



Rijkswaterstaat
 Ministry of Infrastructure
 and Water Management

Global Challenges, Local Solutions!

Awareness is needed



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Take Home Messages

- SDGs: societal challenges; 2030 is tomorrow!
- Pressure on land increases
- A paradigm shift and transformations are needed
- Multifunctional land use is essential
- Solutions in connecting land use with the soil-sediment-water system
- Opportunity for value creation: multi stakeholder interests
- Change in mind set towards new business models





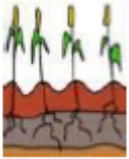

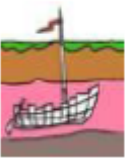


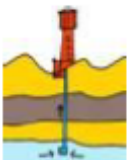



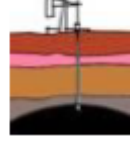
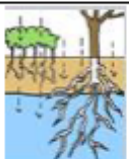
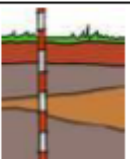


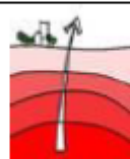
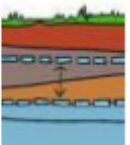

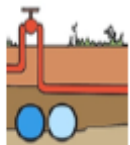
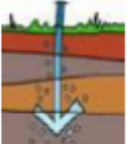
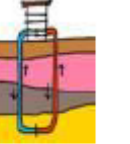

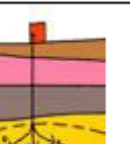
| Soil ecosystem services | | | | | Geosystem services | | | | |
|---|----------------------|---|-------------------------------------|---|----------------------|---|---|---|--------------------|
| Provisioning services | | Regulating and maintenance services | | Cultural services | | Supporting services | | Provisioning services | |
|  | production of crops |  | clean and safe soil |  | archeological value |  | foundation of buildings |  | stock minerals |
|  | stock drinking water |  | soil biodiversity |  | geological value |  | Under-ground infrastructure and constructions |  | stock fossil fuels |
|  | stock groundwater |  | soil stability |  | landscape diversity |  | cables, conduits and sewers |  | Geothermal energy |
| | |  | water storage capacity |  | ecological diversity |  | transport ducts | | |
| | |  | water filtrating and purifying soil | | |  | heat-cold storage | | |
| | |  | soil as carbon sink | | |  | storage of substances | | |

