



United Nations
Convention to Combat
Desertification

Overview of the UN Food System Summit and its Action Track 3 on Nature-positive production

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Office for Outer Space Affairs

UN-Austria Symposium 2021
Space Applications for Food Systems
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The People's Summit has arrived!



23 September 2021



09:00 to 18:00 EDT



New York - Virtual



**UNITED NATIONS
FOOD SYSTEMS
SUMMIT 2021**

THE PEOPLE'S SUMMIT HAS ARRIVED

| Photo: Debdatta Chakraborty ©. Floating Island Vegetables, India - a winner of the Good Food For All photo competition.

The UN Food Systems Summit, held during the UN General Assembly in New York on September 23, is setting the stage for global food systems transformation to achieve the Sustainable Development Goals by 2030.

Why it matters

- **More than 3B people cannot afford any diet,**
- **690M are chronically malnourished; COVID-19 has increased this number by 83-132M,**
- **150M children under five are stunted,**
- **2B people are malnourished, overweight, and obese, and**
- **600M people get sick every year by consuming unsafe food.**

Slide courtesy of Dr. Rattan Lal

Why it matters

- More than 3B people cannot afford a healthy diet,
- 690M are chronically malnourished, and the world's population aged 5-19 has increased this number by 100M in the last decade.
- 150M children are overweight or obese.
- 2B people are obese, overweight, and at risk of chronic disease.
- 600M people get sick every year by consuming unsafe food.

SDGs are compromised

Slide courtesy of Dr. Rattan Lal



THE OHIO STATE UNIVERSITY



OUTCOMES OF THE UN FOOD SYSTEMS SUMMIT

- Generate **significant action** and measurable progress towards the 2030 Agenda for Sustainable Development
- Raise awareness** and elevate public discussion on **food systems transformation**
- Develop principles to **guide governments** and other stakeholders looking to leverage their food systems to **support the SDGs**
- Ensure that the Summit's **outcomes continue** to drive new actions and progress

The mechanisms of engagement



Summit Dialogues

The success of the Food Systems Summit depends on the engagement of citizens all over the world. You can convene a Dialogue and contribute directly to the Summit's ambitious vision and objectives.



Summit Community

The Community platform is open to everyone with an interest in contributing to transforming food systems. Gather with like-minded people to lend your ideas to the discussion. Follow the Action Tracks and much more!



Food Systems Hero

By becoming a #FoodSystemsHero, you are joining the global movement for safe, accessible, sustainable and equitable food systems - and making a commitment to learn, share, gather and act for food systems transformation.

Building on the people's summit concept, feedback from the summit dialogues and the summit community flow into the Pre-Summit and eventually the Summit, how will the feedback be used and implemented

The Dialogues

- Huge momentum...through June 23, 2021, **606 Independent Dialogues** had been registered, and more since.
- Dialogue participants expressed and shared **visions of food systems transformations** that will lead to a more just and sustainable world.
- This was articulated as major, **significant systems innovations and reforms**, rather than small, incremental changes around the edges.
- A significant pattern across many Dialogues was the emphasis on the need for all actors to acknowledge the high-level of **complexity and interdependency in a food system** and therefore, to engage in **systems thinking** when designing, implementing, and evaluating transformational initiatives and solutions.

The Dialogues

- Dialogue **participants were generally leery about overly broad, standardized, and top-down solutions** that are insensitive to local contexts, both in regard to environmental and socio-cultural contexts.
- Many dialogue participants noted that **not everything currently being done within food systems is bad**
- The Dialogues have value in **bringing diverse people together on a variety of issues** to think about and build momentum for the Summit.
- People connecting together and **interacting around food systems issues and the future of food and agriculture** has value in and of itself quite apart from the substance that emerges from the Dialogues.



