

A 4 returns landscape restoration in Spain

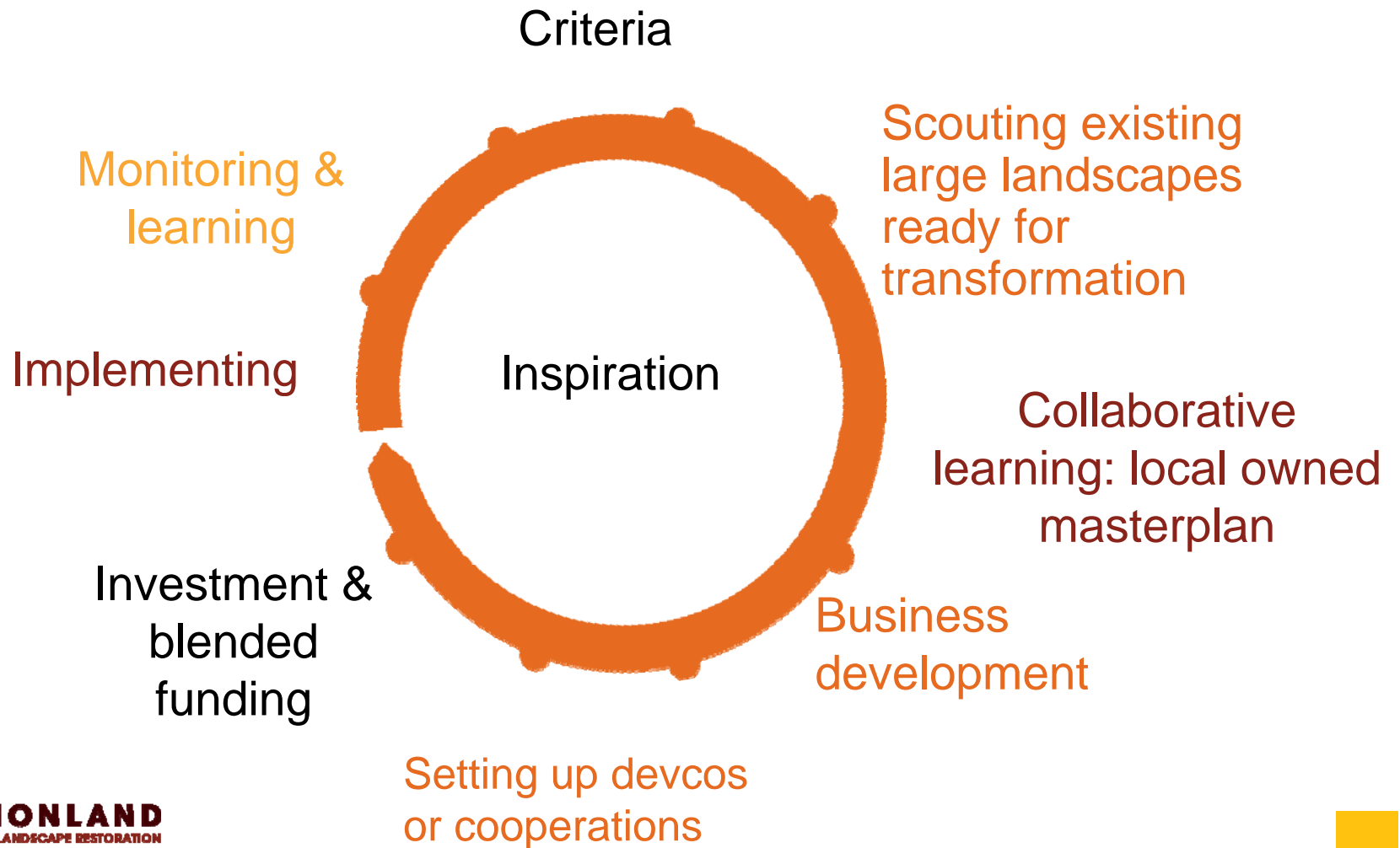
How does it work?

