Sustainable land and water management, including integrated watershed management strategies, to ensure food security

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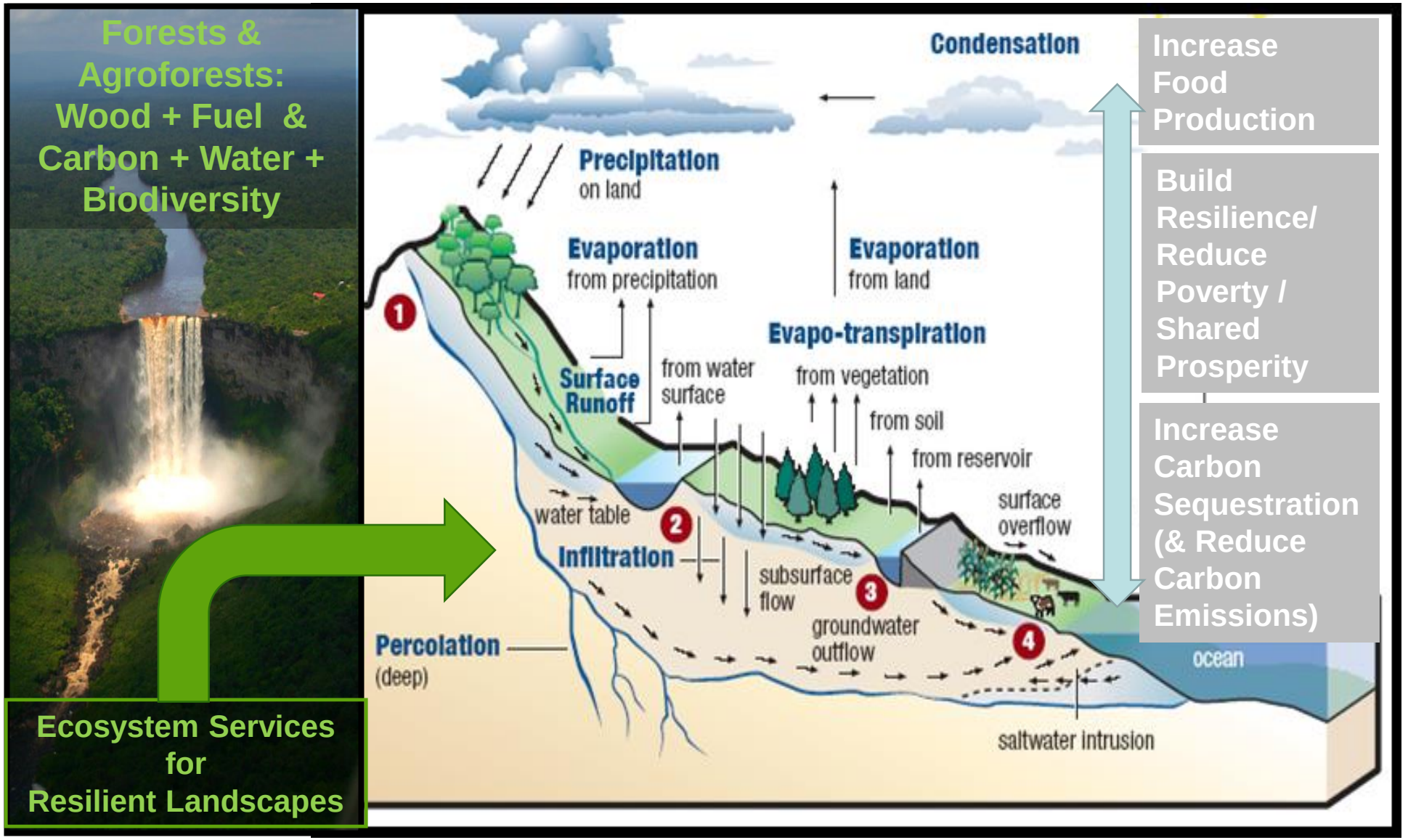