Figure 1 - Division of soil services¹³

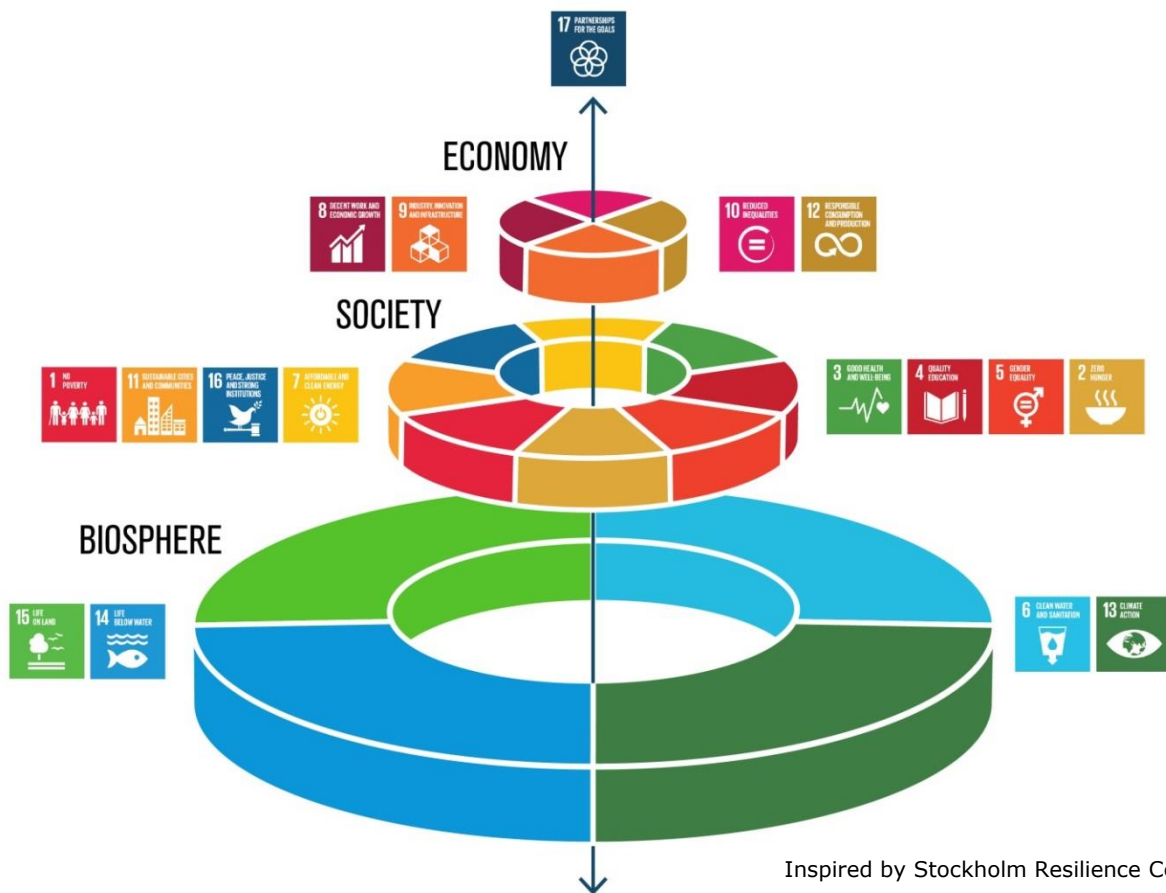


A robust natural system as basis for the SDGs?

- Degraded land limits the sustainable use necessary for development and achieving the SDGs
- Land restoration and Land Degradation Neutrality are global goals (SDG 15.3)
- Degraded land will not be restored if the value of soil and its services are not recognized
- Choices and multifunctional use a must
- A **paradigm shift** in policy is needed:
from extraction towards protection towards
restoration, sustainable use and management