Willem Ferwerda, Green Week, 31 May 2016

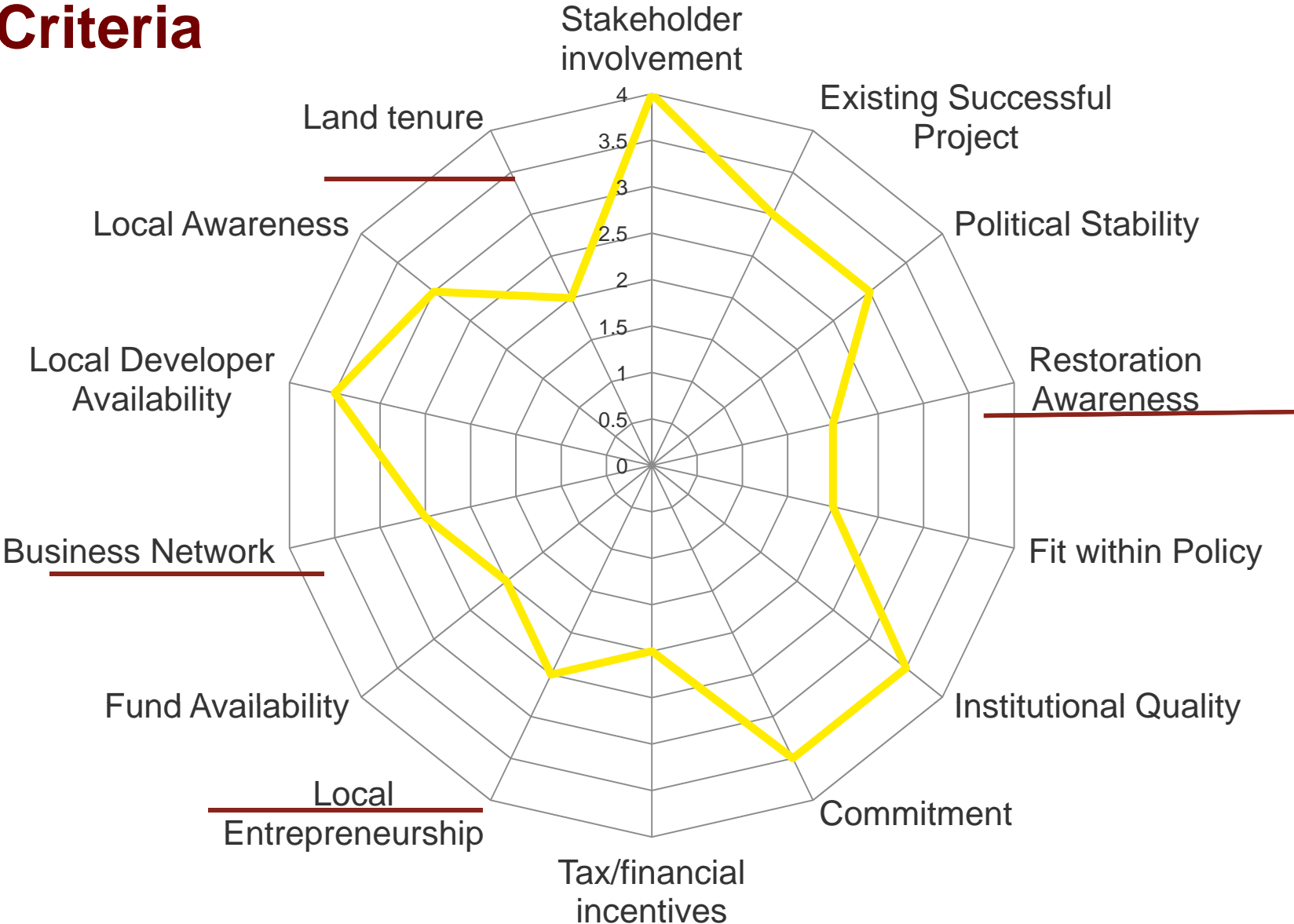






COMMONLAND
4 RETURNS FROM LANDSCAPE RESTORATION

Scouting

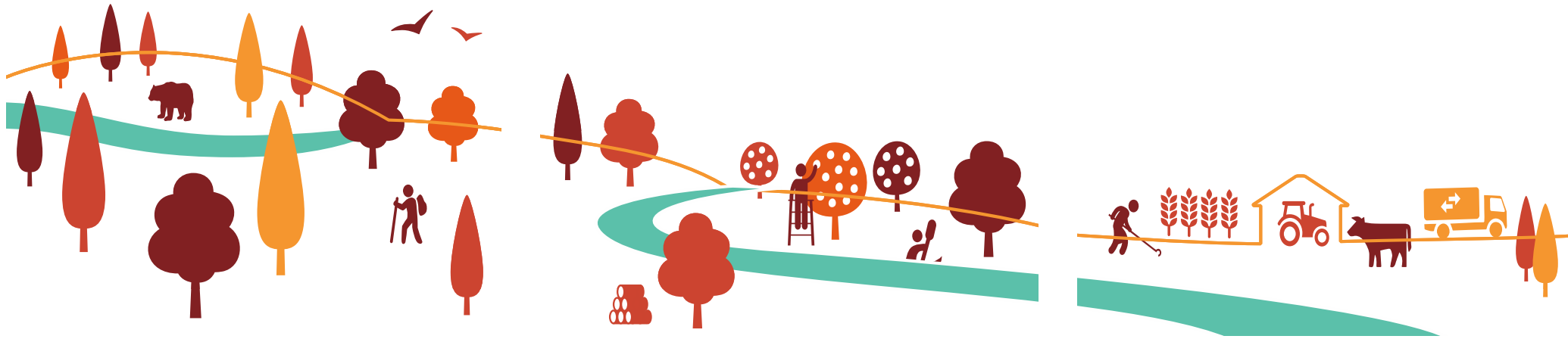


Criteria



4 returns	Different Entities	Values measured
Inspiration 	<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 <p style="text-align: right;">Source: 4 Returns (2015) Ferwerda</p>

NATURAL ZONE



Investment

- Restoring vegetation
- Planting native trees and clearing invasive species
- Natural restoration
- Extensive maintenance

Return

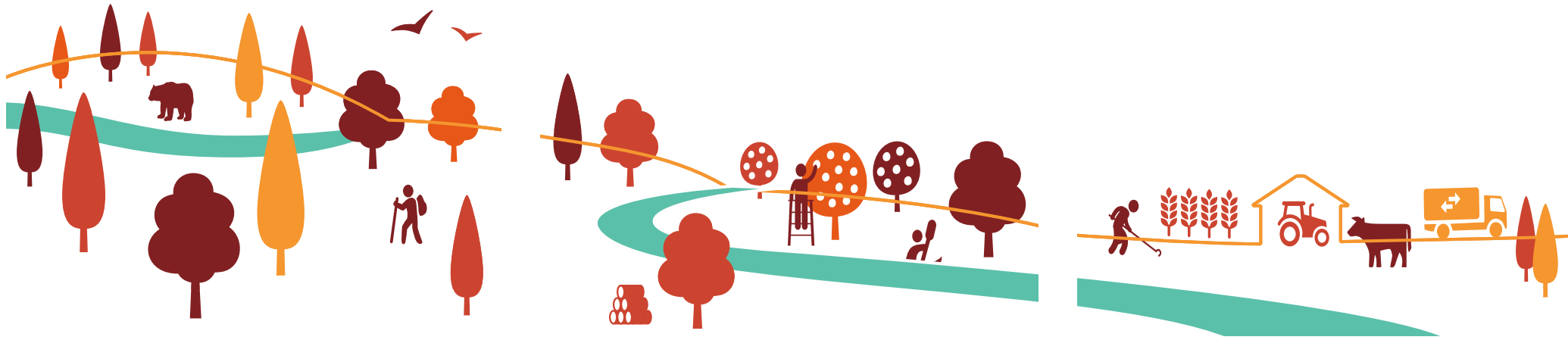
- CO₂ capture, water, top soil
- Restored biodiversity
- Forestry, hunting
- Tourism

20 Years

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

NATURAL ZONE

COMBINED ZONE



Investment

- Restoring landscape
- Planting usable trees
- Restoring perennial vegetation and soil
- Extensive maintenance

Return

- CO₂ capture, water, top soil
- Partially restored biodiversity
- Agroforestry, fruit trees, timber
- Tourism

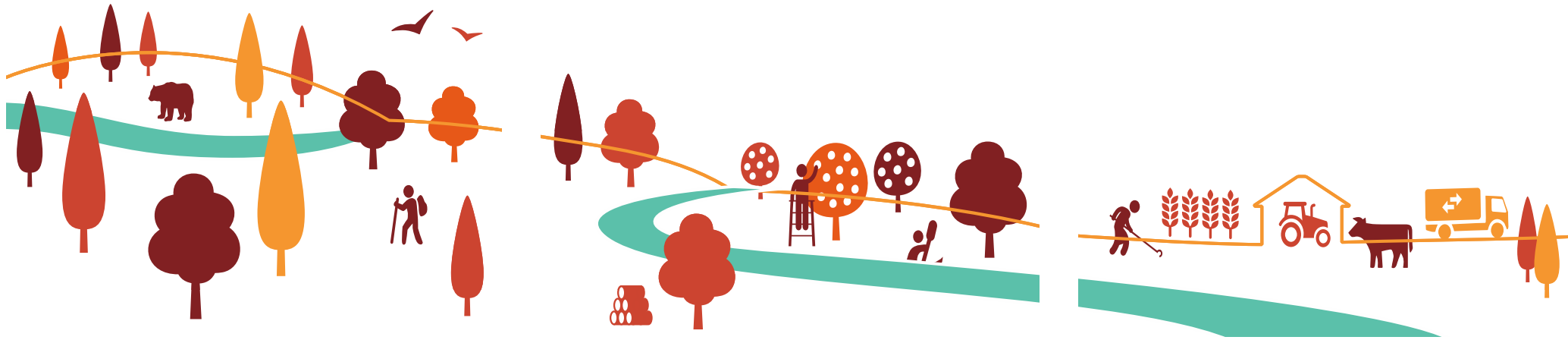
20 Years

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

NATURAL ZONE

COMBINED ZONE

ECONOMIC ZONE



Investment

- Sustainable agriculture, forestry, aquaculture
- Real estate, infrastructure fitting in landscape
- Ventures with positive impact on landscapes

Return

- CO₂ capture, water, top soil
- Crops and products
- New businesses, new collaborations
- Economic development

20 Years

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

Spain (Andalusia): restoration high plain while providing economic opportunities for its people

Rainfall 180-300 mm is going down

Total area of 630,000 ha.
Population of 130,000

Depopulated countryside, marginal economy, circa 40% unemployment, subsidy dependency

Mono-cropping, deforestation and overgrazing

100,000 ha almonds (45,000 ha organic)

Mixed landownership: public and private, medium and small.