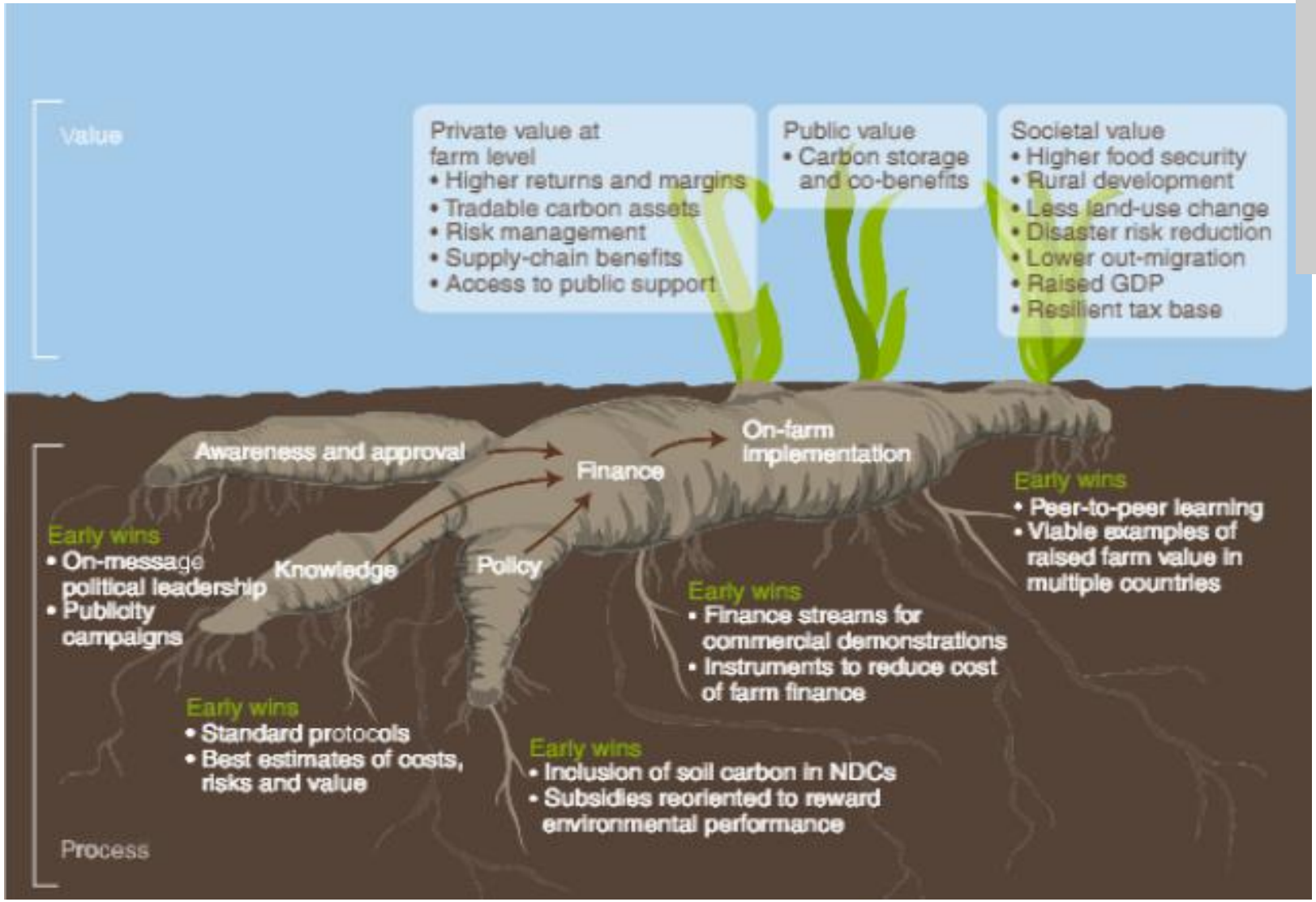
Moving towards productive & re-carbonized landscapes is a critical building block for climate-resilient circular economies



