Operatividad y Metas de la iniciativa 20x20

Evert Thomas

INITIATIVE 20X20

A country-led effort to initiate restoration of 20 Mha of degraded land in Latin America and the Caribbean by 2020

Notes:
*Goals to be accomplished by 2030
**Commitment to define a national restoration strategy

How to restore land?

Methods that can sustainably bring back land functionality to the landscape (carbon, topsoil, water, vegetation, and biodiversity)

Initiative 20x20:
A support platform for national restoration programs

Technical Partners

BONN CHALLENGE

New York Declaration on Forests

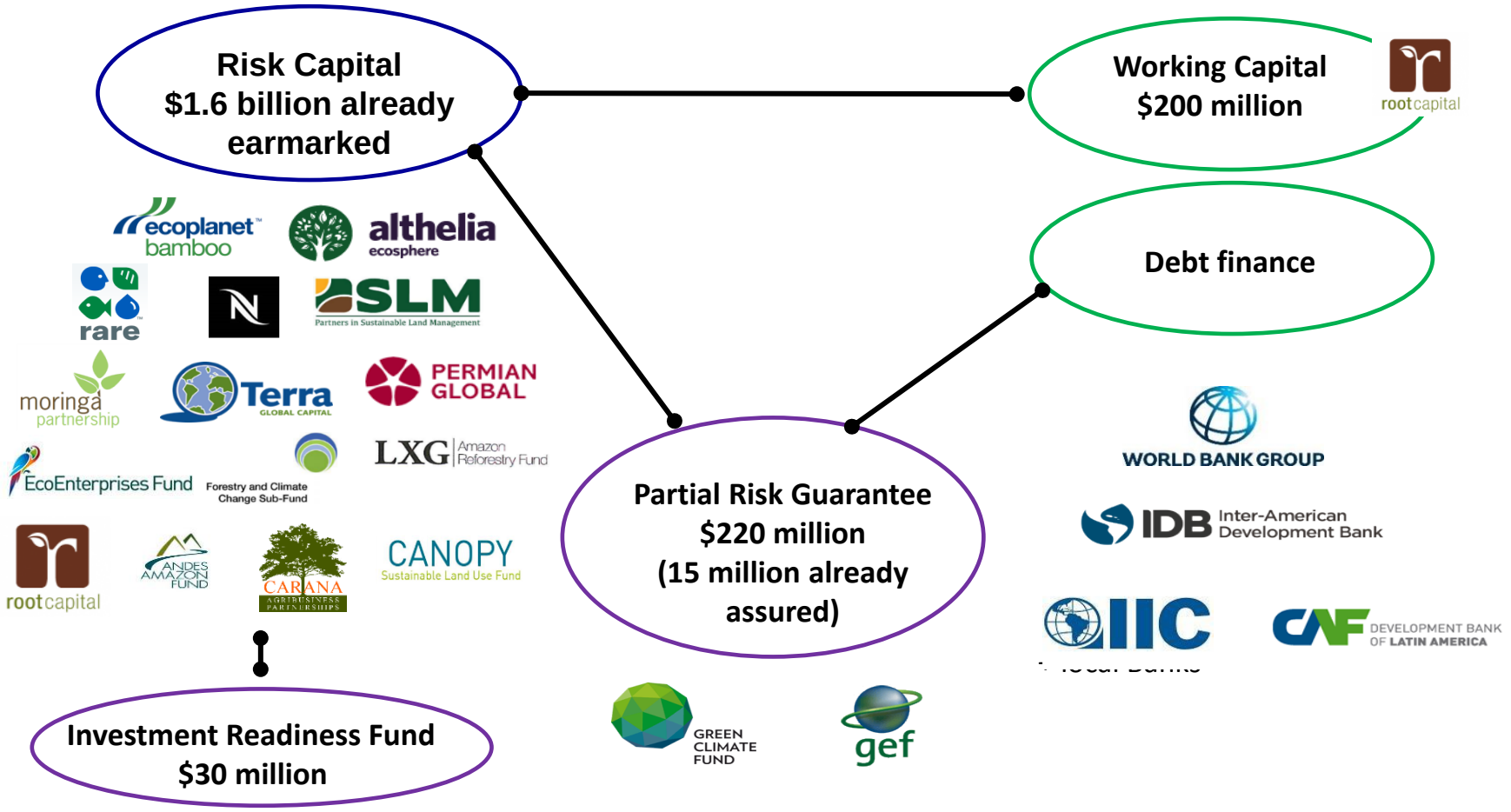
Financial Partners

Initiative 20x20

Argentina	El Salvador	Peru
Belize	Guatemala	Uruguay
Brazil	Honduras	Regional programs:
Chile	Mexico	ABC, Bosques
Colombia	Nicaragua	Modelo, Conservación
Costa Rica	Panama	Patagónica
Ecuador	Paraguay	
	(Itaipu authority)	

Countries and regional programs

Financial architecture of 20x20



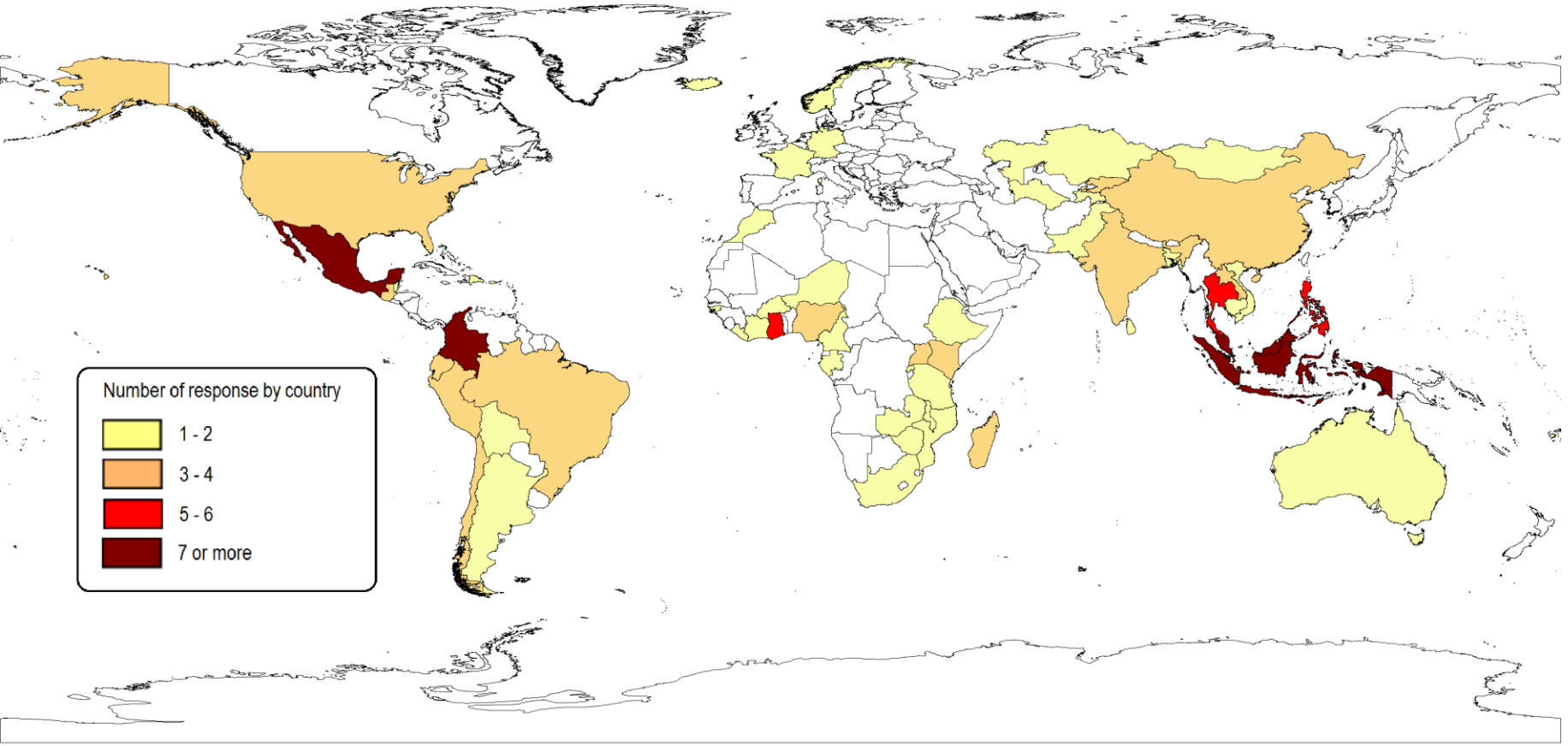
Como garantizar restauracion socio-ecologico y resiliente