Salinity, erosion, falling soil fertility

Region with strong agricultural track record.
Farmers willing to change

Splendid natural parks (80.000 ha), rich biodiversity and cultural history

Source: Commonland

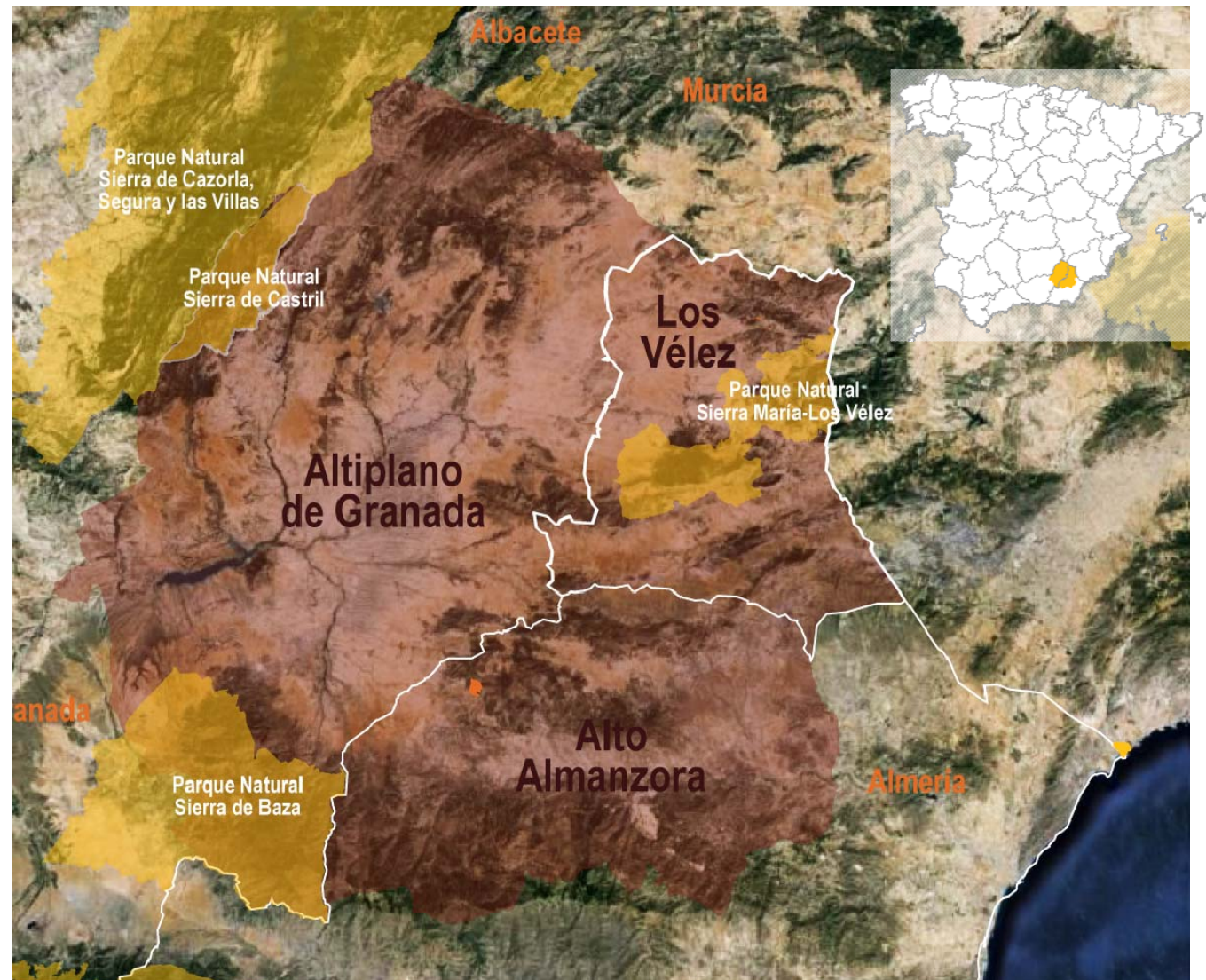


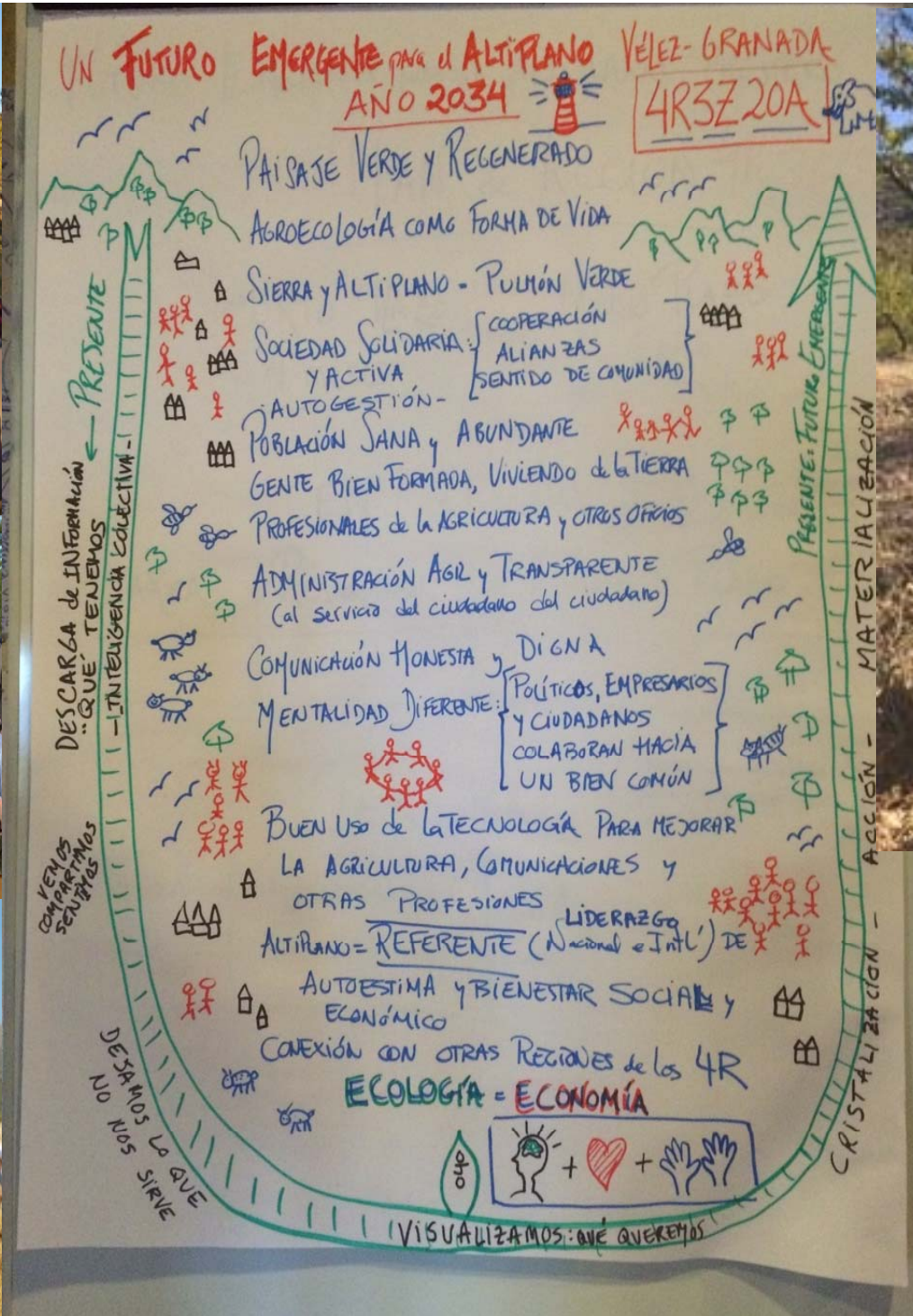
Altiplano

The AlVelAl initiative is named after three large counties in the Andalusian provinces of Granada and Almeria: Altiplano, Los Vélez and Alto Almanzora.

The area is one of the poorest regions of Spain.

A growing group of frontrunners is reversing this trend.





Source: Commonland

AIVeIAI

- Hundreds of farmers and entrepreneurs are organizing themselves to restore the degraded lands.
- The local community is teaming up with government, businesses and research institutions.
- The goal is to restore their landscape by creating business cases that can add value to their local products and offer jobs.
- Commonland is acting as a catalyst in this transformation through a landscape restoration approach in 3 landscape zones, generating 4 returns® within a 20-year time frame.

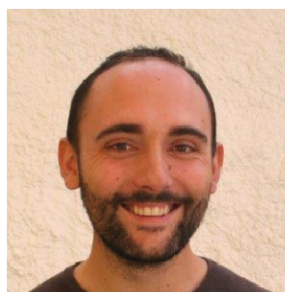
A challenged region with great potential

- The Altiplano economy relies on agriculture, livestock and forestry and related secondary markets.
- Cereal farms and almond groves prevail, with some olive production
- The production of livestock is also important, with the Segureño lamb is an example of an endemic breed with good economic value.
- The economic challenges in the region have been aggravated by the global economic crisis. The unemployment rate currently stands between 15% and 40%, although during the worst periods in recent years unemployment reached between 40% and 60%. Many locals, especially younger generation, have migrated seeking employment opportunities in cities, which has resulted in the reduction of activities and services in all sectors.
- Decades of poor farming practices, overgrazing, and unsustainable water use have led to serious environmental degradation. This undermines the potential for commercial farming in the future.

A transformation driven by local frontrunner farmers



- ✓ Farmers association (2015)
- ✓ 200+ members (landowners)
- ✓ Workshops regenerative agriculture, forestry, water mgt, tourism, culture, processing
- ✓ Incl. local authorities + nat. parks
- ✓ 4 returns masterplan 630,000 ha
- ✓ Business development started
- ✓ www.alvelal.es



Development of 4 returns with AIVelAI

Key activities:

- Activate local networks around landscape restoration through social mobilization.