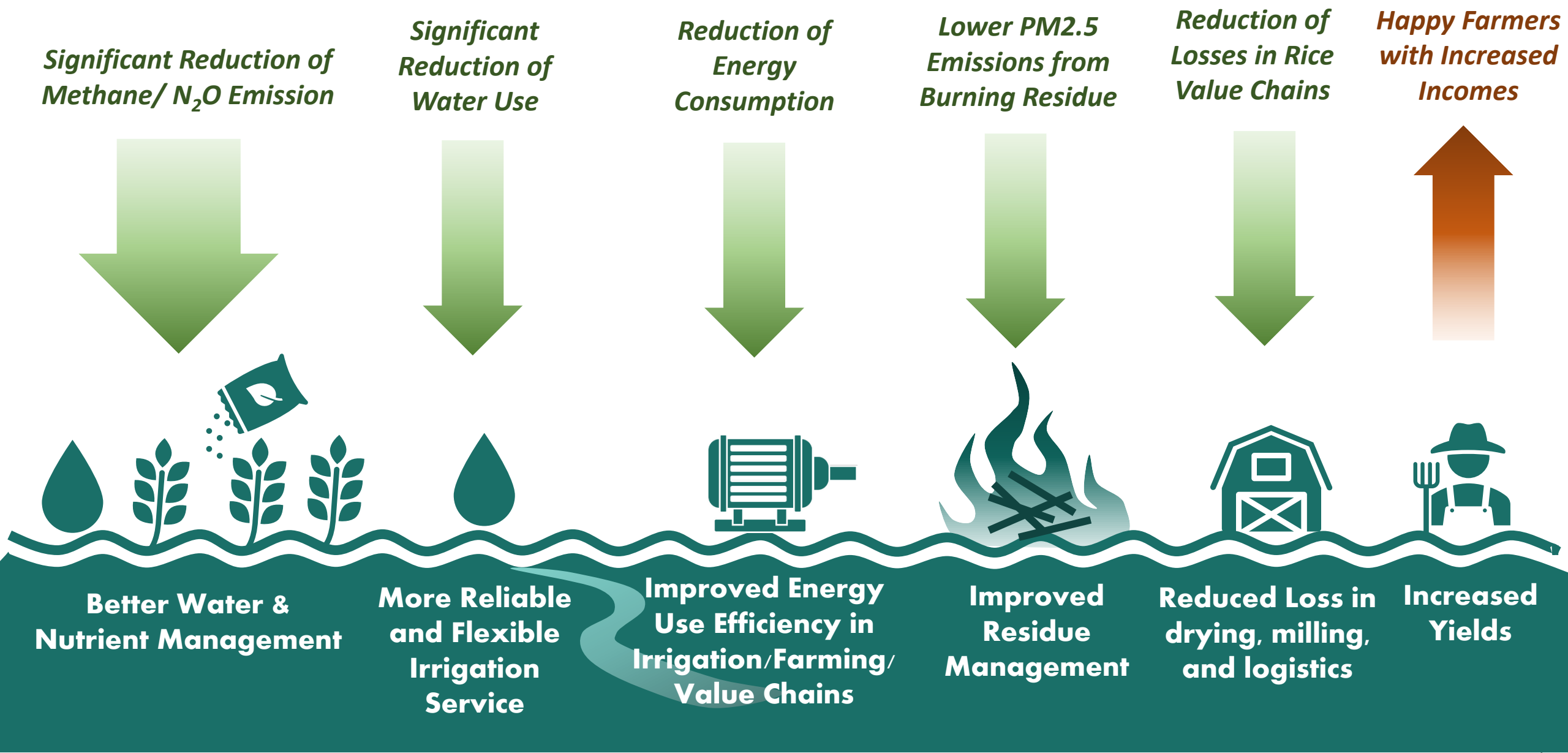
Sustainable watershed management requires a shared multi-sectoral vision supported by modern information, institutions, and investments

