

SUSTAINABLY MANAGED NATURAL RESOURCES

Progress, Achievement, Results

CGIAR Knowledge Day



CGIAR

Nairobi, 5 November 2013



CGIAR

**CGIAR Strategic
Level Outcome on
Natural Resources**



How will we feed the planet while ensuring sustainability?

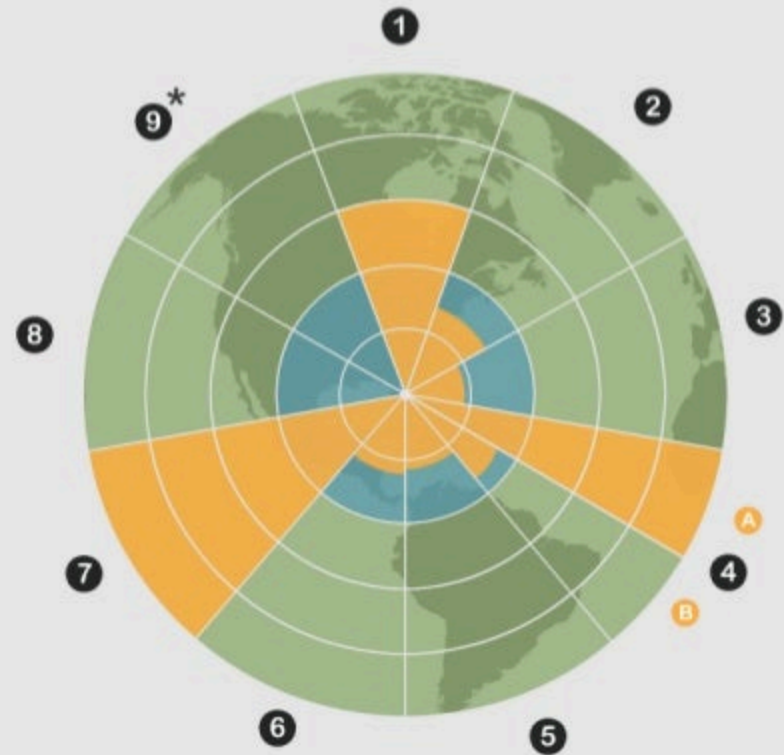


THERE IS A PROBLEM

We have exceeded three of the nine Planetary boundaries.

Danger of greater risks and uncertainty emerging

Agriculture is the dominant contributing factor and the solution.



*Not yet quantified

- | | | |
|---------------------------------|--|-------------------------------|
| 1 Climate Change | 4 Biogeochemical flow boundary
A: Nitrogen cycle
B: Phosphorus cycle | 7 Biodiversity loss |
| 2 Ocean acidification | 5 Global freshwater use | 8 Atmospheric aerosol loading |
| 3 Stratospheric ozone depletion | 6 Change in Land use | 9 Chemical Pollution |

We have mismanaged our natural resources



24

billion tons of
soil annually



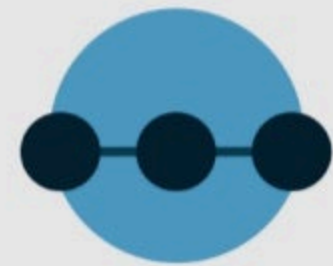
12,000

cubic kilometers
of polluted water



7.3

million ha of forest
loss per year



12

million metric tons
of carbon dioxide is
from Agriculture

IF WE WANT TO

FEED

9 BILLION

PEOPLE

IN

2050

sustaining

**NATURAL
RESOURCES**

IS

VITAL.

RESOURCES

IS

VITAL.

WE NEED TO CHANGE THE PARADIGM

FOREST SUPER MARKETS

Forests provide food for more than 1 billion of the world's poorest - we can improve food security by stopping forest degradation



REVITALIZING SOIL

Decline accounts for 10% of GDP in SSA



CLIMATE SMART AGRICULTURE

Add 50 million tons of fertilizer



TAMING VARIABILITY

Every dollar spent on pre-disaster water infrastructure can save up to USD 10 in disaster relief.



What can we achieve if we put the environment first?



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What is the comparative advantage of CGIAR for this SLO?

Partnerships

Years of experience, knowledge and information

Impact across scales

Convenor/respected partners

Multi-disciplinary research

Gender: Putting People First



Identifying key gender pathways and partnerships

Sharing gender disaggregated data and methods

Investing at least 10% of our money in gender

Generating investable options for women

Achievements

1. INCREASING RESILIENCE OF COMMUNITIES THROUGH SUSTAINABLE INTENSIFICATION

UNDERSTANDING CSA

Climate-smart agriculture that has reduced soil CO₂ emissions and increased crop yields by 20% in the region of study.

2. LARGE SCALE IMPACTS THROUGH POLICY CHANGE

In partnership with the state government of Karnataka, we have developed a model of climate-smart agriculture for smallholder farmers. This has led to a 20% increase in crop yields and a 15% reduction in water use. The model is being scaled up across the state.


3. GLOBAL INFLUENCE

EXAMPLES

The climate-smart agriculture model has been adopted by 10,000 smallholder farmers in Karnataka.

2017: The model was adopted by 10,000 smallholder farmers in Karnataka, leading to a 20% increase in crop yields and a 15% reduction in water use.





1. INCREASING RESILIENCE OF COMMUNITIES THROUGH SUSTAINABLE INTENSIFICATION

UNDERSTANDING CSA

Cocoa intensification that has occurred on 57,000 ha would have otherwise required 160,000 ha of additional land (4 times the forested area of Ghana).

2. LARGE SCALE IMPACTS THROUGH POLICY CHANGE

In partnership with the state government of Karnataka ICRIAT has developed a proof of concept model for scaling up the benefits through R4D by reaching 3.75M farmers and increasing crop yields by 20 to 66 % over farmer's practice. Total net additional gain for farmers during over the last two years is estimated \$230M.



3. GLOBAL INFLUENCE

EXAMPLES

for safe wastewater irrigation showed a Return on Investment (RoI) of U\$4.9 for each dollar invested.

UNEP, FAO and WHO integrated these interventions in a series of 5 regional workshops to increase the capacity of nearly 160 Governmental representatives of 73 countries in safe wastewater use agriculture.



TAKE AWAYS

- There are no quick fixes – Balancing short-term interest and long-term goals – we have to commit to the long term
- There is growing international support for green accounting standards
- Power and equity issues have to be addressed



IF WE WANT TO

FEED 9 BILLION PEOPLE

IN 2050

sustaining NATURAL RESOURCES VITAL.

WE NEED TO CHANGE THE PARADIGM



What can we achieve if we put the environment first?

What is the comparative advantage of CGIAR for this SLO?

- Science
- State of expertise, knowledge and information
- Impact across nations
- Cross-cutting partners
- Multi-disciplinary research

Gender: Putting People First

Gender equality and women's empowerment are essential for sustainable development. Women play a central role in food security and nutrition, and their empowerment is key to achieving the Sustainable Development Goals.