Action Track 1

Ensure access to safe and nutritious food for all



Action Track 2

Shift to sustainable consumption patterns



Action Track 3

Boost nature-positive production



Action Track 4

Advance equitable livelihoods



Action Track 5

Build resilience to vulnerabilities, shocks and stress



Action Track 3

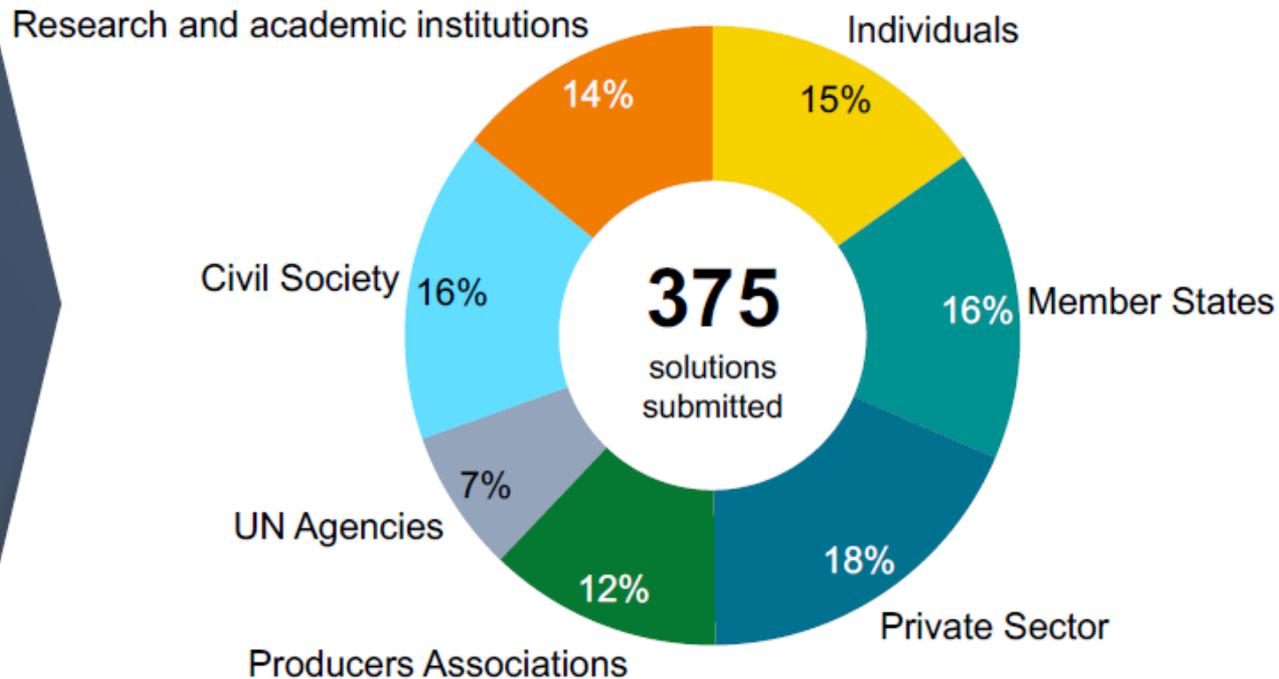
Boost nature-positive production

- Action Track 3 will work to optimize environmental resource use in food production, processing and distribution, thereby reducing biodiversity loss, pollution, water use, soil degradation and greenhouse gas emissions.
- In its pursuit of this goal, the Action Track will aim to deepen understanding of the constraints and opportunities facing smallholder farmers and small-scale enterprises along the food value chain.
- It will also strive to support food system governance that realigns incentives to reduce food losses and other negative environmental impacts.

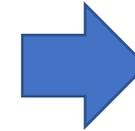
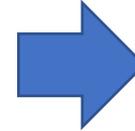
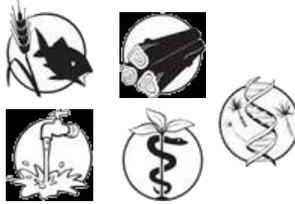
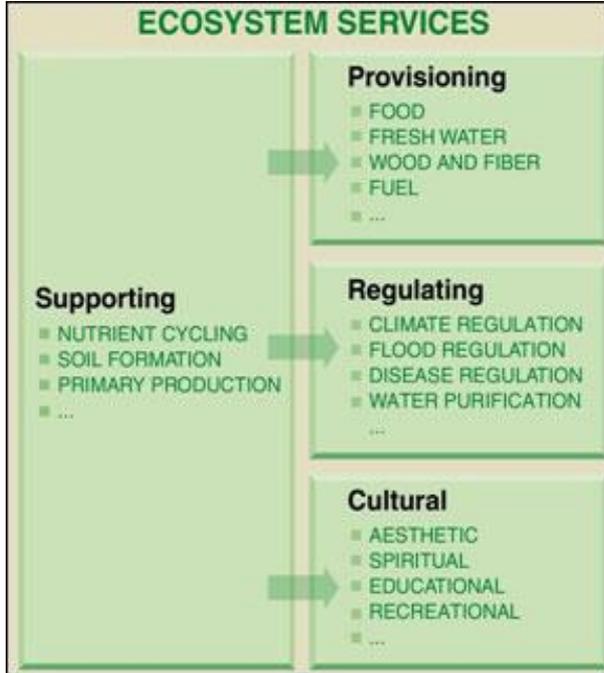
ALL ACTION TRACKS

2200+ IDEAS
(SOLUTION CLUSTERS)
SUBMITTED FROM A DIVERSE GROUP OF STAKEHOLDERS

WITHIN Action Track 3



Why nature-positive production is important



Nature (e.g. ecosystems and biodiversity) provides a vast range of ecosystem services critical for sustaining food production



**Cultural –
landscape
amenity,
ecotourism**



**Habitat –
biodiversity
conservation**



**Provisioning –
Crop yields**



**Regulating —
filtration, water
quality**



**Supporting —
flood
prevention**



**Regulating—
erosion
prevention**

**Regulating—pest control,
pollination**



**Habitat –
biodiversity
conservation**



Cultural –
landscape
amenity,
ecotourism



Habitat –
biodiversity
conservation

Today's food and ag systems
diminish the very ecosystem
services upon which they depend.
But they can also be the solution