A focus on soils is critical:
Increase value generation through soils for farmers and towards a host of societal benefits



Soil Organic Carbon MRV is a critical enabler for SLM scaling-up: *The World Bank is currently developing a Soil Organic Carbon MRV Sourcebook for Agricultural Landscapes*

From a functional perspective, focusing on priority production systems is equally important: Example> climate-smart rice



WBG Example 1 : Investing in CSA and soil health- Kenya

Kenya Agricultural Carbon Project (KACP)

- The first soil carbon project earning carbon credits.
- Pilot project helped 60,000 farmers on 45,000 hectares (ha) to adopt sustainable agricultural land management practices leading to carbon sequestration.
- First credits earned in 2016 - 10,790 VCUs since then.

BioCarbon Fund
A Project-level Initiative 2004-2020

Kenya Climate-smart Agriculture Project (KCSAP) (US$ 250 M)

Purpose:

- Increase agricultural productivity and enhance resilience to climate change risks in smallholder farming and pastoral communities.

How:

- Up-scaling climate smart agricultural practice (including improving soil investments, promoting crop diversification, and agro-forestry) and strengthening the enabling environments.

Impact:

- Project will benefit about 522,000 households of smallholder farmers, agro-pastoralists, and pastoralists directly, 340,000 households benefiting from the county-level and public-private partnership investments and over 600 micro-small-and-medium enterprises.

KCSAP
Kenya Climate Smart Agriculture Project

WBG Example 2 : Mainstreaming sustainable cattle ranching project (CMSCR) - Colombia

2010 – 2020, Financing: US$ 27.7 M (BEIS UK and GEF)

Background

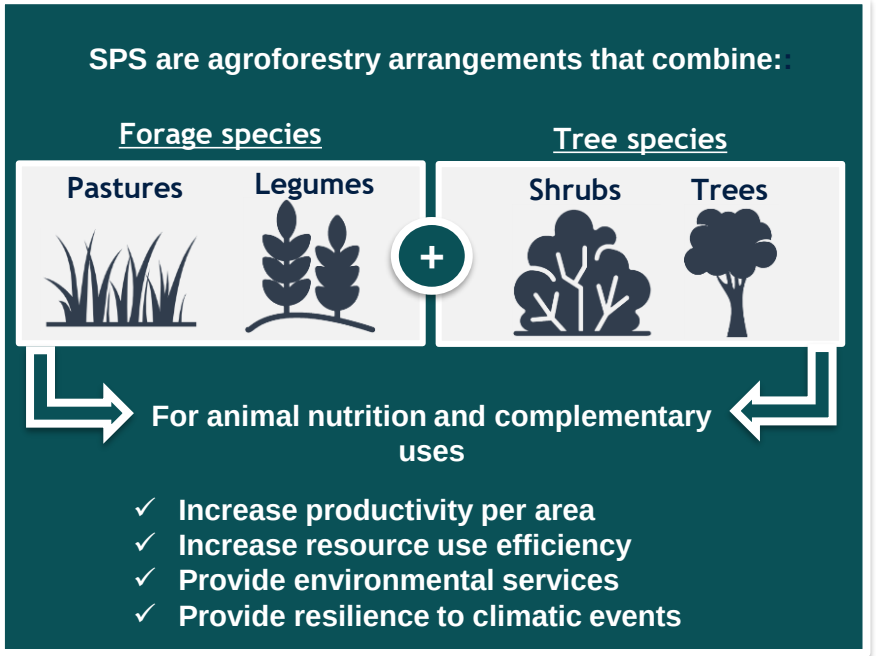
- Cattle ranching is economically important for rural Colombia but is characterized by low-profitability, detrimental environmental impacts and high susceptibility to climatic events.
- Sustainable practices such as Silvopastoral Systems (SPS) can be more efficient, increase income, and reduce climate risks.

Strategy

- Strengthening technical and operational capacity for sustainable land-use.
- Piloting and validating (financial) incentives supporting land-use transformations.
- Enhancing understanding of the impacts of sustainable practices and disseminating experiences and knowledge.

Results after 10 years

- Compared to production areas without SPS, milk productivity increased by about 25 percent, cost of milk production decreased by 9 percent/liter, animal stocking rate increased by 26 percent.
- Production costs were US$127/ha lower on average and farmer's annual income increased up to $523/ha/year.
- Project investments and technical assistance resulted in 100,522 ha being managed under environment-friendly cattle ranching production systems/land uses.
- GHG emissions were reduced by 1,565,026 tons of CO_2 equivalent.



WBG Example 3 : Climate smart rice investments- China

Climate Smart Staple Crop Production Project (CSSCP), financed by US$5.1M GEF grant

Productivity: New/improved rice/maize varieties of seeds with climate and pest/disease resilience; seed coating technology; soil management; water efficiency technology and management; drone and localized machinery applications, etc.