Imbalance in spheres

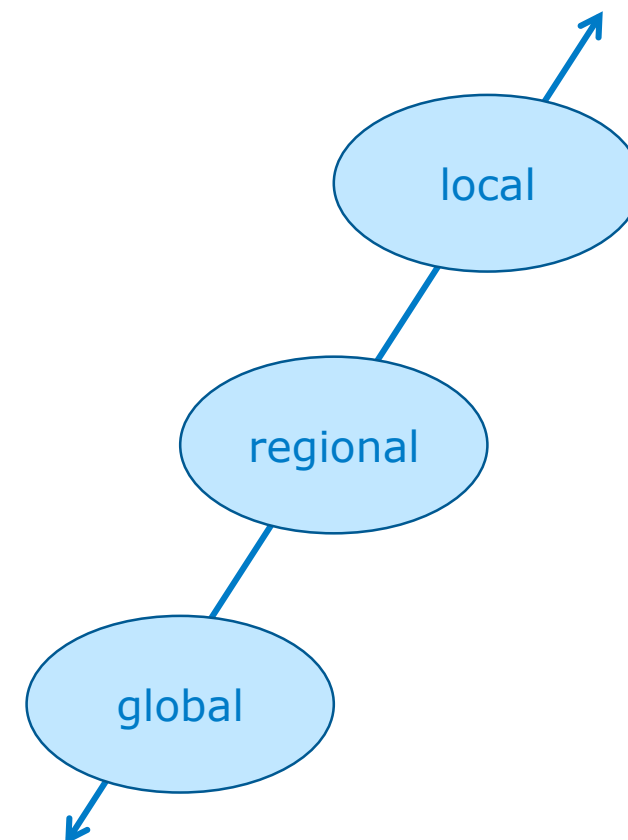


Inspired by Stockholm Resilience Centre

Short term
Quick wins
Value extraction
for individuals

Mid term
Societal wins
Cooperative

Long term
Natural capital
Value creation
for stakeholders



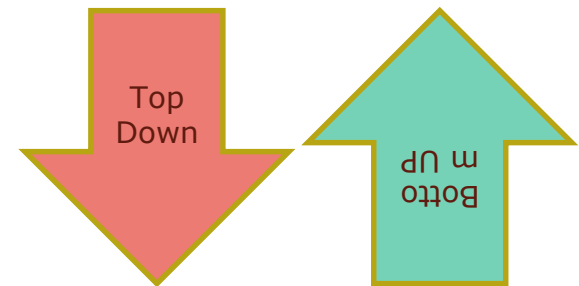
A paradigm shift in Dutch soil policy



- From soil protection towards sustainable use for societal challenges (climate, energy, food...)
- From central to local governance
- From soil as a hindrance to soil as an opportunity
- From chemical quality to ecosystem services of the soil and subsurface
- From sectorial site to integral area approach