Regulation
prevention



Pest control



Habitat –
biodiversity
conservation

CURRENT IMPACTS OF FOOD PRODUCTION ON NATURE



Agriculture is responsible for

80%

of global deforestation



Food systems release

29%

of global GHGs into the air



Agriculture accounts for

70%

of freshwater use



Drivers linked to food production cause

70%

of terrestrial biodiversity loss



Drivers linked to food production cause

52%

of agricultural land is degraded



Drivers linked to food production cause

50%

of freshwater biodiversity loss

Nature-positive agriculture can be delivered through locally-adapted agroecology and regenerative practices that:

- maintain ecosystem services vital for sustained agricultural productivity;
- stem biodiversity loss in agricultural systems, and in native systems (by avoiding clearing and reduced pollution),
- help to adapt to, and mitigate, climate change.

UNFSS Pre-Summit - July Highlights

Where are things going with FSS Action Track 3 that may be relevant to space applications for food systems?



Key figures

100+ events
500+ in-person delegates
22,000+ delegates attending virtually



Ministerial statements

Over 120 statements from member states on various forms of commitment to food systems transformation



Emerging coalitions

Eight 'Action Coalitions' launched at Pre-Summit - others to launch at Summit



High-profile event on climate and biodiversity

AT3 co-organised a session on '*The Triple Challenge of Food Insecurity, Climate Change and Biodiversity Loss*' with > 2,500 participants

FSS Action Track 3 is generating a lot interest among governments, the private sector and a wide range of organizations, leading to some interesting proposals

For example:

Track 3 led to a proposal for a “Global Soil Hub”

*The Global Soil Hub calls specifically for the establishment of a multi-stakeholder coalition to facilitate the adoption and scaling of **soil health restoration practices** with outcomes for growth, productivity, rural livelihoods, climate and nature.*

Why needed? Many initiatives focus on soil health – need to focus on galvanizing and guiding private and public investment

GLOBAL SOIL BIODIVERSITY INITIATIVE

HOME ABOUT EVENTS JOIN

BLOGS RESOURCES RESEARCH AND POLICY ATLAS SOILBON NEWS

Welcome to the Global Soil Biodiversity Initiative

Seeking to promote expert knowledge on soil biodiversity in environmental policy and sustainable land management to improve and enhance ecosystem services

WELCOME TO THE "4 PER 1000" INITIATIVE

University of Scotland

Institute for Sustainable Food

Research People About Connect

Home > Institute for Sustainable Food > News

2 December 2020

Soil health knowledge hub launches with a call to join the network

A new knowledge hub to promote the understanding of the impact of soil health launches in collaboration with the Institute for Sustainable Food

WHAT IS THE "4 PER 1000" INITIATIVE

foodagility

about research

Cool Soil Initiative

A paddock to product partnership bringing together key players in the grains supply chain to work with grain growers through regional farming systems groups to reduce greenhouse gas emissions. This will lead to increased long term sustainability and yield stability through adopting different farming strategies to increase soil health.

SOIL CARBON INITIATIVE

Home About Executive Summary Partners Press Sign Up

Imagine growing our way out of climate change.

ECN

HOME

Home > Policy > SOS > Save Organics in Soil Initiative

SOS – Save Organics in Soil Initiative

Main Priority Goals of the 'SOS – Save Organics in Soil' Initiative

To encourage policy makers to develop instruments to move Europe towards implementing sustainable, climate-proof land management practices, according to the priorities:

This Soil Hub idea is now a proposal for a Coalition

Coalition of Action 4 Soil Health (CA4SH)

This coalition will set ambitious targets that align with Private Sector and Government KPIs to ensure that large areas of productive land are under practices that improve soil health. It will advocate for multi-stakeholder partners to facilitate the adoption and scaling of a global mechanism and processes to guide and catalyze public and market-based private sector investments in soil health, with outcomes for economic returns and growth, productivity and rural livelihoods, and climate and nature.

Coalition
Members

Member states

Private
Sector

Civil society &
Research

Multilateral
organisations
and
Foundations

What are the Coalition of Action for Soil Health Actions:

- this Coalition will take the following steps to accelerate focused action on soil health as an enabler of food system transformation

Convene public and private investors, and develop stakeholder engagement approaches designed to integrate evidence and learning into programme and policy development.

Work with farmers to design economic incentives and support mechanisms to enable implementation.

Promote research and development that builds on current knowledge and methods for restoring and managing soil health across smallholder to large-scale commercial production systems.

Establish tiered national and global tracking mechanisms and systems to provide empirical and quantitative data to support soil health investment framework.

Coordinate with ongoing science-based initiatives - including those led by farmers - with knowledge and experience to provide mechanisms and guidance for linking investment decisions to soil management

Engage in public-private sector policy dialogue to ensure that an enabling environment for promoting soil health.