- Co-develop projects in the fields of regenerative farming, sustainable business and landscape restoration.
- Scale up good practices in regenerative farming, sustainable business and landscape restoration, through workshops and other offline and online activities; and by securing finance for implementations.

The 4 returns

Our holistic restoration approach connects natural, combined and economic landscape zones and delivers 4 returns to the AIVelAI area:



Return of inspiration

Reversed desertification and rural abandonment, improved livelihoods, positive future outlook.



Return of social capital

Job creation, transfer of skills through education and training, professional network creation, reversed depopulation, strengthening cultural and historical heritage.



Return of natural capital

Reduced erosion and increased quality of topsoil, restored water balance, enhanced biodiversity, beautified landscape.



Return of financial capital

Increased sustainable incomes for farmers and entrepreneurs, increased additional value to the region.

The AIVeIAI effect

Compost: the 4 returns in action

Composting represents a successful example of the shift we want to create in the region:

- We organized the first compost workshop in 2015
- Since then, there have been more than ten compost workshops organized and conducted by lead farmers in AIVeIAI, and many other similar workshops organized by partners and other organizations
- A number of entrepreneurs have started businesses related to compost
- Farmers share knowledge, adopt regenerative practices and share success stories
- Workshops are contributing to social cohesion in the area.



Transforming the landscape

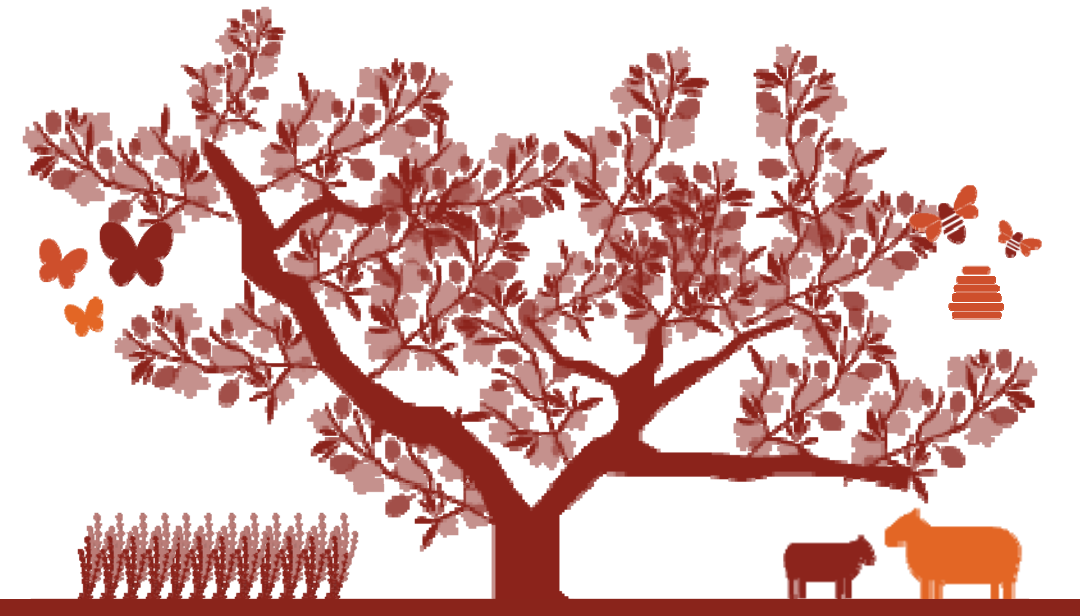
The Almendrehesa, an integrated productive “ecosystem”

Together with local producers we have developed the *almendrehesa* concept: an innovative economic alternative to the current degrading agricultural practices.

The *almendrehesa* is an integrated production system: a combination of almond and local trees, with aromatic oils crops, active bee hiving and lamb farming, combined with joint processing and marketing locally.

The combination of diversification and increased productivity leads to improved farmer income as well as land value, while reducing the risks of the previous ranching practices. This productive ecosystem decreases erosion, restores water balance, enhances biodiversity and beautifies the landscape. Altogether this contributes to the growth of the local economy while promoting local pride and inspiration.

