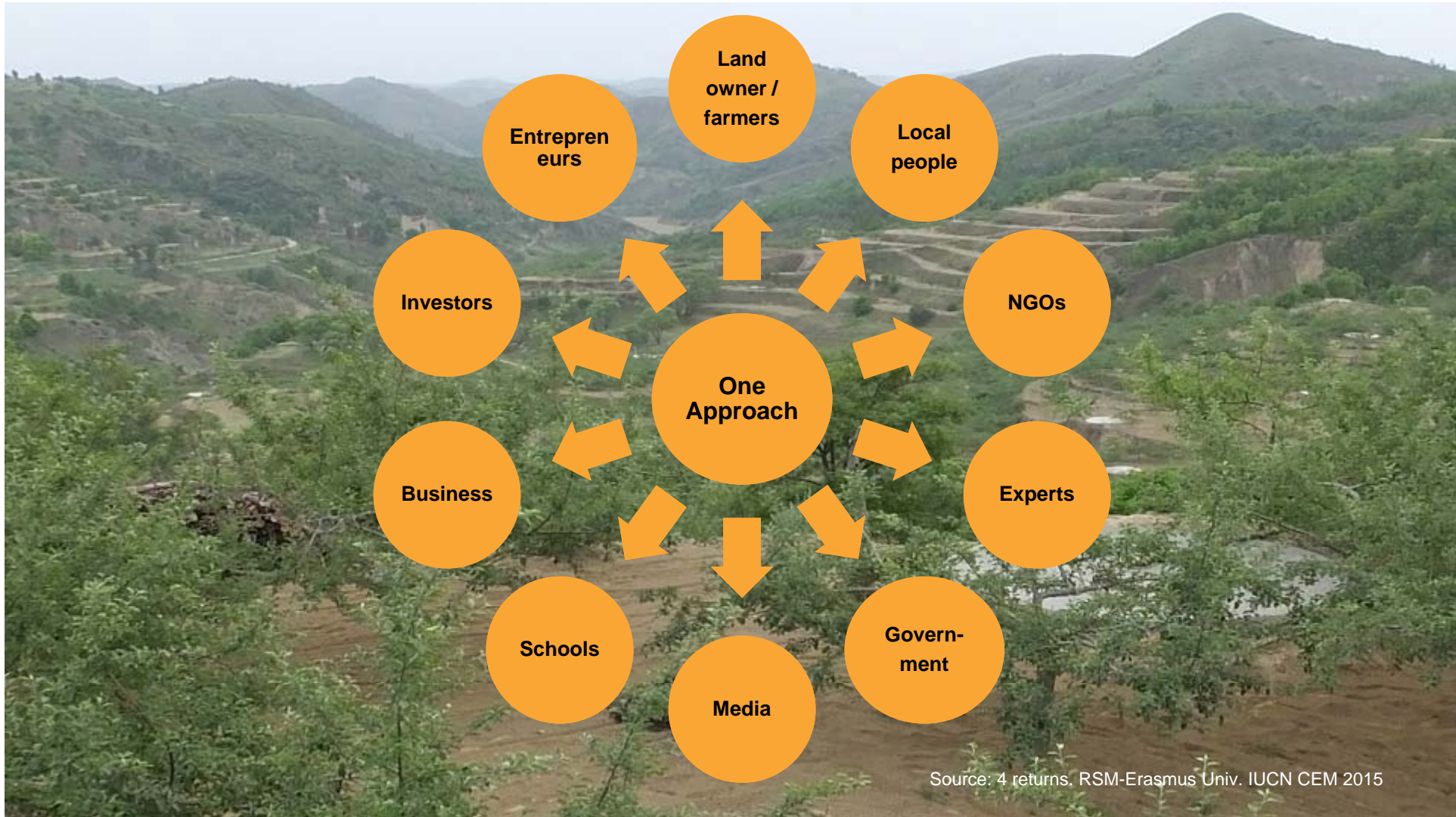
Business as usual







Maximization of Return on Investment per hectare creates deforestation, desertification, biodiversity loss, climate change