Who are current working group members of Coalition of Action for Soil Health

Working Group members:

Alliance for Development, Germany
FAO- Global Soil Partnership
WBCSD
WOCAT
UNCCD
ReNature Foundation
Soils4Climate
ISRIC
ESMC
University of Sydney
IICA

Ohio State University
Sokoine University of Agriculture
ClimateFocus
CIFOR-ICRAF
Breakthrough Solutions
Soil Health Institute
WWF
International Center for Biosaline
Agriculture (ICBA)
RySS / Govt of Andhra Pradesh
the Mulloon Institute
Climate Champions team
4per1000

Is there a way experts in space applications for food systems and the UNCCD can already collaborate?



**LAND
DEGRADATION
NEUTRALITY**

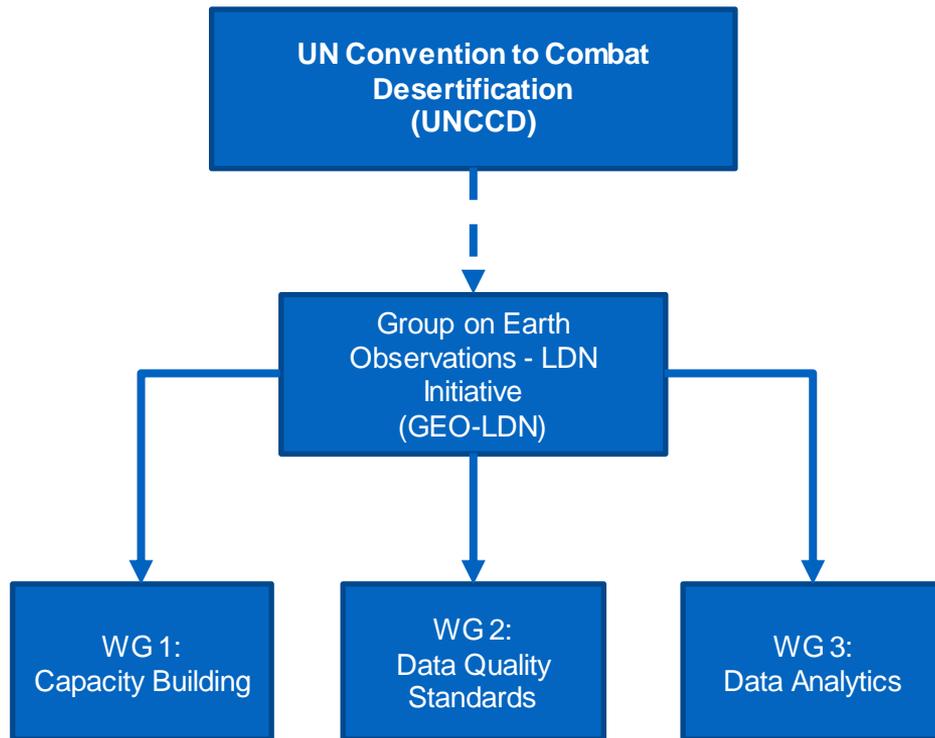


LAND DEGRADATION NEUTRALITY

- ...is a unique **stakeholder-driven initiative** with a clear policy mandate from UNCCD
- ...helps national and local actors in all countries **use Earth observations to achieve LDN.**
- ... promotes and supports the collaborative development, provision and use of EO datasets, quality standards, analytical tools and capacity building

For more info:

http://earthobservations.org/geo_ldn.php

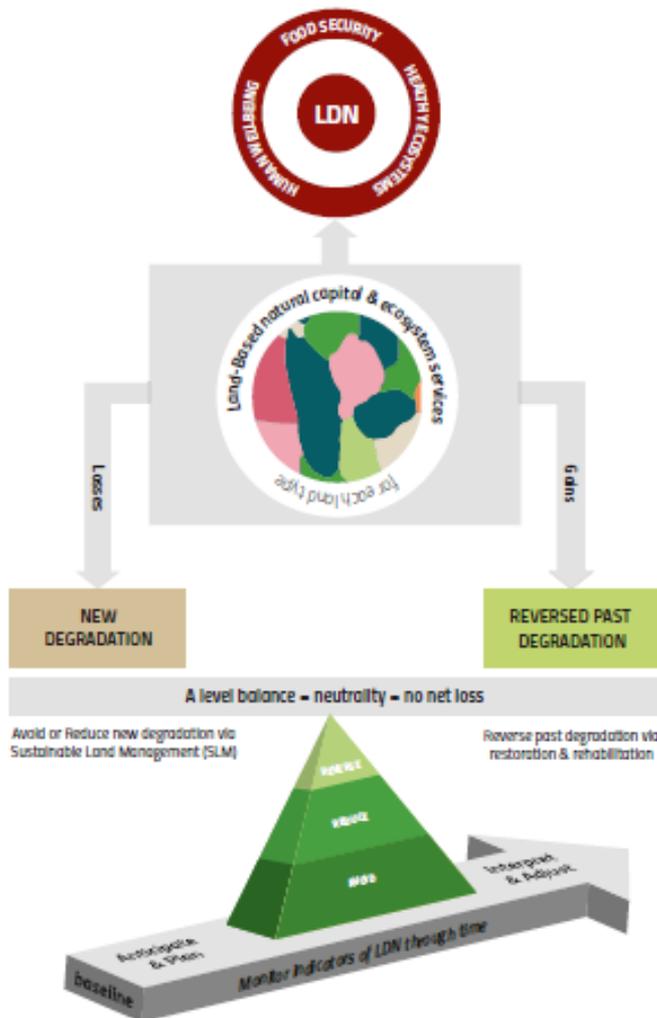


What is LDN and why is it relevant to these food systems discussions?