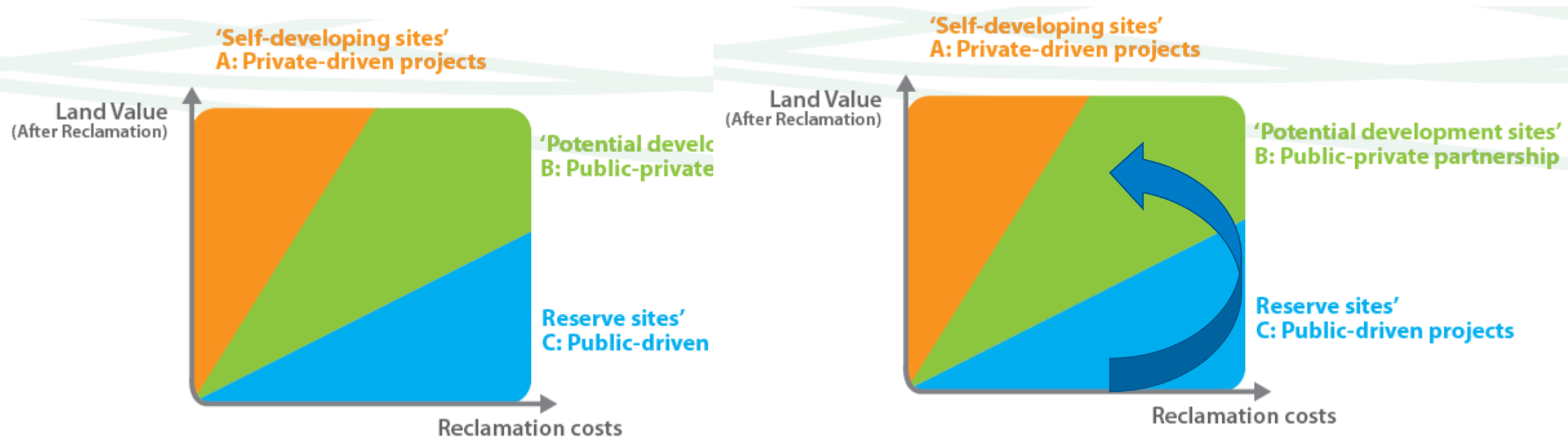


Land management is key
New flexible instruments





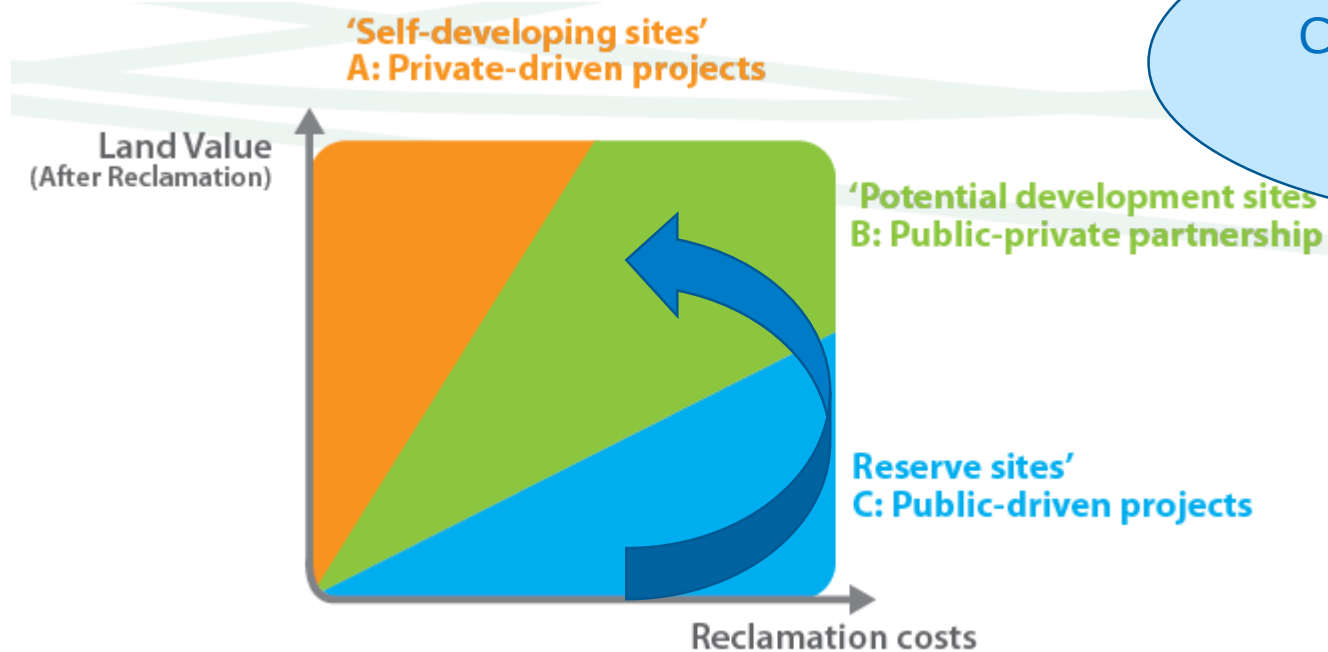
Example of imbalance



Source: CABERNET A-B-C Model (CABERNET Network Report, 2006)



Create balance



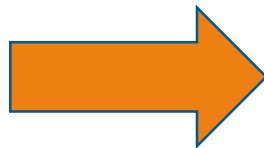
show value for public and private parties

Connect with societal challenges = SDGs

Connect with stakeholders

Up scaling to area approach

Source: CABERNET A-B-C Model (CABERNET Network Report, 2006)



Transitions are needed



Policy: what's different?

Political context

→ urgency

Central

→ decentral

Sectorial

→ integral

Local

→ area oriented

Top down

↔ bottom up

Value extraction

→ Value creation

Functions leading

→ Natural system leading (NBS)

Chemical and production

→ soil functions (ESS)

2D

→ 3/4 D



**New policy instruments,
stakeholder involvement and
business models are needed**



Examples

- Green deal
- 4 Returns Common Land
- Land stewardship
- Nature based solutions
-



| | | | |
|---|--|--|--|
|  <p>Return of Inspiration</p> <p>Giving people hope and a sense of purpose.</p> |  <p>Return of Social Capital</p> <p>Bringing back jobs, business activity, education and security.</p> |  <p>Return of Natural Capital</p> <p>Restoring biodiversity, soil and water quality.</p> |  <p>Return of Financial Capital</p> <p>Realizing long-term sustainable profit.</p> |
|---|--|--|--|