- Estandartes de restauración para diferentes tipos de restauración (social, ecológico, productivo)
- Ejemplo de SER para restauración ecológica

Figura 2. Evaluación del progreso mediante la "Rueda de recuperación" representado a través de un proyecto hipotético de reconstrucción de un año de avance en vía a una condición de 4 estrellas. Esta plantilla permite a los directores de proyectos ilustrar el grado de recuperación del ecosistema bajo tratamiento en el tiempo. Un profesional familiarizado con las metas y objetivos e indicadores específicos del proyecto y los niveles de recuperación alcanzados hasta la fecha puede rellenar los segmentos para cada sub-atributo luego de hacer evaluaciones formales o informales. (En el Apéndice 2 están disponibles plantillas en blanco y la pauta para completarlas). Nota: las etiquetas de los sub-atributos pueden ajustarse o agregarse para representar mejor un determinado ecosistema.

- Condicionar acceso a fondos de mitigacion a aplicacion de estandartes y buenas practicas?

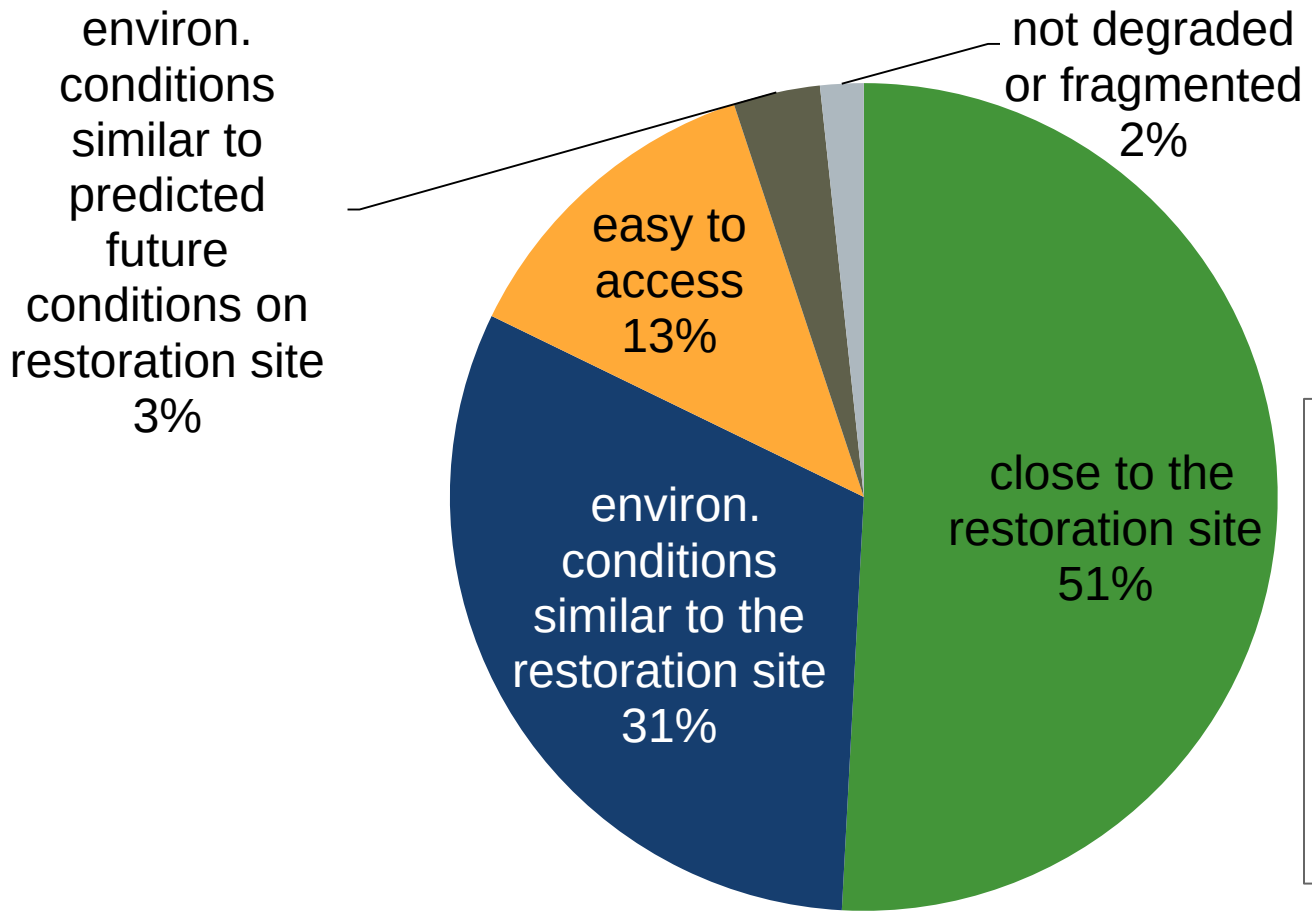
Importancia para material de siembra? Encuesta global (Jalonen et al Conservation Letters)



140 proyectos, 57 paises

Seed origin: overemphasis on “local” seed sources*

Most important criterion in selecting seed origin:



Typical for projects that:
- Focus on habitat restoration
- Are led by local NGOs
- Obtain material from community-based nurseries
- Obtain material from natural forests

(Axis 1, left in MCA)