Source: 4 returns. RSM-Erasmus Univ. IUCN CEM 2015



4 returns from Landscape restoration

Returns	Different Entities	Values measured
Inspirational Capital 	<ul style="list-style-type: none"> • Meaningfulness, holistic awareness • Local culture wisdom & outreach • Landscape leaders, commitment to local ownership, less corruption • Understanding meaning of long term commitment of companies, investors • Time for inner reflection, worship 	<ul style="list-style-type: none"> • % of stakeholder group / yr / ha: # local cultural, social, religion events • # 'defining moments' of people involved • % of stakeholder group /yr / ha committed; % -/- corruption benchmark • % responding to long term commitment; responsible leadership; % of > # years commitment, investment • % of free time to rest and think
Social Capital 	<ul style="list-style-type: none"> • Jobs • Security • Local social cohesion • Education & Social Services 	<ul style="list-style-type: none"> • # of new jobs / project / municipality - ha • # various savings yr / project • # of social ventures / yr / project • # schools, trainings, services / project
Natural Capital 	<ul style="list-style-type: none"> • Biodiversity • Invasive species • Vegetation cover • Top soil • Water 	<ul style="list-style-type: none"> • # of (native) species / yr / ha • % decrease / yr / ha • % coverage / yr / ha; % cloud formation • mm layer / yr / ha; % microbes; % C / ha • % humidity; # stream flow (m³ / yr / ha)
Financial Capital 	<ul style="list-style-type: none"> • Agriculture, Carbon, Timber • Leisure, hunting, bush harvesting • Real estate & other incomes • Water • Decrease erosion, increase topsoil 	<ul style="list-style-type: none"> • Yield / yr / ha • Yield / yr / ha • Value / yr / ha • Production m³ / yr • Decrease costs input chemicals / ha / yr

Source: 4 Returns (2015) Ferwerda

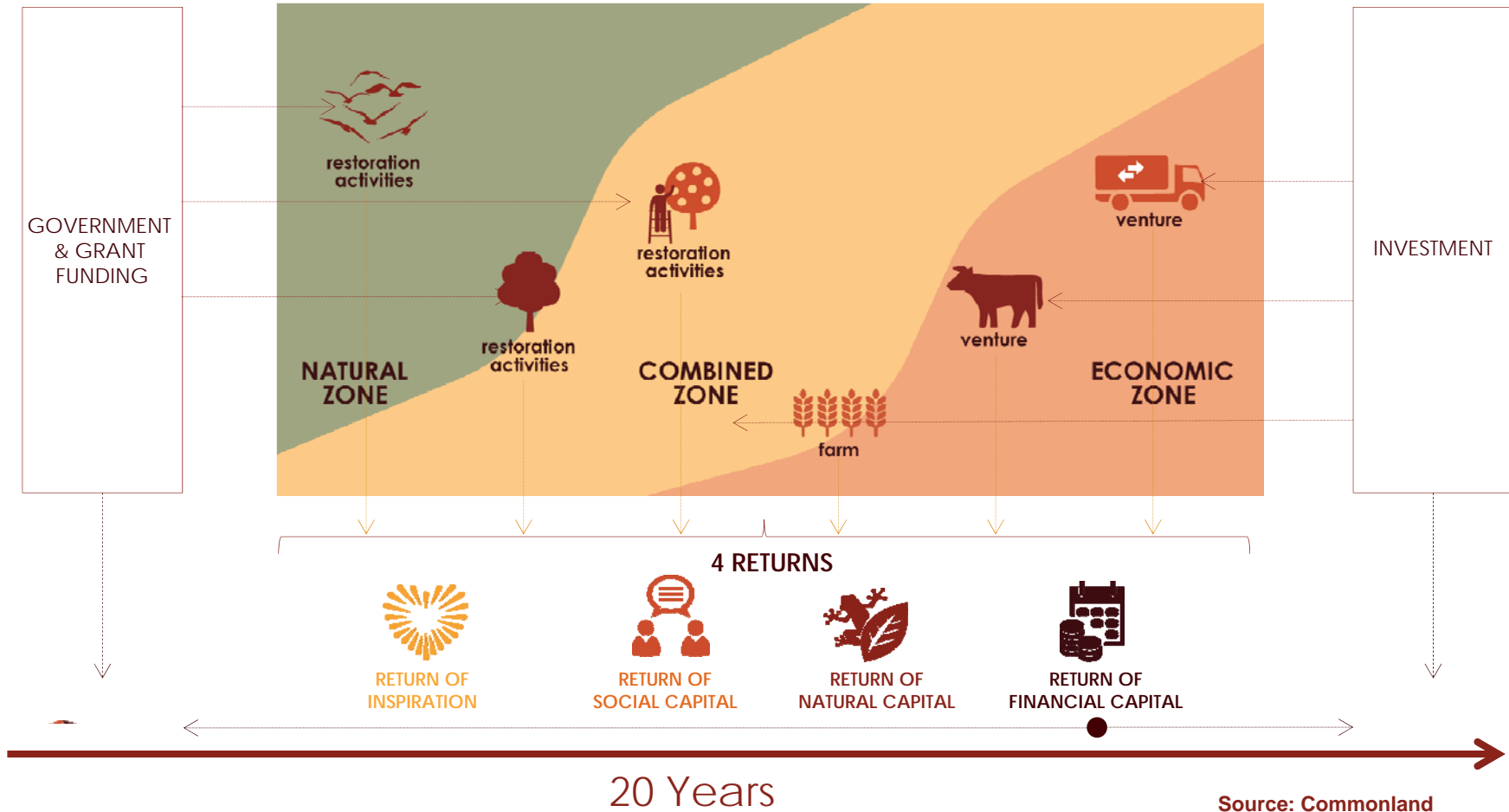
To maximize the 4 returns, we apply the 3 zones landscaping principle to every landscape restoration plan, for a period of 20 years.