Adaptation: Crop rotation; IPM; fertigation; static pesticide sprayer; beneficiary capacity building

Mitigation: Conservation agriculture including no-till/low tillage and crop straw returning; reduction of synthetic fertilizer; agro-forestry; GHG emissions and soil carbon sink monitoring; institutional innovation to promote greening of agriculture and CSA technologies nationwide (both mitigation and adaptation related aiming at enhancing sustainable agricultural productivity)

Integrated Modern Agriculture Development Project (IMAD), financed by US$ 200 M IBRD loan

Productivity: Water efficiency technology and management including low pressure pipeline water delivery systems, sprinkler, micro, and drip irrigation systems; improved varieties and technologies, etc.

Adaptation: Improved irrigation and drainage systems; land leveling; crop rotation; IPM; fertigation; cash crop greenhouse production; WUA/FC/FA capacity building; applied research on technical or policy-related measures to adaptation for climate change in agriculture

Mitigation: Conservation agriculture including crop straw returning and no-till/low tillage; reduction of synthetic fertilizer; soil testing; precise/formula fertilizer application, organic fertilizers application, soil fertility monitoring

Hubei Smart and Sustainable Agriculture Project (Hubei 3S), co-financed by US$ 150 M IBRD loan and US$ 7 million GEF grant

Productivity: Value chain approach from farm to fork; drone and localized machinery applications; seed technology; big data and digital agriculture; food safety traceability systems; e-commerce, etc.

Adaptation: Crop rotation and inter-cropping; improved irrigation and drainage systems; land leveling/restoration; IPM, fertigation; beneficiary capacity building, etc.

Mitigation: AWD; conservation agriculture including crop straw returning and no-till/low tillage; reduction of synthetic fertilizer; soil testing and application of slow-release and formula fertilizers; recyclable/circular agriculture; integrated agricultural landscape management (ILM); agro-biodiversity; farmland ecological buffer zone and tree planting; ecological ditch; institutional innovation to promote ILM and ecological services; CSA branding and applied research for piloting agricultural carbon trade in Hubei (rice as one of the key crops)

Hunan Integrated Management of Agricultural Land Pollution Project financed by US$ 100 M IBRD loan

Productivity: improved varieties (low-accumulated & high yield) and technologies; land use change to high value crops; land transfer to cooperative operation; water channel upgrade and improved irrigation facilities and better water management; other ecological engineering, eg settlement belt, ecological interception ditches; eco-compensation

Adaptation/resilience: adaptation of a risk-based integrated approach to managing agri land pollution; GAP; land leveling; soil remediation; crop switch/rotation; IPM; building resilient communities and capacity building; applied research on technical or policy-related measures to adaptation for climate change in agriculture

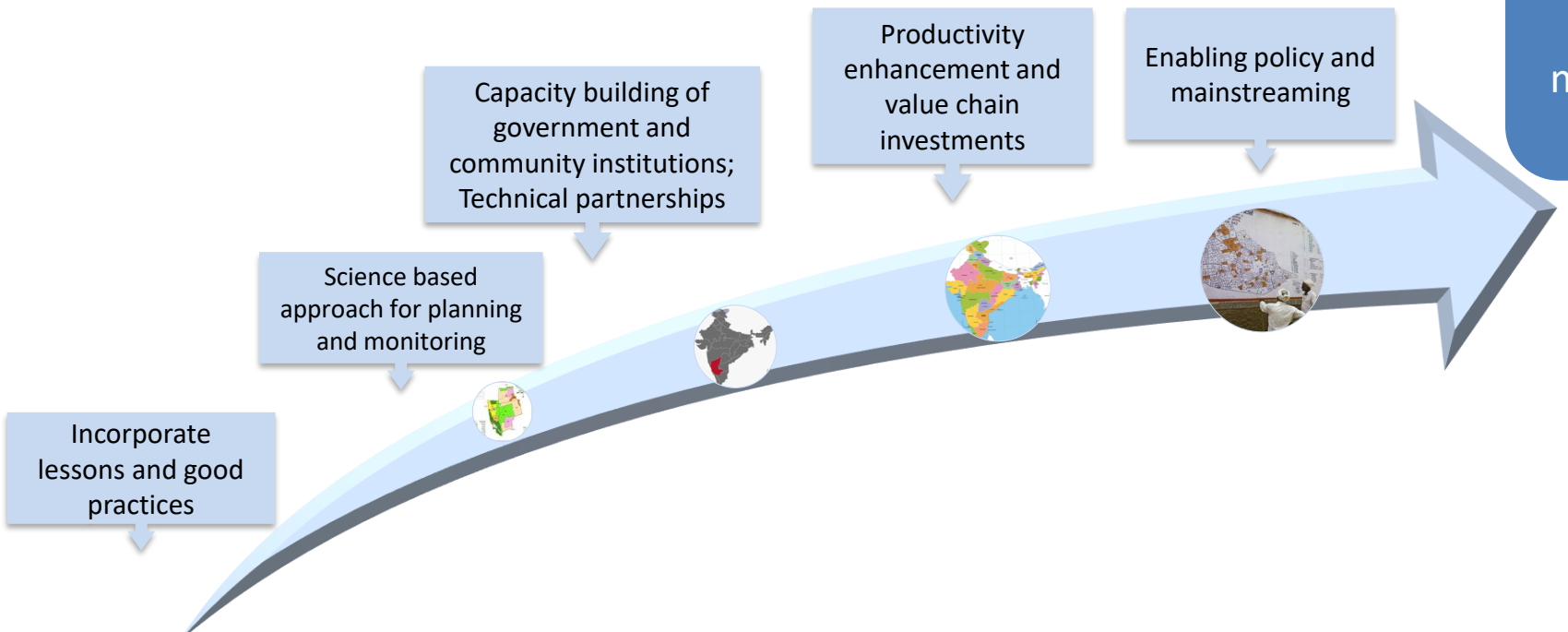
Mitigation: dry-and-wet; soil and crop testing; reduction of synthetic fertilizer; reduced and precise/formula fertilizer application, organic fertilizers application, soil fertility monitoring