Seed source quality: population viability seldom considered*

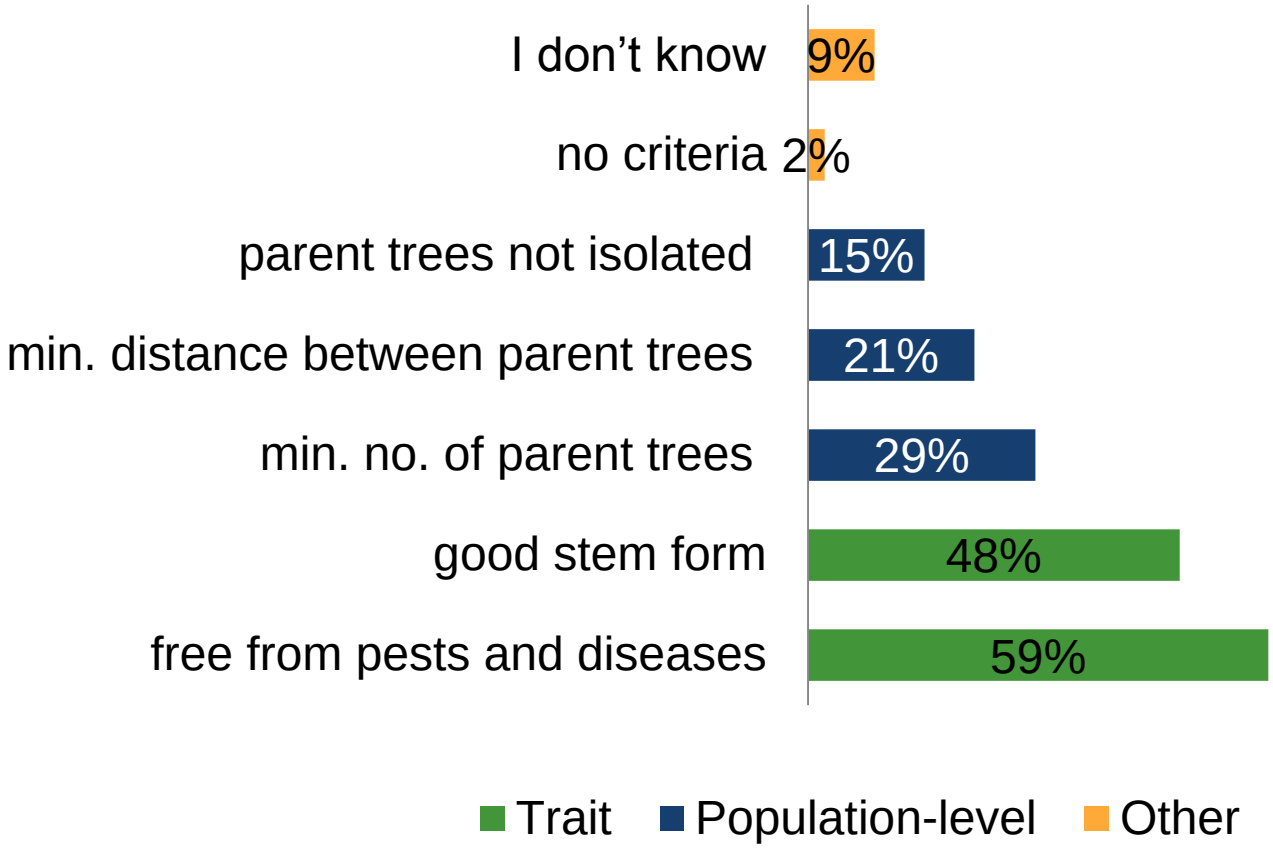
- In 40% of projects, seed sources were often degraded or fragmented
- Population viability an important criterion in source selection in 9% of projects
- 50% of projects obtain seed from restored forests*

Typical for projects that:
- focus on C sequestration or timber production
- are large (>500 ha)
- are government-led

(Axis 1, right and axis 2, top in MCA)

Seed selection: few criteria*, few parent trees

What criteria does the project have for seed selection (subset):



Typical for projects that
- focus on C sequestration or timber production
- are large (>500 ha)
- use seed from planted forests
- do not consider climate change in seed selection (Axis 2, top in MCA)

From how many trees per species is the propagation material usually from, if known?

unknown	45%
Among those who knew:	
Five or less trees*	35%
5<trees≤15	13%
More than 15 trees**	52%

Typical for projects that:
- are large (>500 ha)
- focus on habitat restoration
- use nursery seedlings and seed from SPA
- use many species (>50)

(Axis 3, left in MCA)

***Recommended minimum for completely outcrossing species (Rogers & Montalvo 2004)*

Myristica malabarica (wild nutmeg) seed tree in Karnataka, India. Photo: Life Trust

Como mejorar el exito de los proyectos de restauracion?

Para el componente de biodiversidad, productividad y resiliencia, papel critico para autoridades públicos de fomentar **sistemas de semillas** para facilitar la restauración hecho por terceros

Felizmente países identificaron como prioritario apoyo en el desarrollo y fortalecimiento de sistemas de semillas capaces de suministrar cantidad + calidad de material de siembra

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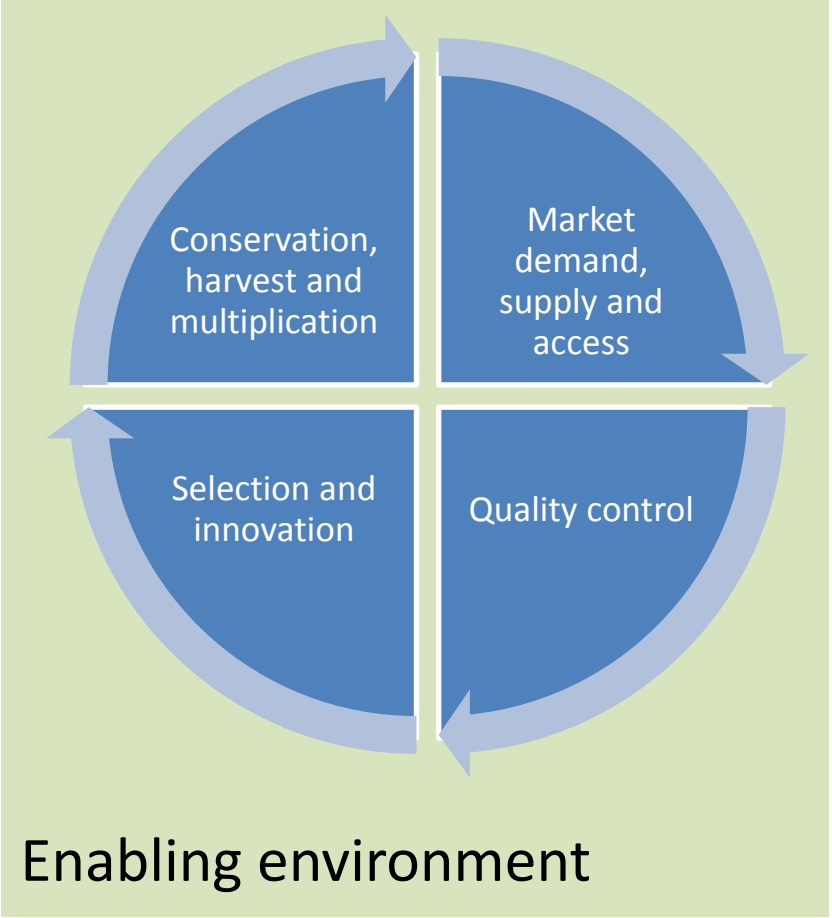
Seed systems: main components

A seed system that is fit-for-purpose should ensure that whoever wants to carry out restoration can obtain the plant diversity that best serves restoration objectives in sufficient quantity and quality whenever and wherever needed



Selection and innovation

- Species selection
- Seed selection
  - site-matching of seed sources,
  - promoting adaptive potential
  - tree improvement and breeding

Harvesting and multiplication

- *In situ* sources (seed trees) and conservation
- Specialized seed production
- nurseries