- Nature zone
- Combined zone
- Economic zone



Source: 4 returns. RSM-Erasmus Univ. IUCN CEM 2015

4 returns landscape masterplan – zoom out /zoom in



Creating a common intent - U curve



Source: Presencing Institute, Living Lands



Stakeholder Mobilization



Business Development



4 returns
orchestration



Financing & Investment



Knowledge & Learning

Founded in 2013 by IUCN CEM, Rotterdam School of Management and private investors. Mission partners: GPF, ELD-GIZ, WBCSD, WUR, Presencing Inst.

Contributing Bonn Challenge, by developing business cases with 4 returns, 3 zones, 20 years.

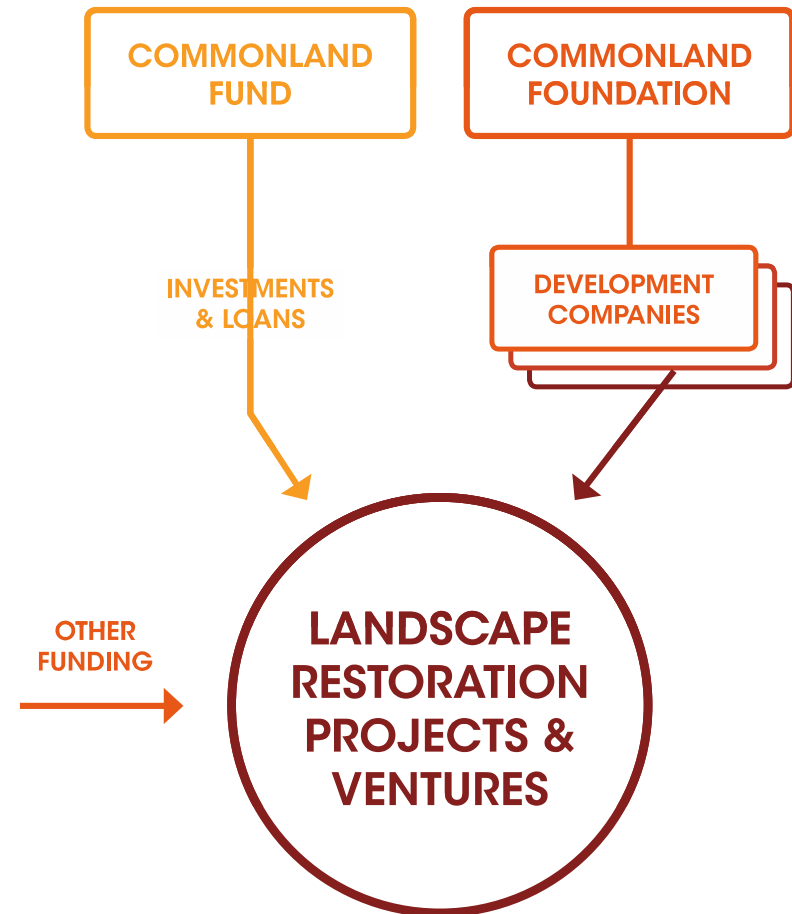
Projects in South Africa, **Spain**, Australia.