Land Degradation Neutrality (LDN) offers a balanced approach to address land degradation and accelerate the SDGs, all of which depend on healthy land.

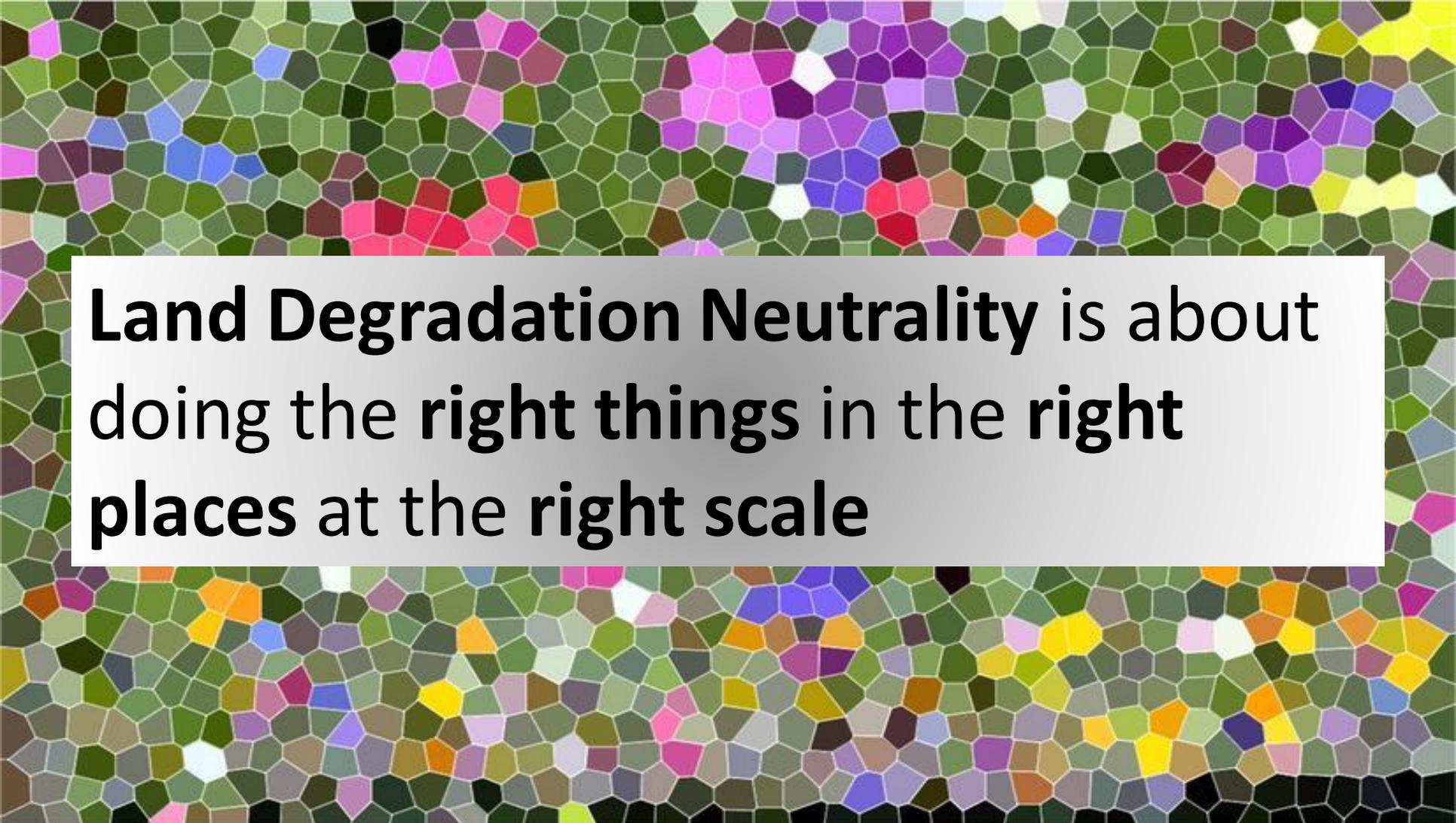


Land Degradation Neutrality (LDN)



“A state whereby the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security remain stable or increase within specified temporal and spatial scales and ecosystems”