Market demand, supply and access

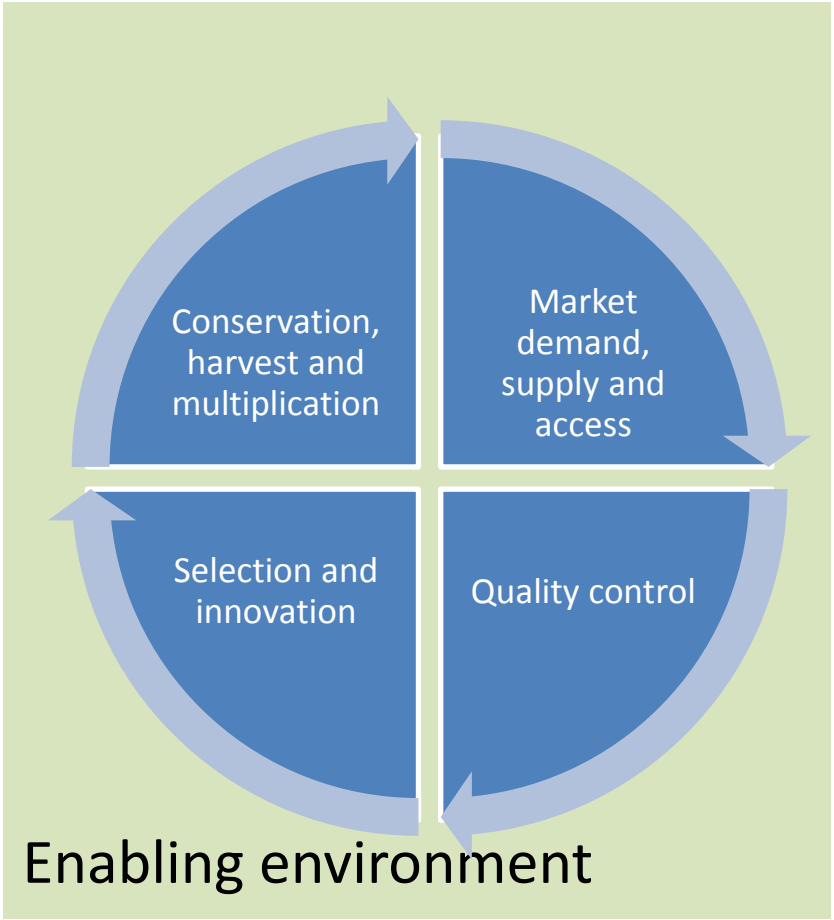
- promote use of native species, notably endangered ones
- supply systems (government-centralized, NGO-facilitated, decentralized commercial commodity chain, …)

Quality control

Registers and/or certification of seed sources, nurseries, harvesters etc

Enabling environment

Policies, training, funding



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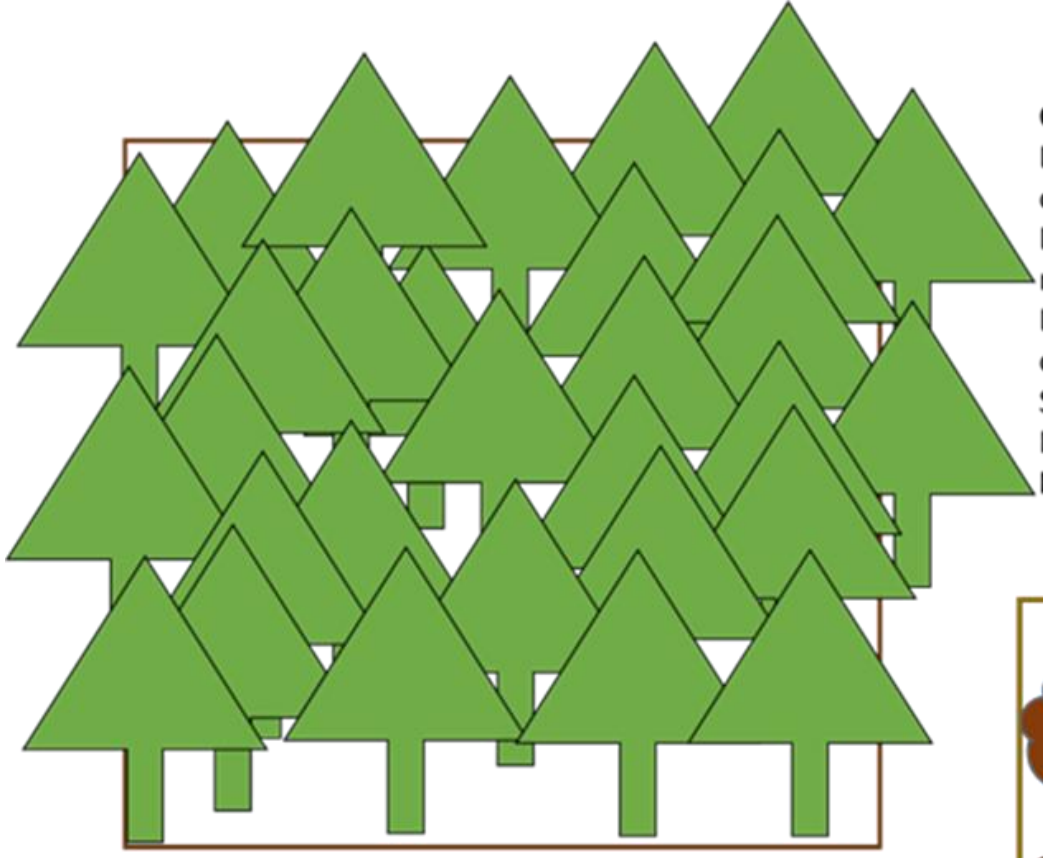


COMMERCIAL FORESTRY

LOW GENETIC DIVERSITY: Genotype chosen to maximize commercial yield

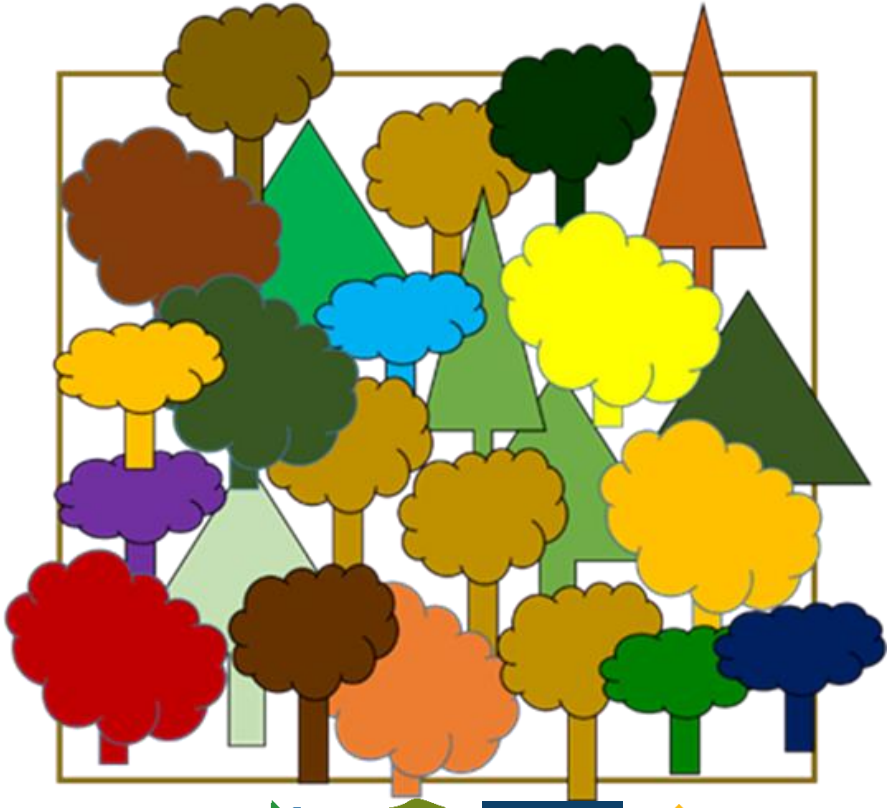
LOW SPECIES RICHNESS: Often monocultures for ease of management

LOW ADAPTIVE CAPACITY Material for each planting cycle selected to be adapted to climatic conditions

SHORT LIVED: Plantation cycle short

HIGH RESILIENCE: In the short term only

HIGHLY SPECIALISED TO MAXIMIZE SHORT TERM YIELD



CLIMATE-SMART RESTORATION

HIGH GENETIC DIVERSITY: Seed collected to maximize genetic diversity for adaptation and resilience

HIGH SPECIES RICHNESS: For ecosystem resilience

HIGH ADAPTIVE CAPACITY: Diversity allows for survival and reproduction under future climatic conditions