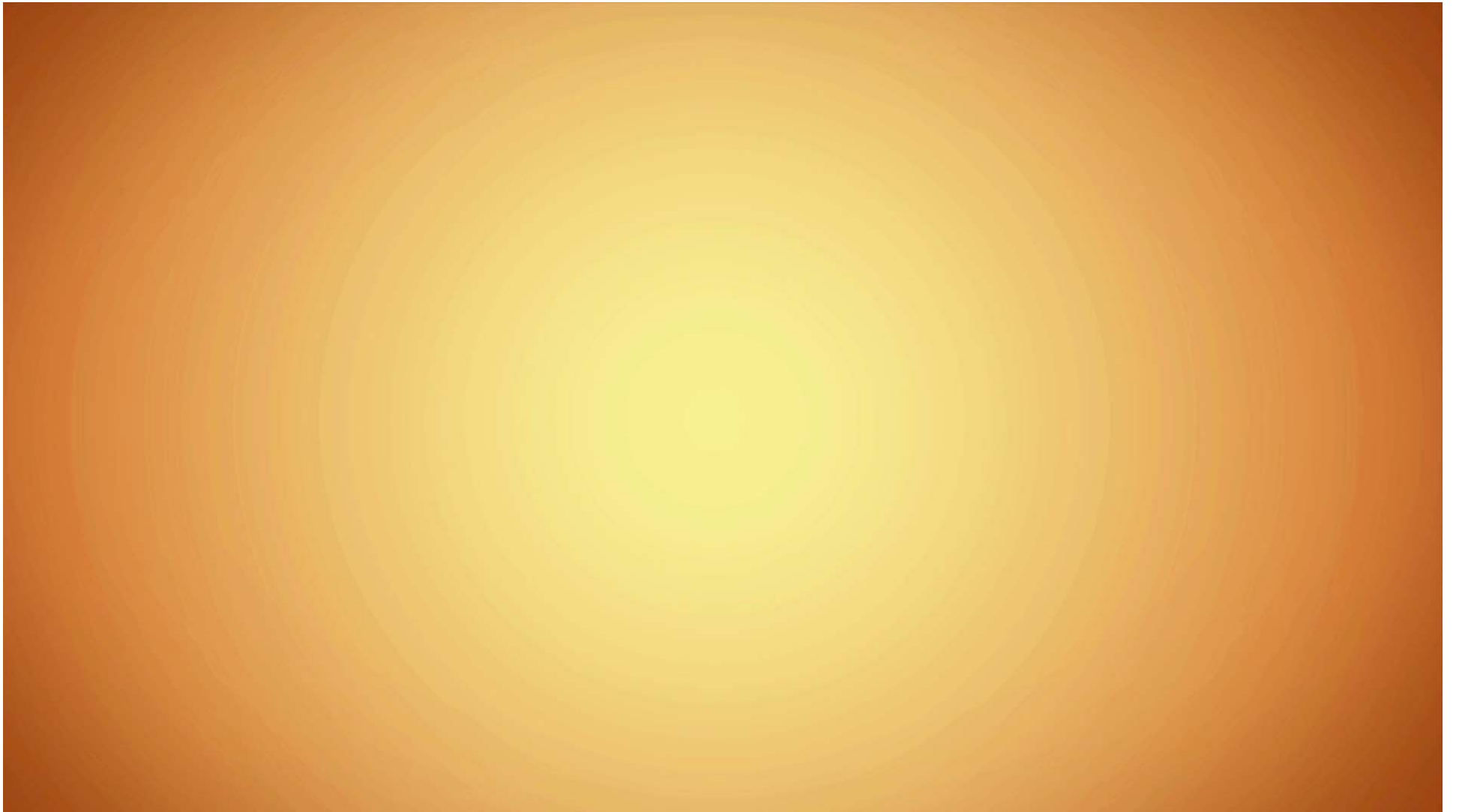
Scouting in Colombia, Netherlands

Academy for Business and Landscapes

Multidisciplinary team of 30 people

Developing an investment fund with others







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