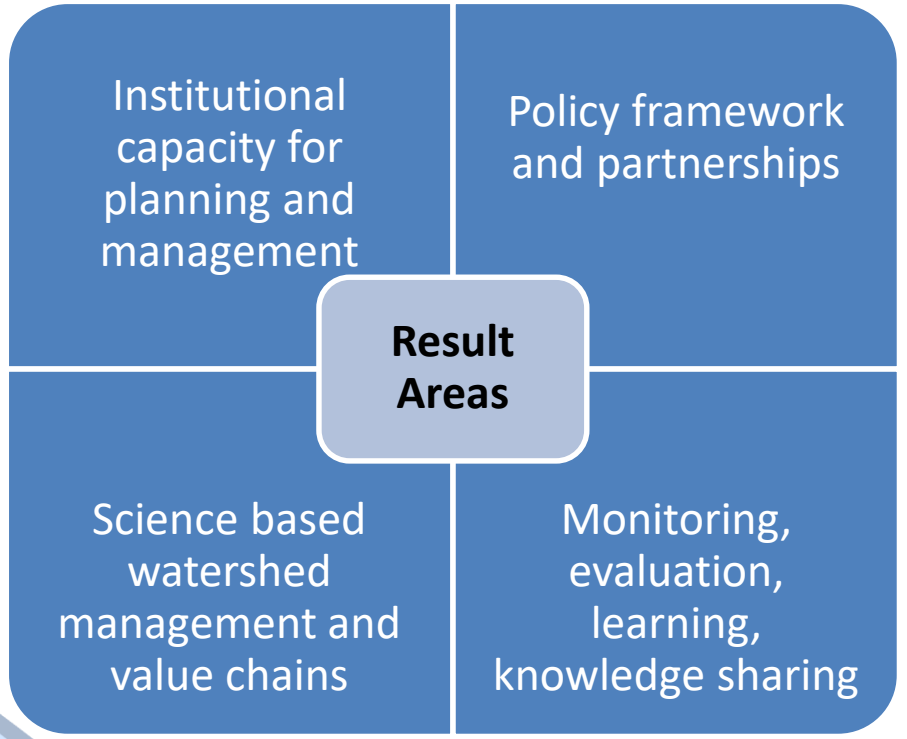
WBG Example 4 : Moving to a next generation of World Bank Support to IWD- India

Rejuvenating Watersheds for Agricultural Resilience through Innovative Development (REWARD):
US$ 134.6 M World Bank, US$ 607,3 M Government of India (expected approval in FY22)

- Aims to strengthen capacities of national and state institutions to deliver more effective science-based watershed development programs for climate resilience

- Program for Results (PforR)
  - Results orientation
  - Adoption of country systems
  - Incentives