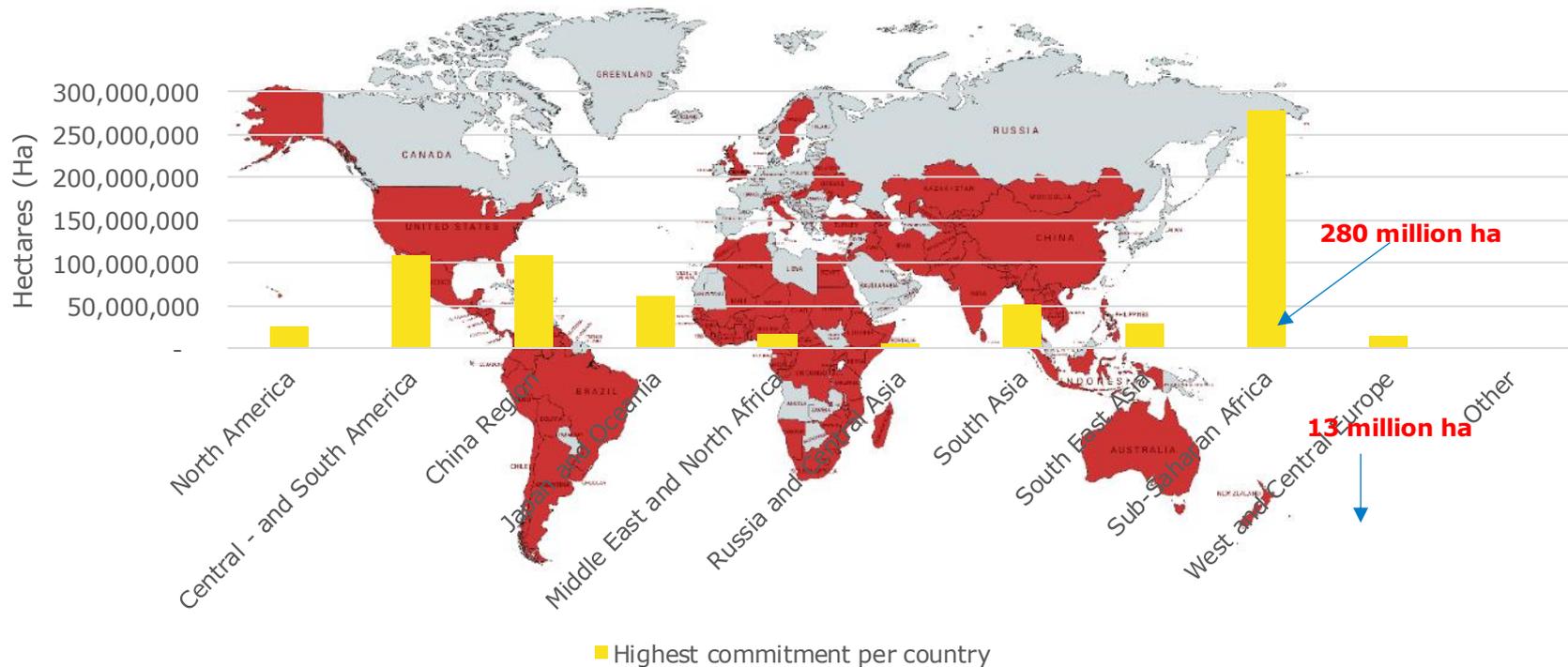
UNCCD COP12 October 2015



Land Degradation Neutrality is about
doing the **right things** in the **right**
places at the **right scale**

There are close to 1 billion ha in global commitments for sustainable land management and land restoration

Mostly in developing countries



LDN targets set since 2017



And LDN alone amounts to 450 M ha of ambition so far...

 Countries setting LDN targets

127 countries have committed to set LDN targets so far

104 of these have completed setting their LDN targets

70 of these have had their targets formally adopted by government

Disclaimer: Country names or borders shown on the map do not necessarily represent the UNCCD's official position. The map shown is simply for display purposes. It does not work to imply views or opinions of the UNCCD, regarding the legal status of any territory or country.

How can LDN and land restoration boost nature-positive food production?



Sneak preview to an action guide that will be launched at the upcoming Food Systems Summit.

LDN response actions for food security and sustainable agriculture

DRIVERS AND PRESSURES

Biophysical

- Climate change
- Agricultural expansion/land conversion
- Loss of biodiversity/diverse landscapes

Institutional

- Land tenure/rights
- Incentives/Investment
- Policy, regulation & enforcement
- Land grabbing

Socio-economic

- Food demand
- Dietary trends
- Food loss/waste
- Resource use efficiency
- Competing land uses

LAND DEGRADATION

SDG target 15.3
Land Degradation
Neutrality (LDN)

LDN Target Setting
Programme



FOOD SYSTEMS LDN response actions

- Governance
- Agroecosystems
- Demand-side drivers
- Supply chains
- Risk management



OUTCOMES

- Food/nutrition security
- Improved livelihoods
- Nature-positive food production
- Resilient agroecosystems and healthy landscapes



ENVIRONMENTAL CONDITION OF LAND

(including soil health, above and below ground biodiversity, surface and ground water)