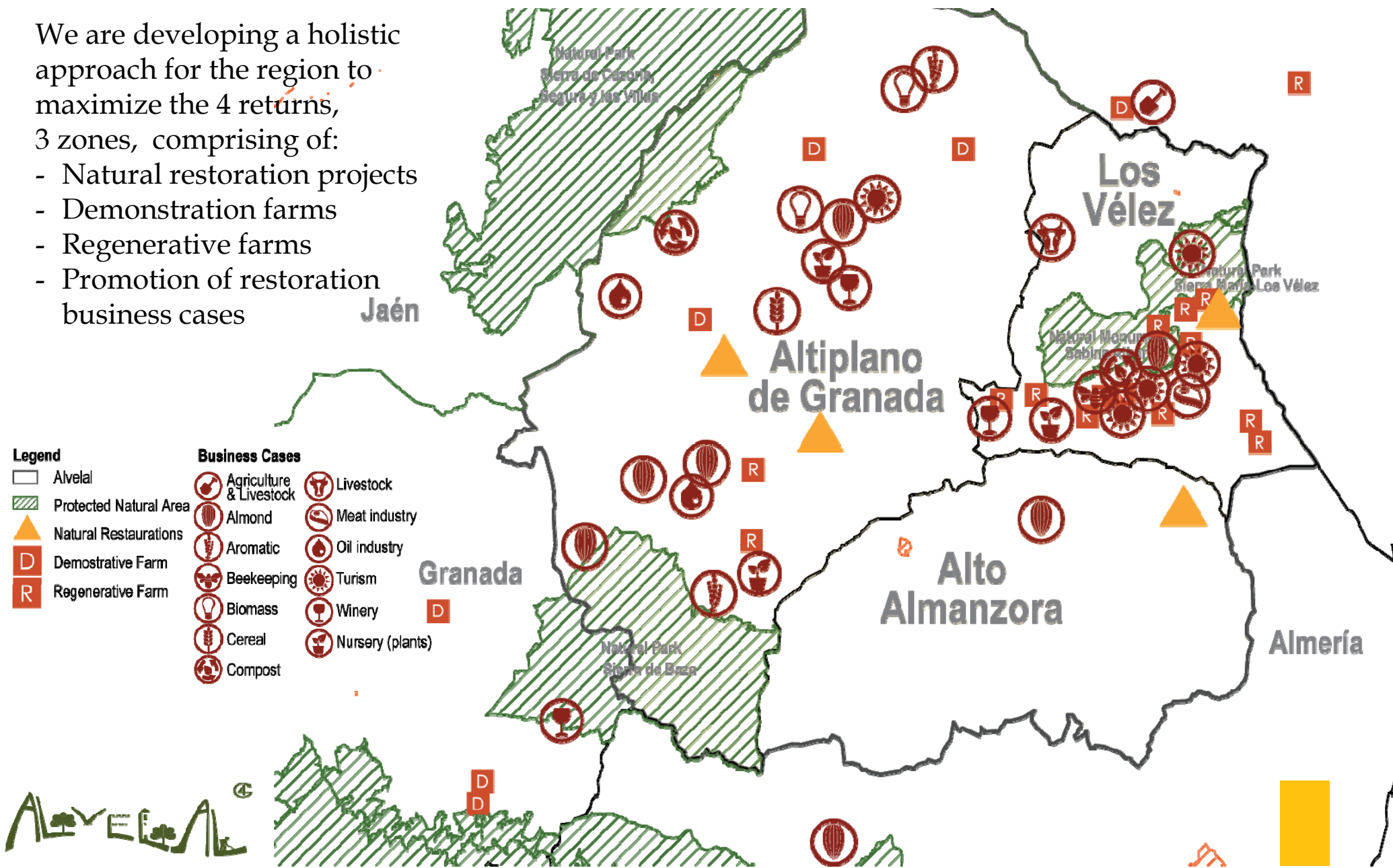
In 2016 we aim to help establish 5 *almendrehesa* projects on the demo farms.



Developing a 4 returns masterplan

We are developing a holistic approach for the region to maximize the 4 returns, 3 zones, comprising of:

- Natural restoration projects
- Demonstration farms
- Regenerative farms
- Promotion of restoration business cases



Planned activities

Main habitats for restoration work within AIVelAl's dry steppe ecosystem (1/2)

A comparison between degraded and well-preserved habitats.


Esparto fields



Degraded esparto field.

Esparto field in restoration with pines and sabinas

Mediterranean hills



Homogeneous pinewood, high risk of fire.

Resilient system with oaks, pines and sabinas.

Planned activities

Main habitats for restoration work within Alvelal's dry steppe ecosystem (2/2)

A comparison between degraded and well-preserved habitats.

Riparian Woods



Guardal River in Benamaurel, near Negratín.



Guardal River near San Clemente.

Agroforestry systems



Almond groves under intensive cropping.



Almond groves with vegetal cover.

Planned activities

Development of business cases for restoration

We have identified more than 30 entrepreneurs who want to develop business activities that are conducive to restoration. Commonland supports the development of these business cases with advice and access to markets and finance.



Pepitas de Oro®

One of the business cases in the *almendrehesa* concept is Pepitas de Oro®: the production and processing of high quality almonds that regenerate soils and biodiversity.



Aromatics

El Jarpil is a local producer of organic essential oils and natural products who is working with us to provide planting material and secure demand for the aromatics produced in the *almendrehesa*.



Segureño lamb

The Segureño lamb breeders are also in cooperation with AIVelAI to implement the integral ecosystem and to reevaluate this premium quality organic meat.