Green Deal

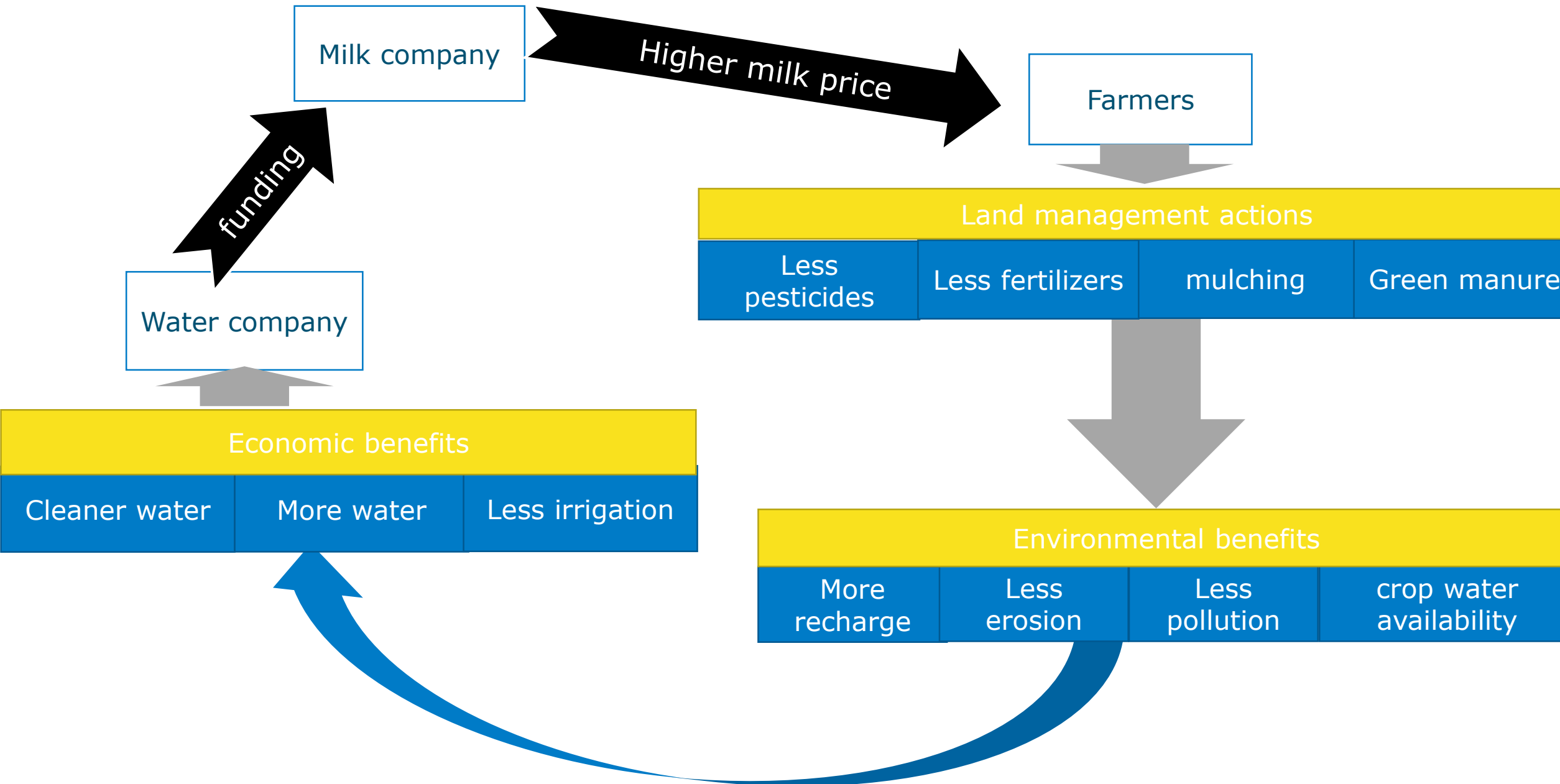
Aim:

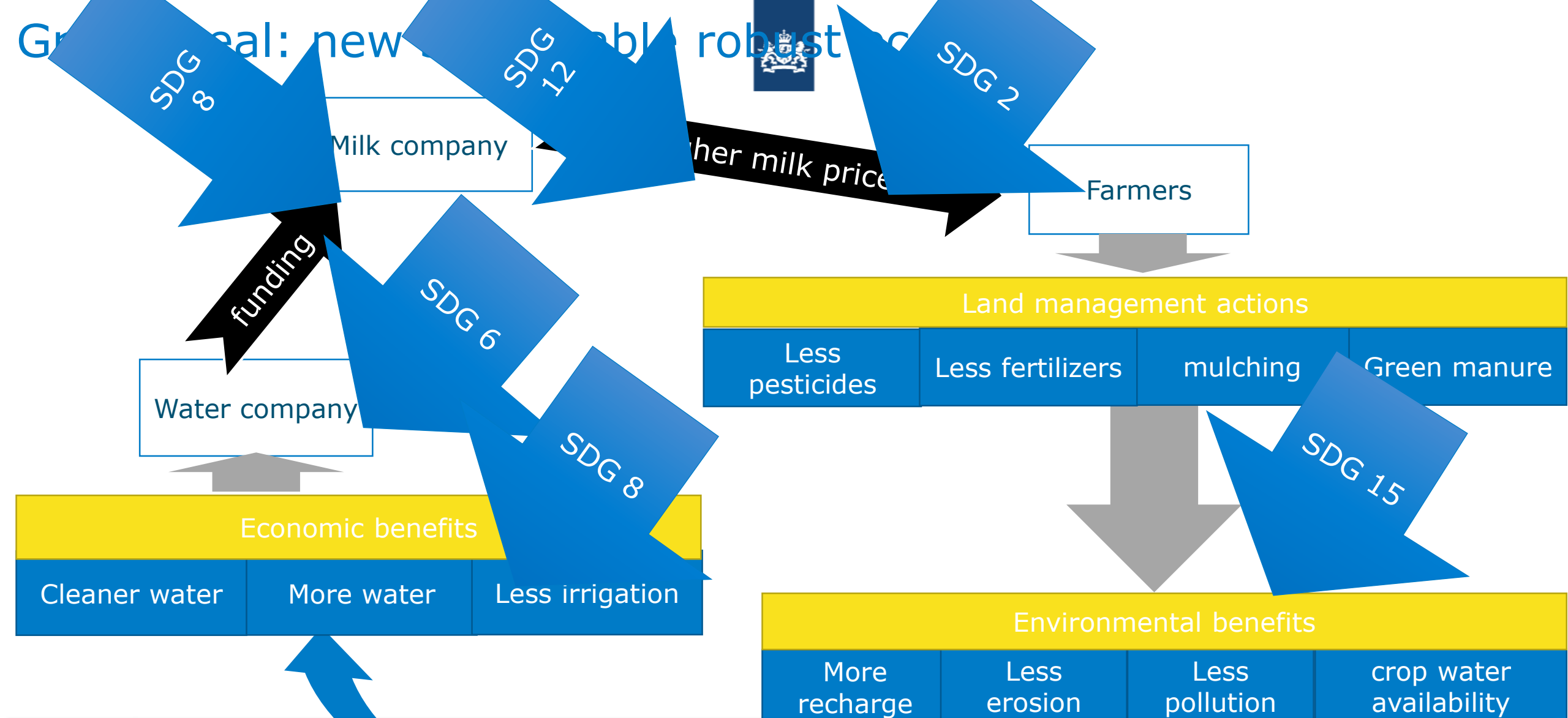
- remove (legal) barriers to accelerate and start sustainable initiatives
- Regional or local scale
- Multi stakeholders including the public authority
- Mutual gains and interests
- Innovation and new business models

Results:

- Action
- Shared responsibility
- Joint financing
- Prevention
- Innovation
- Land stewardship (soil services for communities)

Green Deal: new sustainable robust economy





| | |
|-----------|--|
| 2 | End hunger, achieve food security and improved nutrition and promote sustainable agriculture |
| 6 | Ensure availability and sustainable management of water and sanitation for all |
| 8 | Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work |
| 12 | Ensure sustainable consumption and production patterns |
| 13 | Take urgent action to combat climate change and its impacts |
| 15 | Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss |

Green deal: new sustainable robust economy