INTEGRATED LDN RESPONSE ACTIONS

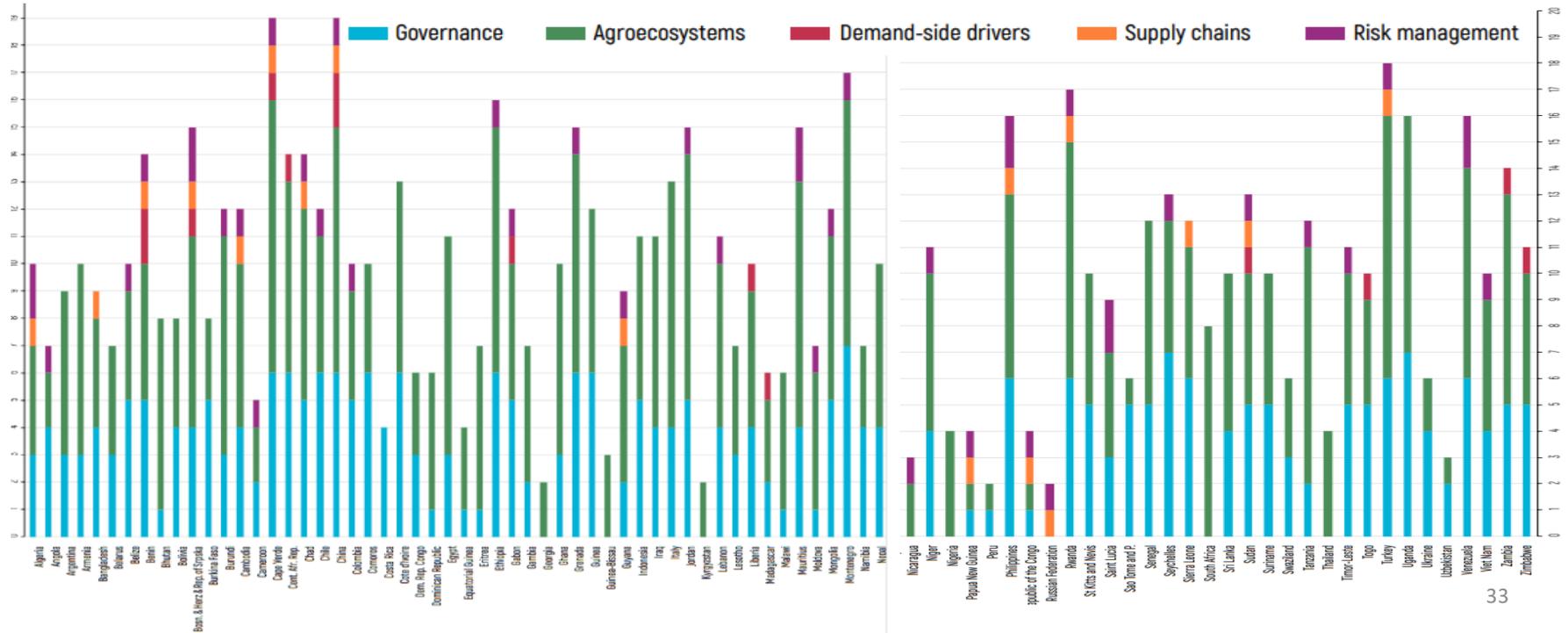
LDN is driving the integrated approach needed to halt the loss of healthy and productive land, and sustainably manage agroecosystems for present and future generations