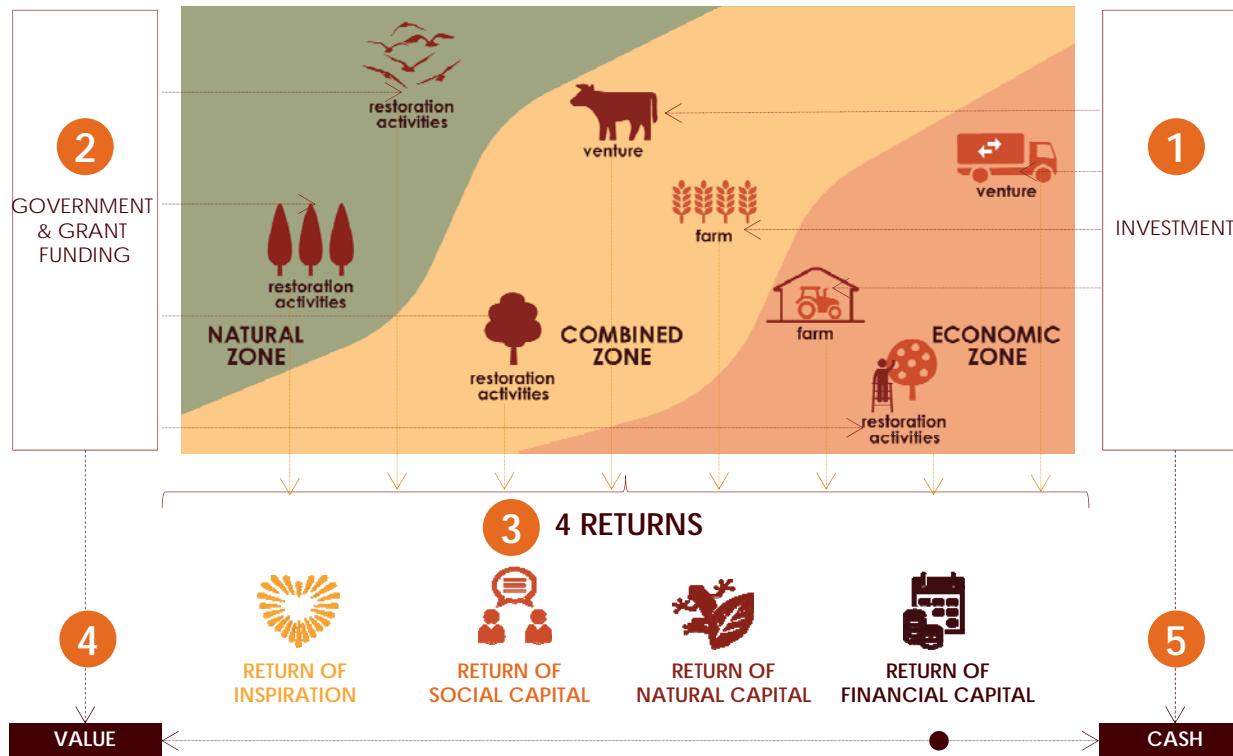


Compost

A number of entrepreneurs have started business related to compost, such as “composteras” and other services that include advise, know-how and the machinery used in the process.

How does it work?

Project development and financing



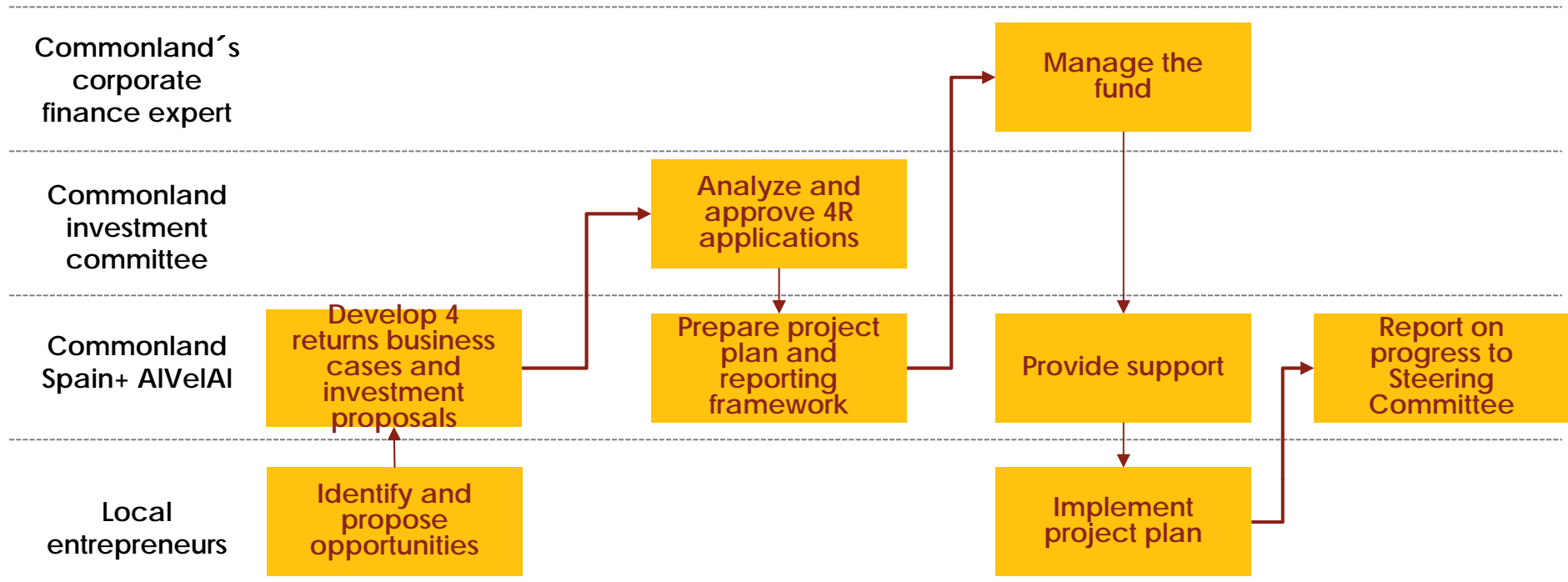
- 1 We mobilize investment into 4R business cases and restoration projects in the combined zone.
- 2 We channel government and grant funding for restoration projects in the natural and combined zone.
- 3 The impact of the projects in all three zones is reflected in 4 returns to the landscape and community.
- 4 The restored landscape increases the value of the land.
- 5 Increased value and business activities brings cash flow into the region that enables a thriving community.



How does it work?

4 return businesses and projects implementation

Commonland has several mechanisms to properly manage and channel resources into the operations. Below the process is illustrated in depth.



In the following pages you will find examples of projects and businesses that will benefit from the investments done through the Commonland Fund.



4 Returns restoration activities

La Muela

Description	<ul style="list-style-type: none">• “La Muela” is a regional icon due to its location near Velez Blanco and its unique physical configuration and its high visibility. The mountain is currently deteriorated due to years of over exploitation and poor agricultural practices. In some cases, the soil is so eroded that the rocky nucleus is visible, resulting in high risk of natural disasters caused by erosion.• The project will propose the construction of a small dam system to improve water capture with local materials (rock and rood). Reforestation with species highly resilient to drought to increase vegetal biodiversity. Increase of biodiversity by improving vegetal population, enabling pollinators, birds and other small species.• We will promote the <i>almendrehesa</i> as a sustainable, productive ecosystem.
Person/team	<ul style="list-style-type: none">• Fernando Bautista: landscape restoration adviser• Experts: Jens Kalkhof, on permaculture techniques, María Eugenia Ramos PhD on green covers and Miguel Ángel Gómez on soil health
Next steps	<ul style="list-style-type: none">• Together with the direction of the National Park of Sierra de María y los Vélez we will develop a restoration plan using endemic, drought resilient species and employing local manpower.
Investment	<ul style="list-style-type: none">• 300.000€ for 200 ha



Return on Inspiration

.By restoring an icon of the region, locals can experience landscape restoration.



Return on Social Capital

By bringin new opportunities for entrepreneurs and creating jobs, and by spreading knowledge



Return on Natural Capital

By restoring degraded landscape and improving ecological cycles



Return on Financial Capital

By creating a nursery for the species to be used in restoration and hiring local contractors, economic activity will follow



4 Returns restoration activities

Demonstrative farms

- Description
- Demonstrative farms are key to show best practices and raise awareness amongst the farmers in the region.
 - Technical advice in restoration and business cases in 6 demo farms (1500 ha) is needed to build the proof of concept of regenerative farming and farm design.
 - The idea is to showcase demo farms to spread the integrated farming practices over 630,000 ha at the Altiplano area, and to spread regenerative farming practices between the farmers.

- Person/
team
- Fernando Bautista: landscape restoration adviser
 - Experts: Jens Kalkhof, on permaculture techniques, María Eugenia Ramos PhD on green covers and Miguel Ángel Gómez on soil health
 - Commonland support: Frank Ohlenschlaeger, commercialization adviser and Alfonso Chico de Guzmán, training & farmers mobilization

- Next steps
- Co-finance farm owners to execute key interventions.
 - Investments are also needed for capacity building (workshops), special machinery and co-funded farm development plans.