WBG Example 5: Working with partners to support countries' SLM, WSM and FS programs

PROGREEN

Global Partnership for Sustainable and Resilient Landscapes, New Model Umbrella TF aiming to improve ecosystem services in resilient production and conservation landscapes

Supported by the

Federal Ministry for Economic Cooperation and Development

FOLUR
Food · Land Use · Restoration

Global Impact Program under GEF-7 aims to promote sustainable, integrated landscapes and efficient food value chains at scale, focusing on capacity, policy, leveraging investments and strategic knowledge management

gef

IFC International Finance Corporation WORLD BANK GROUP

Global Landscapes Forum

UNDP GOOD GROWTH PARTNERSHIP

The Food and Land Use Coalition

WBG Example 6 : Leveraging blended finance to achieve targeted results at scale in SLM and WSM

WBG adds value by helping countries to:

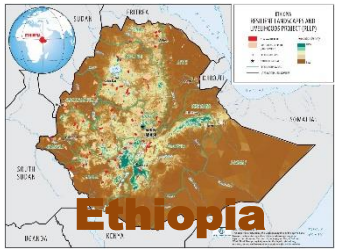
Learn, prioritize & plan for targeted climate action & investment

Blend & leverage finance to scale up performance

Programmatic Scale & Impact

Engage stakeholders for more inclusive forest programs & benefit sharing

Access incentives (payments for results) for continued action & ambition



Priority actions for the Koronivia Joint Work on Agriculture: Sustainable Land Management

Tools for effective policy making and implementation to set targets and scale-up

1. A standardized, accurate and low-cost approach to Soil C accounting and MRV can provide a significant rationale for the use of public funds and other types of financing in support of implementation of practices that promote soil health.
2. Dynamic Data and Information Frameworks for Landscape Scale Resource Management and Planning, with cross sector data integration, are necessary tools for governments and policy makers.

The KJWA can support countries to address technical, capacity, and priority-setting bottlenecks for the assessment and monitoring of SLM, including on Soil C.

Engaging farmers as central actors and key providers of both food and ecosystems services, can help inform the design of attractive incentives and enhance adoption.

Stimulate confidence for private sector investments in Nature Based Solutions e.g., by developing de-risking facilities.

Incentives for adoption at scale

1. More technical support is required to help the realigning of public support for delivering public-good outcomes that promote SLM and soil health.
2. Develop and support economic incentives for implementation of practices that support SLM and soil health, through sustainable business models, payments for ecosystem services schemes, and blended financing (grants and loans) for better environmental and health outcomes.

The KJWA can highlight opportunities on how to incentivize and reward actors in both public and private sectors to adopt SLM approaches.

Priority actions for the Koronivia Joint Work on Agriculture: Sustainable Water/ WS Management

1.

- Need for a differentiated approach on water beyond efficiency, but about access in areas of economic water scarcity, integrated risk management etc.
- Treat agri-water management as an issue of major climate concern: We need holistic hydrological approaches where farmers have a key role and responsibility as the primary water managers.
- Understand irrigation and hydro-climatic risk management as an essential service to farmers and input in their farming system.
- Realize the full extent of the climate footprint of the sector and capitalize on mitigation entry points and opportunities.

KJWA can facilitate the necessary policy dialogue to understand and develop solutions to address these challenges.

2.

- More and better-tailored investments, following a one-water approach, circular economy and a broader integration in climate-smart food systems are needed.
- Science-based approaches are key to sustainability in water management.
- Need for delivery models that work for smallholder farmers: Farmer-led Irrigation Development (FLID) is a solution going forward, coupled with better digital data.
- Linking farmers to markets is key to influence behavior: Increased adoption of high-value, low-water-use crops and high-efficiency irrigation technologies.

KJWA can support countries and actors to address technical and capacity bottlenecks towards more targeted and effective investments.

3.

- We need aligned policy frameworks in agriculture and water.

KJWA can provide the platform for international policy dialogue to develop the required aligned policy frameworks. It can also assist countries to translate those policy frameworks into action plans at regional and national levels.

THANK YOU

Building sustainable food systems across regions…

A sustainable future for agriculture in Latin America and the Caribbean is in our hands. Let´s make it happen!

SCAN ME

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In an inclusive way…

Transforming local economies for an inclusive and sustainable recovery

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