LONG LIVED: Long term persistence through natural regeneration

HIGH RESILIENCE: Over the short and long term

HIGHLY DIVERSE TO MAXIMIZE LONG TERM PERSISTENCE

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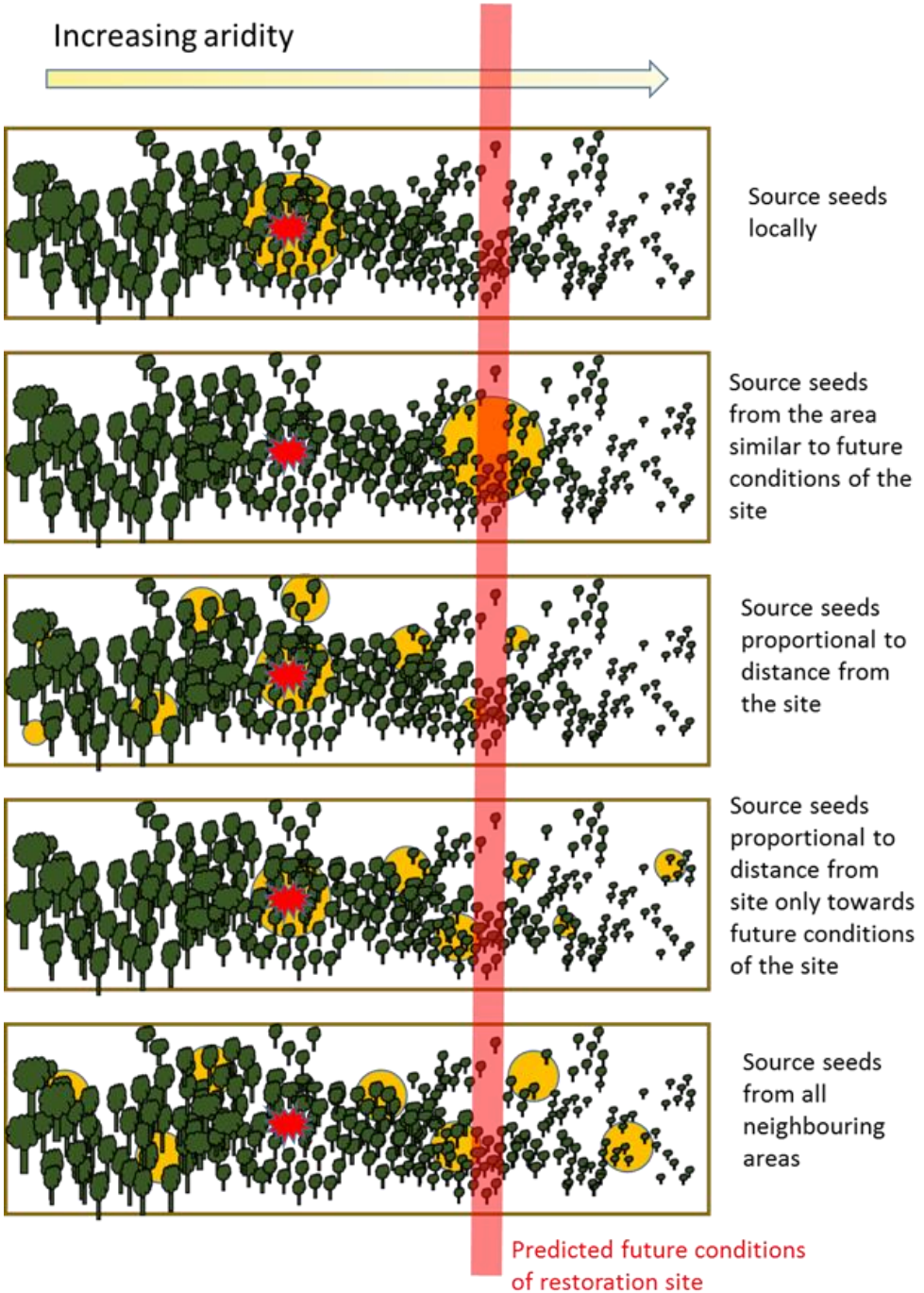

frontiers in Ecology and Evolution

OPINION
published: 23 June 2015
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Climate-adjusted provenancing: a strategy for climate-resilient ecological restoration

Suzanne M. Prober[1†], Margaret Byrne[2†], Elizabeth H. McLean[1,2], Dorothy A. Steane[3,4], Brad M. Potts[3], Rene E. Vaillancourt[3] and William D. Stock[5]*

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Macro Indicators

Selection and innovation

Restoration action is underpinned by research to ensure that the most appropriate diversity of native planting material is used now and in the future.

Seed harvesting and production

Planting material is collected from a wide diversity of native species and produced sustainably and in a sufficient quantity to underpin restoration.

Market access, supply and demand

There is demand for appropriate planting material from a wide diversity of native species that is available in the required quantity and location.

Quality control

There is an effective and efficient way that the material used for restoration planting meets required quality standards.

Enabling environment

Production, supply and use of appropriate planting material for restoration are supported by sufficient human capital, financial mechanisms and an appropriate legal framework.

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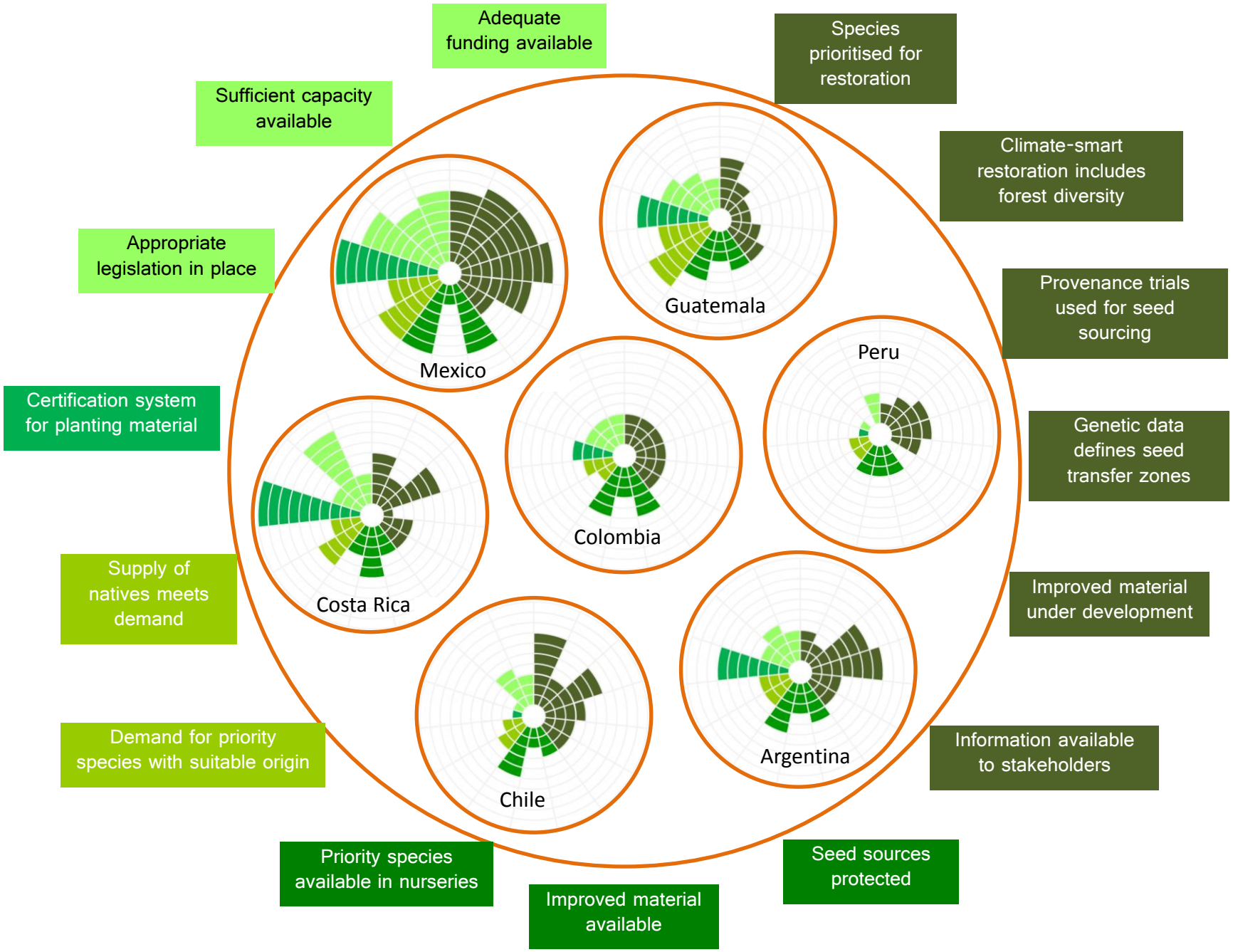
Adequate funding available
Species prioritised for restoration
Sufficient capacity available
Climate-smart restoration includes forest diversity
Appropriate legislation in place
Provenance trials used for seed sourcing
Certification system for planting material
Genetic data defines seed transfer zones
Supply of natives meets demand
Improved material under development
Demand for priority species with suitable origin
Information available to stakeholders
Priority species available in nurseries
Seed sources protected
Improved material available
Mexico
Guatemala
Peru
Colombia
Costa Rica
Chile
Argentina