This analysis of national LDN reports identified a total of

842
Response Actions

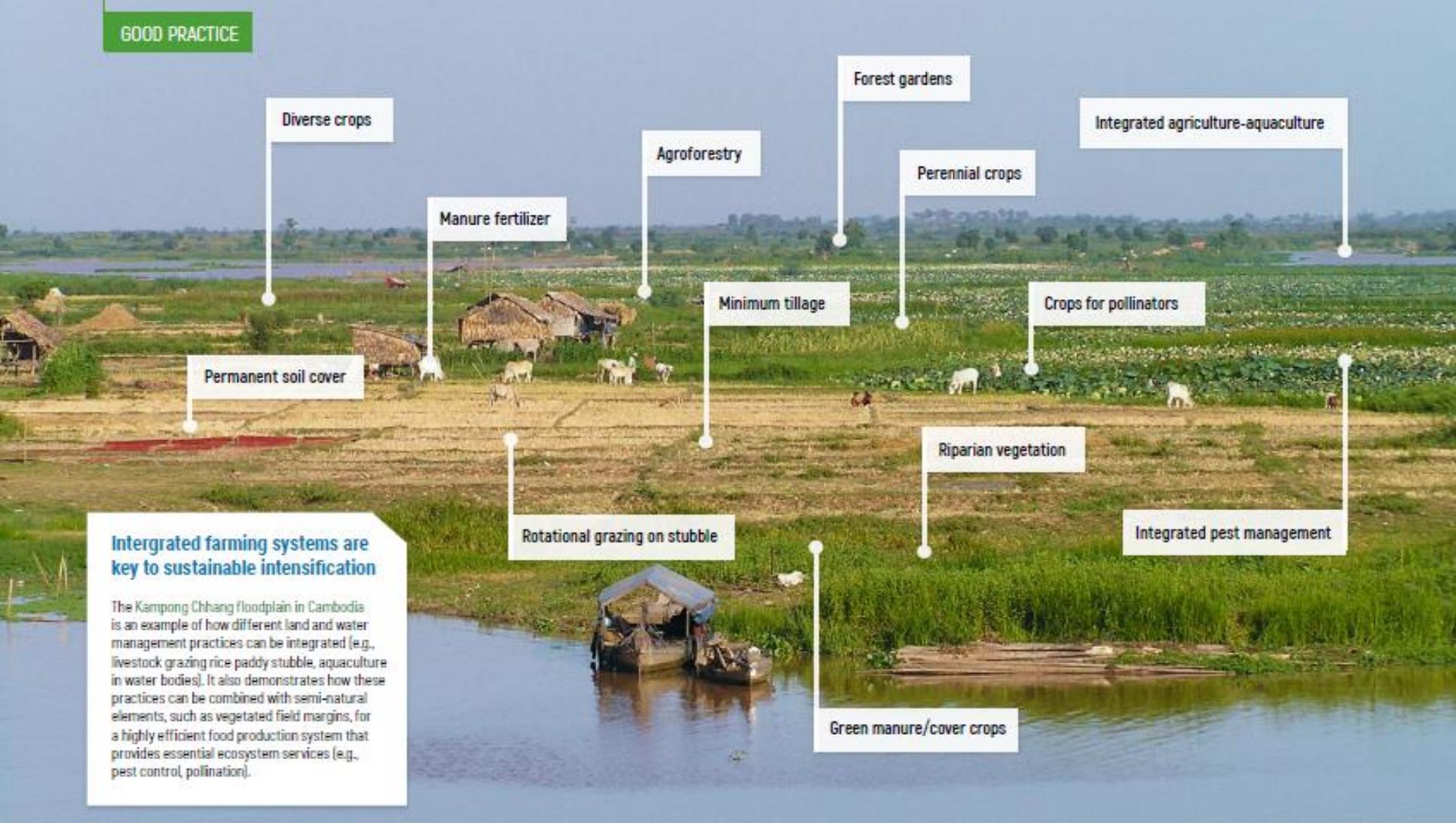


in **86**
Countries



Place-based approach

<p>PLACE</p>				
<p>APPROACHES</p>	<p>Cities/urban areas</p> <p>Green spaces and water management</p>	<p>Urban-rural interface</p> <p>Sustainable territorial development</p>	<p>Rural/agricultural landscapes</p> <p>Regenerative food and commodity production</p>	<p>Natural ecosystems/protected areas</p> <p>Conservation and restoration of nature</p>
<p>ENABLERS Rights (tenure security) / Rewards (incentives/investments) / Responsibilities (long term planning)</p>				
<p>ACTIONS</p>	<ul style="list-style-type: none"> » Community gardens and urban farming » Tree planting and wetland restoration » Green belts and buildings (roofs/walls) 	<ul style="list-style-type: none"> » Land use planning Protect watersheds and fertile farmland » Manage urbanization » Sectoral coordination for green infrastructure and supply chains 	<ul style="list-style-type: none"> » Integrated farming (crops/trees/livestock) » Rangeland management » Sustainable intensification and agroecological practices 	<ul style="list-style-type: none"> » Ecological restoration » Wildlife corridors and buffer zones » Indigenous/ community management » Sustainable harvesting in protected areas
<p>BENEFITS</p>	<ul style="list-style-type: none"> » Human health (quality of life) » Clean air and water » Flood control and wastewater management » Parks and recreation Cooler temperatures 	<ul style="list-style-type: none"> » Water availability for urban residents » Local and regional food security » Biodiversity conservation Reduced urban sprawl 	<ul style="list-style-type: none"> » Food security and rural livelihoods » Healthy soils and ecosystem functions » Reduced emissions » Water storage/recharge » Biodiversity conservation 	<ul style="list-style-type: none"> » Nature's contribution to people » Global public goods (climate stability/biodiversity) » Ecotourism and cultural landscapes



Diverse crops

Forest gardens

Integrated agriculture-aquaculture

Agroforestry

Perennial crops

Manure fertilizer

Minimum tillage

Crops for pollinators

Permanent soil cover

Riparian vegetation

Integrated pest management

Rotational grazing on stubble

Integrated farming systems are key to sustainable intensification

The Kampong Chhang floodplain in Cambodia is an example of how different land and water management practices can be integrated (e.g., livestock grazing rice paddy stubble, aquaculture in water bodies). It also demonstrates how these practices can be combined with semi-natural elements, such as vegetated field margins, for a highly efficient food production system that provides essential ecosystem services (e.g., pest control, pollination).

Green manure/cover crops



Thank you!



United Nations
Convention to Combat
Desertification

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