- Investment
- Minimum to start: 125.000€
 - Cost estimation: 500.000€



Return on
Inspiration

By reinforcing local landscape identity and awareness of the own role in landscape conservation and beautification



Return on
Social Capital

By bringing new opportunities for entrepreneurs and creating jobs, and by spreading knowledge



Return on
Natural Capital

By improving ecological cycles and natural conditions on the farms



Return on
Financial Capital

By enabling access to new markets and by promoting farm income diversification



4 Returns business

Composting Plant

- Description
- The compost, the result of a controlled decomposition of organic matter by biological action is one of the most important ingredients for soil regeneration.
 - The aim of the composting plant is to provide high quality organic soil and plant fertilizer for those farmers of AlVelAl that are not able to do this by themselves.

- Person/team
- *Alfonso Chico de Guzmán*, a young entrepreneur and farmer of AlVelAl who studied economics and business administration will manage the composting plant.
 - Alfonso will be advised by *Frank Ohlenschlaeger*, agronomist, business developer and expert in trading of organic products with experience in compost processing.

- Next steps
- The fund will be used to cover the start up investment in special machines for composting as a compost turner, a compost sieve and a packaging line and some other utilities.

- Investment
- Minimum to start: 30.000€ (Compost turner)
 - Complete installation: 80.000€



Return on Inspiration

By creating a new company and doing something very useful for the landscape restoration project



Return on Social Capital

By doing an important service for other farmers who also participate in landscape restoration and creating new jobs.



Return on Natural Capital

By improving soil health and enabling a healthy agro ecosystem.



Return on Financial Capital

By providing economic viability and sustainability.



4 Returns business

Enarmonia: stop erosion

Description	<ul style="list-style-type: none">• Farm design improvements often require soil movement, or even relocation to modify the configuration, hence allowing water catchments and other landscape elements that are key to regenerate landscape.• We require to use a “swale maker”. It is a simple and inexpensive machine that using it well, it can make a huge impact on the landscape. This might be the answer to reduce erosion, improve the infiltration of rainwater and improve the fertility of our soils with the smallest input of all.
Person/ team	<ul style="list-style-type: none">• This project will be executed by David Guerrero and Alfonso Chico, both Alvelal members and partners in this business case through the 4R Company Intagrec, S.L. (brand: <i>enarmonia</i>).• David has the expertise on keyline design. He also has come clients already.• Alfonso has a farm where these technique will be implemented as soon as the machine is available, and will be used as a demo farm on the area.
Next steps	<ul style="list-style-type: none">• The money would be transferred to Intagrec, S.L. (David´s company) so he can buy the machine and run the implementation.
Investment	<ul style="list-style-type: none">• Establishment costs and 1st year operational costs: 30.000€



Return on
Inspiration

By creating immediate positive impact in the farms, people will see the effects in the short time.



Return on
Social Capital

By doing an important service for other farmers who also participate in landscape restoration and creating business ventures.



Return on
Natural Capital

By improving the landscape configuration, reducing erosion and improving the infiltration of water.



Return on
Financial
Capital

By providing economic viability and sustainability.



4 Returns business

Trading company La Almendrehesa S.L.

- Description**
 - LA ALMENDREHESA is a key project of Commonland which helps to increase the economic level retaining the value in this region, to create a positive perspective for the future and to give confidence in the Commonland-Alvelal project of eco-social restoration.
 - The aim of the trading company LA ALMENDREHESA S.L. is to transform and to sell high quality almonds as PEPITA DE ORO[®] and other products as vine, honey, aromatic herbs, olives and lamb meat produced by the farmers of the AlVelAl region by methods of regenerative agriculture.

- Person/team**
 - This company will be managed by shareholders of the company as farmers and entrepreneurs of other successful companies of the region and supported and advised by the experts of Commonland
 - Commonland team: *Frank Ohlenschlaeger*, agronomist, business developer and expert in trading of organic products and *Txema Ventura*, economist, coach and business developer.

- Next steps**
 - The fund will be used to cover the start up investment and the expected first year lost of the company. Futures investments for an own processing industry could be necessary.

- Investment**
 - 50.000€ for start up phase + 13.000€ counseling and support from Commonland

 **Return on Inspiration**

By creating economic perspective and direct participation and empowerment of farmers.

 **Return on Social Capital**

By creating new jobs and networking with other companies of the region.

 **Return on Natural Capital**

By selling products from regenerative agriculture which will extend this method.

 **Return on Financial Capital**

By enabling access to new markets and providing economic viability and sustainability.



4 Returns business

La Herradura: 4R Bioclimatic Cave Lodge

Description

- This is a peri-urban degraded landscape restoration to host people from the world and introduce them into the wild Altiplano.
- More than 9 International Universities collaborate to create Bioclimatic different designs for 72 caves.
- This will be the unique “hotel” to accommodate organized groups and to promote the uniqueness of the region.

Person/team

- This project will be executed by [Cuevas de Huéscar La Herradura S.L.](#) More than 20 local partners led by Ángel Hernández.
- Angel is an entrepreneur with extensive experience in tourism and cave houses. The project is supported by numerous local, national and international institutions.

Next steps

- Searching Private Capital & crowdfunders to complete the Financial Plan.

Investment

- Finance: Mix of equity crowdfunding (0,9-1.0 M €), private capital (0.6 – 0.8 M €) and bank debt. (1,0-1,5 M€).
- Estimated Revenues per year: 1M €. Gross Margin 80%



Return on Inspiration

By re-valorizing the cave-houses. There are more than 12,000 cave houses in this region. It also regenerates a neighborhood and creates community.



Return on Social Capital

By creating new jobs and networking with other companies of the region. There are more than 20 local partners in the project and more than 10 new jobs.



Return on Natural Capital

By integrating the cave-houses in the landscape, and using and promoting bioclimatic design. Furthermore, 5ha will be used as *almendrehesa*.