I Selection and innovation

Restoration action is underpinned by research to ensure that the most appropriate diversity of native planting material is used now and in the future.

1. Different sources of information are used to identify **priority native species** for restoration in targeted ecosystems
2. **Research into the effect of climate change** on native species across different ecosystems is used to inform selection of species and seed sourcing for restoration
3. Results from a network of **provenance trials** across the country are used **to identify suitable seed sources** for restoration
4. Research into the genetic characterization of species and eco-geographical zones is used to define **seed transfer zones**
5. **Improved material** is being developed for those priority species used in production restoration
6. Suitable **information is readily available to inform stakeholders** in their restoration choices

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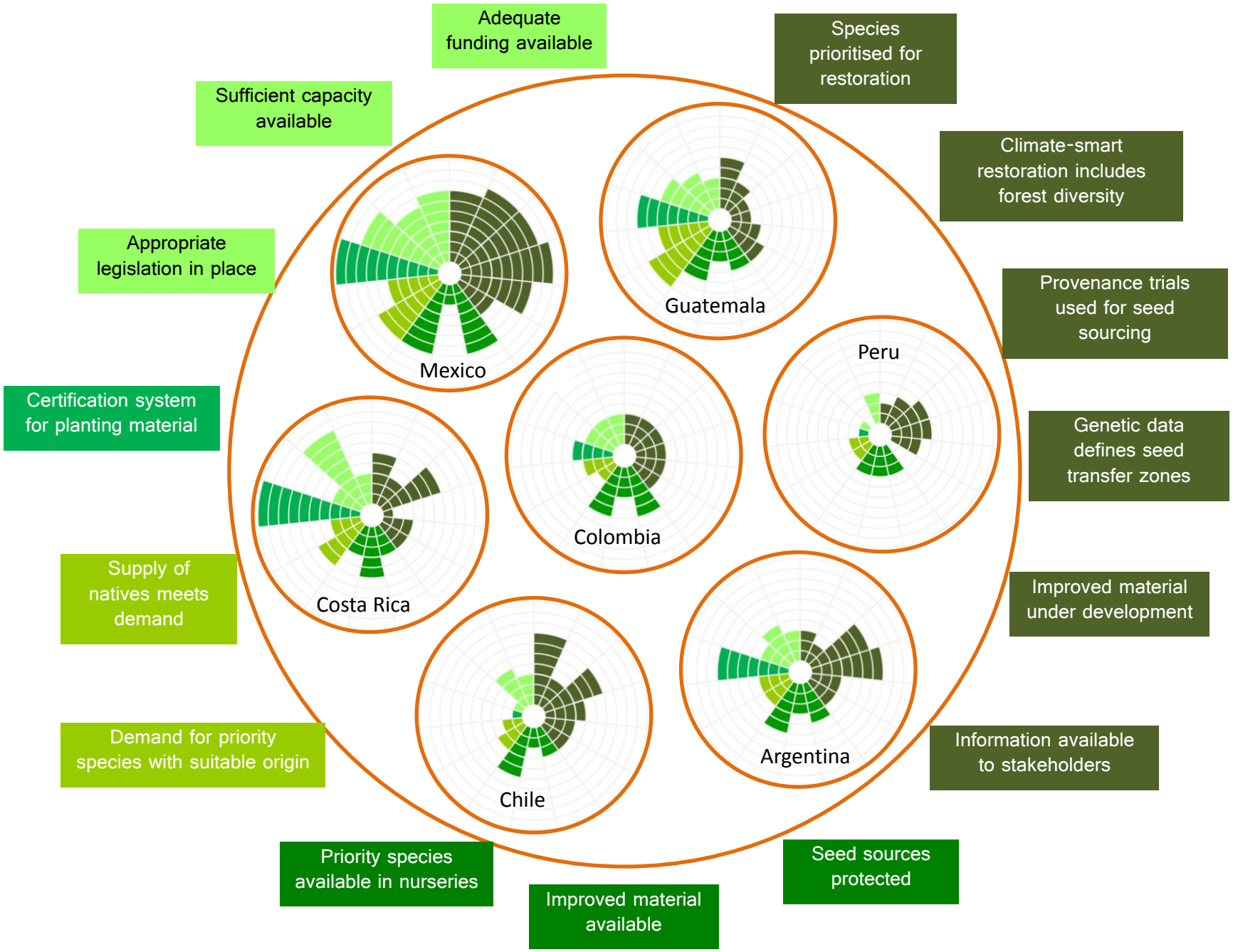
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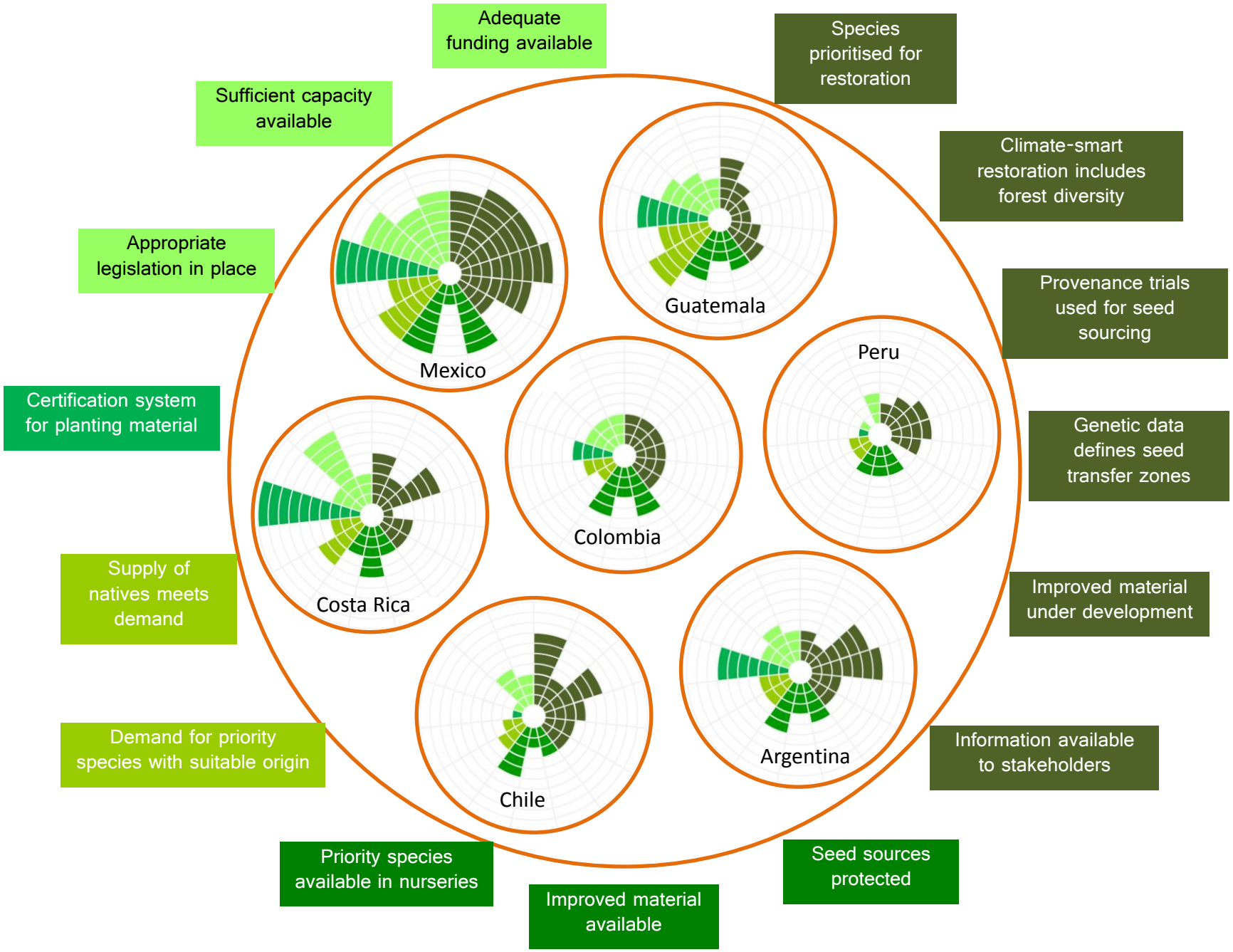
Seed harvesting and production

Planting material is collected from a wide diversity of native species and produced sustainably and in a sufficient quantity to underpin restoration.

1. **Seed sources** that cover the geographical range of the priority native species have been **identified and are protected** effectively
2. **Improved material is available** for those priority species used in production restoration
3. **Nurseries** are able to **produce priority species adapted to each targeted ecosystem**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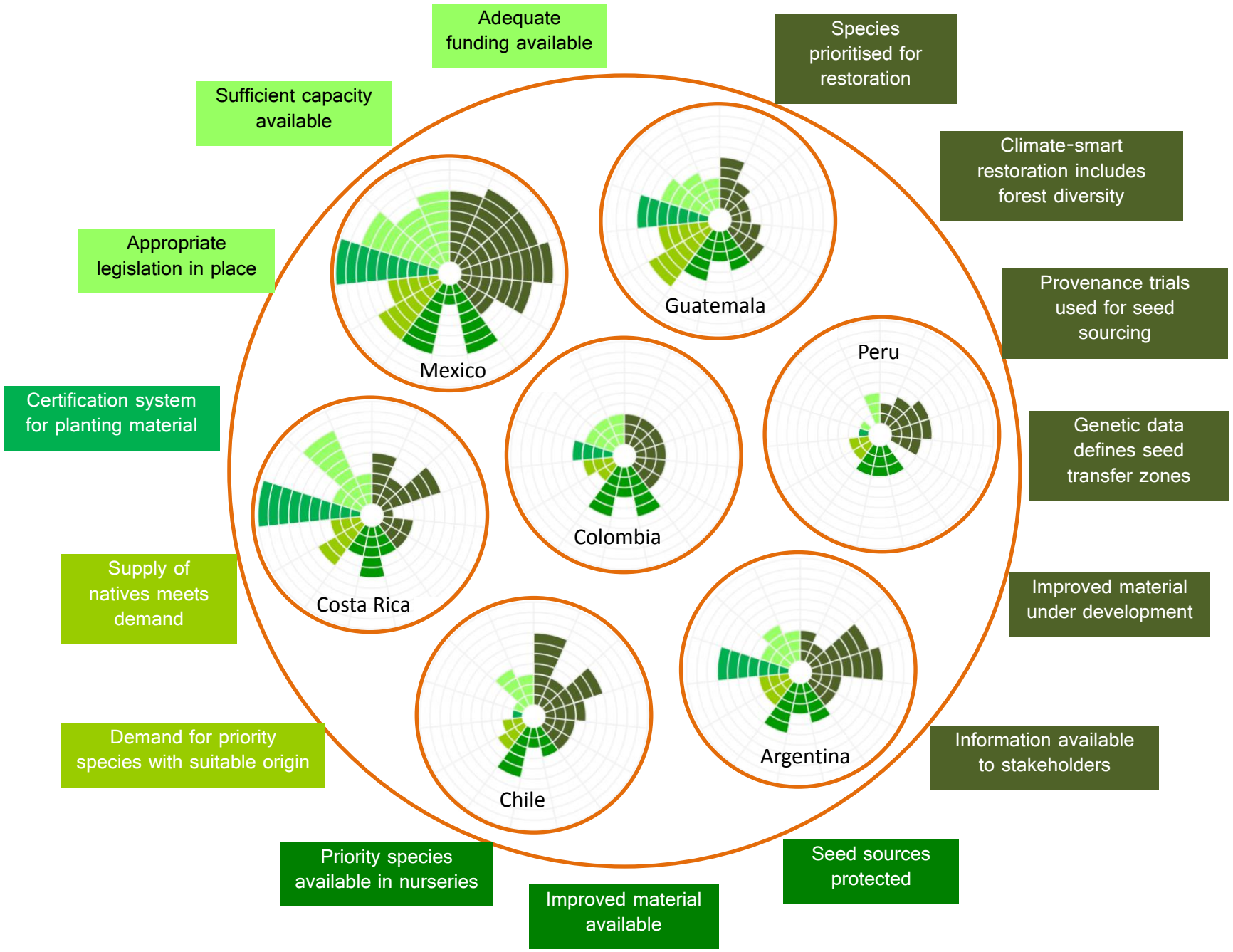
Market access, supply and demand

Macro-indicator: There is demand for appropriate planting material from a wide diversity of native species that is available in the required quantity and location.

1. There is **demand for priority native species of suitable provenance** for restoration across targeted ecosystems
2. There is a **network of suppliers able to meet the demand** for priority native species of suitable provenance across targeted ecosystems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Quality control

There is an effective and efficient way that the material used for restoration planting meets required quality standards.

1. There is a **certification system** for seed quality for restoration planting **that covers the entire chain**

Enabling environment

Production, supply and use of appropriate planting material for restoration are supported by sufficient human capital, financial mechanisms and an appropriate legal framework.