Return on Financial Capital

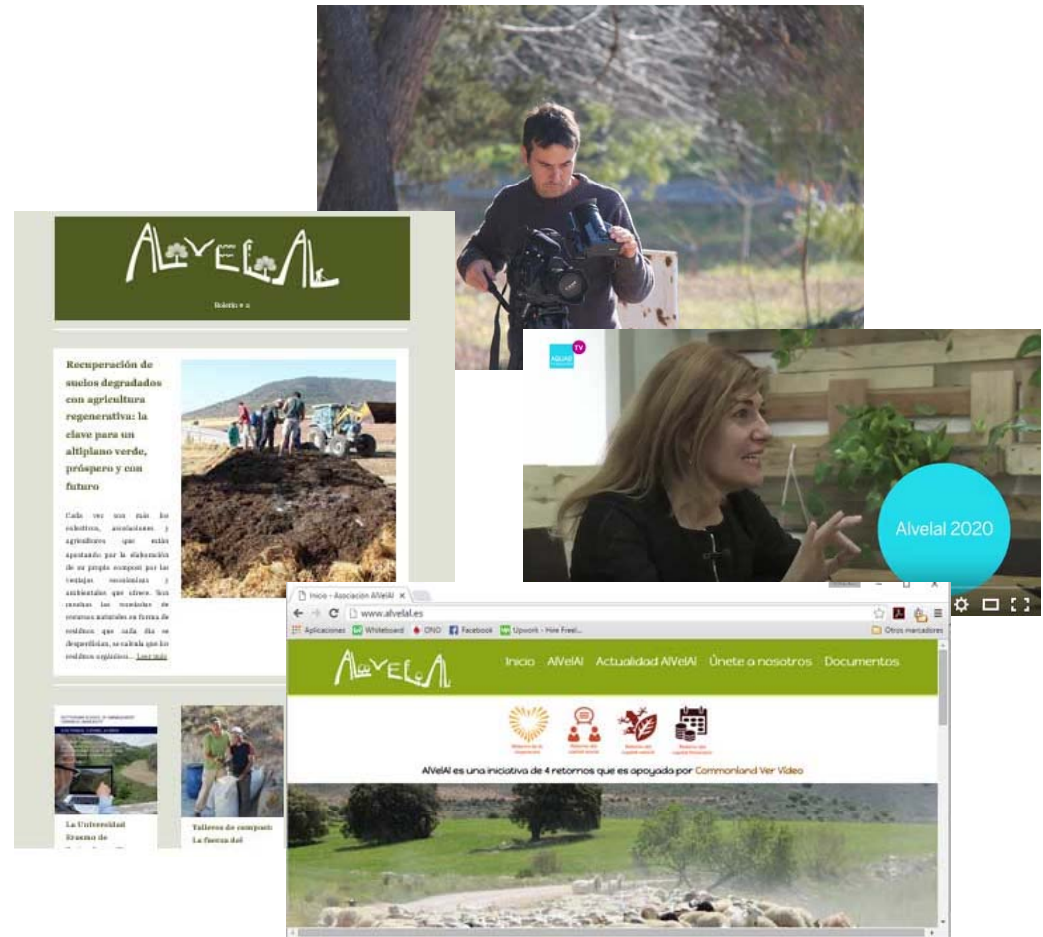
By creating a healthy economical return. Initial projections show that the 3M€ investment will have its payback before 5 years.

Communication

Spreading the word

This mobilization effort requires the active engagement of a well-informed community. AIVelAI has continuous and open communication with its members, partners and the community through several channels:

- An AIVelAI website has been set up and shares its content online in order to inform about this initiative, attract new members and publish news.
- Beginning in January 2016, a monthly newsletter is being sent to 280 subscribers with relevant information, upcoming activities and promoting the image of young lead farmers.
- We also promote AIVelAI through radio shows, featured interviews in diverse media.
- Mariano Agudo, a documentarist, is developing a series of short films that will reflect the shift in the local mindset and in the landscape over the next 2 years.



Actions and midterm objectives

2016: increase the impact of our actions

Landscape Restoration

- Through AIVelAl there are already more than 20 farmers with 5,500 hectares are restoring their land in the new regenerative agricultural way.
- The aim is to have over 10,000 hectares under restoration by the end of 2016.
- Additionally, we aim to begin work on 2 emblematic large scale restoration cases in the natural zone by mid-2016.

Business development

- More than 30 business cases with the potential to contribute to land restoration have been identified.
- The target is to have min. three key business cases up and running by the end of 2016: rain-fed organic almonds, organic aromatic plants and organic Segureño lamb.

Capacity building

- Ten workshops on regenerative agriculture and soil restoration and two on landscape perception were held. Workshops on regenerative farming have been held by experts Jens Kalkhof and Joseph Holzer in March. More than 20 workshops are planned for 2016.
- AIVelAl and Commonland are establishing 5 demo farms owned and managed by lead farmers, with a focus towards a “train the trainers” approach by actively building capacity among the frontrunner farmers, empowering them to spread knowledge and share experiences.

Mobilization

- Since April 2015, over 750 locals have participated in activities promoted by the AIVelAl association (workshops, lectures, conferences, etc), including producers, farmers, entrepreneurs, foundations, education and research institutions, etc.
- The aim is to strengthen the outreach by broadening the audience.

Commonland Spain Team

Michiel de Man
Project Development



Astrid Vargas
Project Development



Elena de Julián
Farm Restoration



Txema Ventura
Business Development



Alfonso Chico
Mobilization young people



Mariano Agudo
Documentary maker



Silvana Paniagua
Project Development



Dietmar Roth
Mobilization



Fernando Bautista
Landscape Restoration



Frank Ohlenschlaeger
Business Development



Ma. Eugenia Ramos
Research Coordinator



Vincent De Leijster
Researcher

Budget

Full financial requirements 20 years (2015-2035)

It costs a EUR 1 billion to implement 4 returns restoration interventions for 20 years.

We expect that:

- ❖ 30% will be grants and public:
reforestation, water works, eco corridors
- ❖ 70% investments:
regenerative agriculture, forestry, processing plants,
composting

That is: EUR 1590 per hectare or EUR 7690 per person

- ❖ For 2016-2018 EUR 10 million grants and investments
- ❖ For 2019-2024: 200 million grants and investments
- ❖ 2024-2035: 800 million grants and investments



Budget

Full financial requirements 2016-2018

Activity	2016	2017	2018	Total
Project development, running cost <ul style="list-style-type: none"> • Project management • Mobilization • Planning & coordination for business development • Planning & coordination for ecological restoration • Planning & coordination for integrated farming • Communication 	500,000 €	500,000 €	500,000 €	1,500,000 €
Regenerative integrated farming demos, showing the Almendrehesa <ul style="list-style-type: none"> • Research and farm design for six farms • Technical assistance for six farms • Materials for planting and manpower for 200 hectares • Scaling up support (2018 and beyond) 	300,000 €	300,000 €	400,000 €	1,000,000 €
4 returns business development <ul style="list-style-type: none"> • Technical assistance • Seed investment 	100,000 € 1,000,000 €	100,000 € 1,000,000 €	100,000 € 2,000,000 €	300,000 € 4,000,000 €
Restoration works of ecological and combined zones <ul style="list-style-type: none"> • Critical work on integrated reforestation (1,000 hectares) water restoration and biodiversity conservation 	1,000,000 €	1,000,000 €	1,000,000 €	3,000,000 €
Communication <ul style="list-style-type: none"> • Documentary • Website, documentation and maintenance 	70,000 €	70,000 €	20,000 €	160,000 €
Capacity building for regenerative farming <ul style="list-style-type: none"> • Training and education program • Establishment of a learning center 	100,000 €	100,000 €	100,000 €	300,000 €
Total	3,070,000 €	3,070,000 €	4,120,000 €	
<ul style="list-style-type: none"> • Grant requirement • Investment requirement 				6,260,000 € 4,000,000 €

Lessons learned so far...

- ✓ Scouting process **from 12 months (2014) to 2-4 months (2016)**
- ✓ Model works transformative **for all involved**
- ✓ All stakeholders recognize **their own returns and landscape zones**
- ✓ Common language & 20 year time frame **sets the scene from the beginning**
- ✓ Up front investment needed **to create excellent team of business developers**
- ✓ Model facilitates **monitoring & evaluation**
- ✓ Masterplan creates **sense of place, time and action and creates overview of blended finance for large areas**
- ✓ Business development leads to **restoration business: pipeline creation for investors**
- ✓ First movers in restoration investments **are family offices**



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