1. The seed system is underpinned by **appropriate legislation and regulations**
2. There is appropriate **training and capacity building** in order to support a seed system
3. There is **sufficient financial support** for key research needed for seed system

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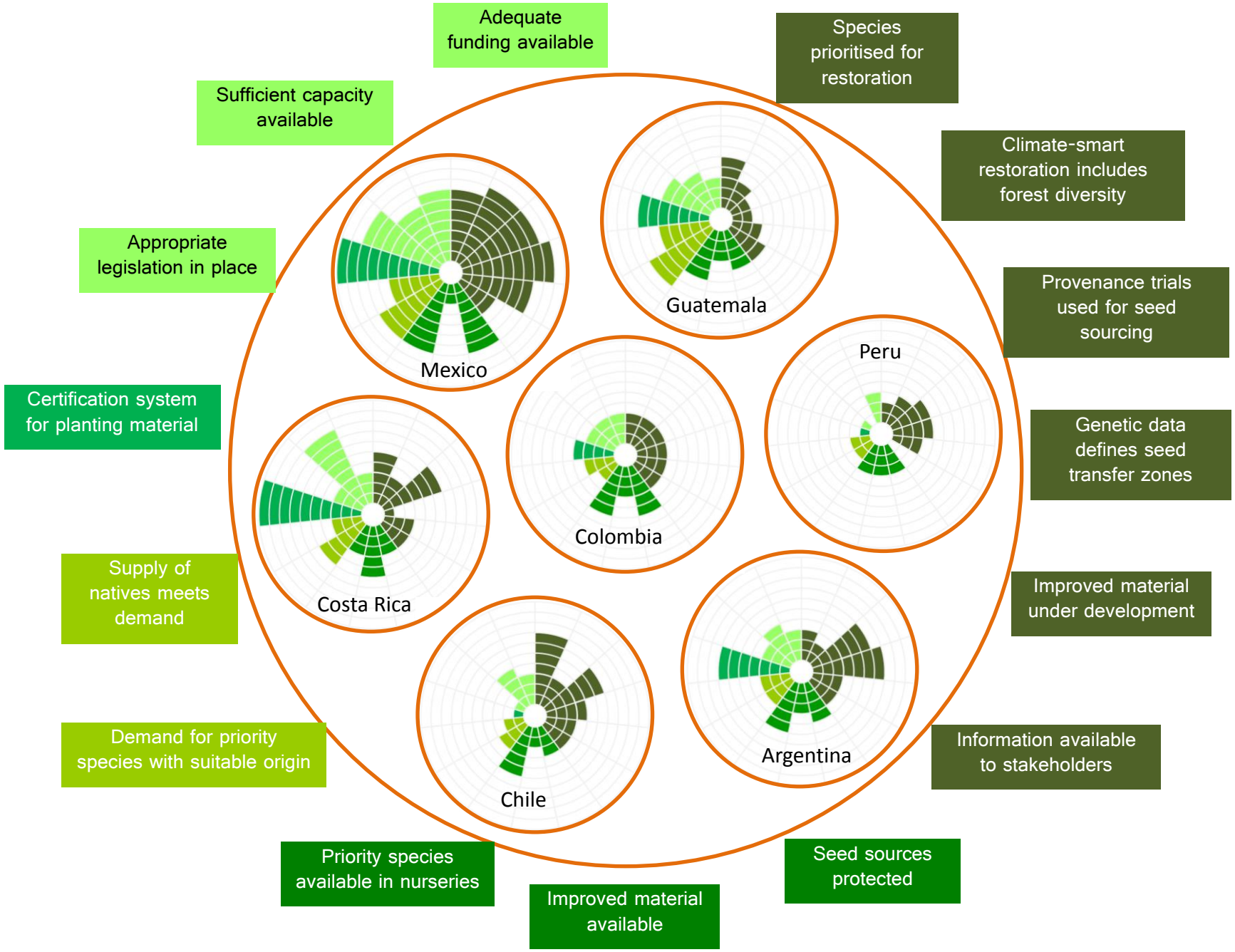
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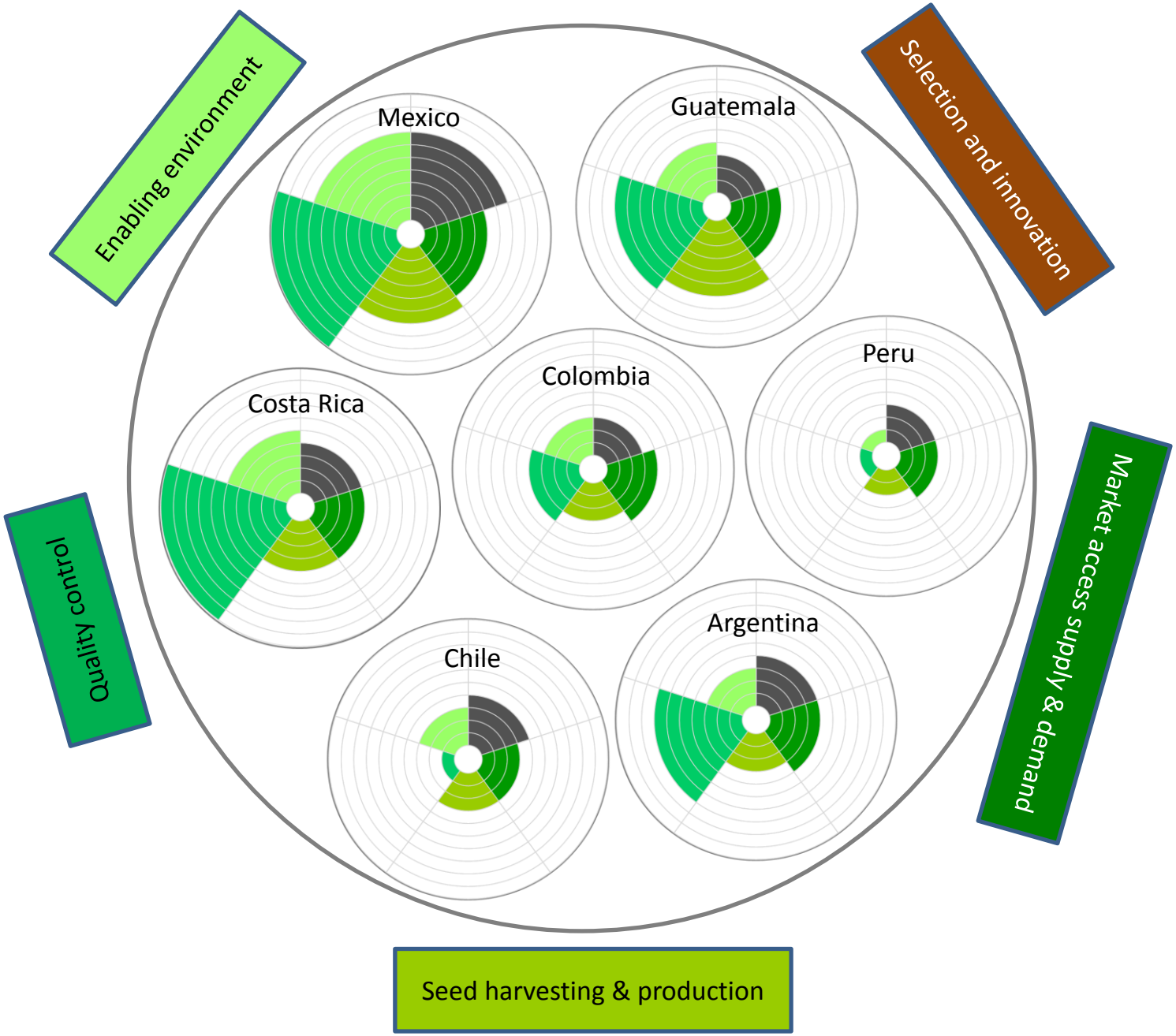
Enabling environment
Selection and innovation
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Guatemala
Peru
Colombia
Costa Rica
Argentina
Chile
Quality control
Market access supply & demand
Seed harvesting & production

Next steps

- Validate inicator system
- Use baselines assessments to strengthen national seed systems
- Promote periodic measurements of indicators
- Apply to other countries in the region and beyond?

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Science for a food secure future

Thank you

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