

Sustainable agriculture for food security and resilience – an introduction

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The food security equation

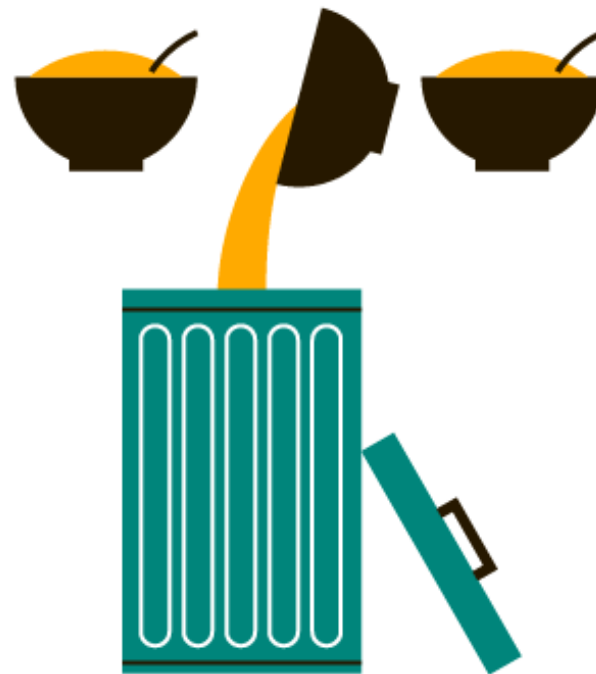
FS = +60% for 9 billion in 2050



Current global food security situation

WFP: The world produces enough to feed the entire global population of 7 billion people. And yet, one person in eight on the planet goes to bed hungry each night. In some countries, one child in three is underweight.

ALMOST A BILLION PEOPLE
are going hungry, while we waste
1/3 OF THE FOOD WE PRODUCE.



Source: FAO, 2013

Big Facts
ccafs.cgiar.org/bigfacts

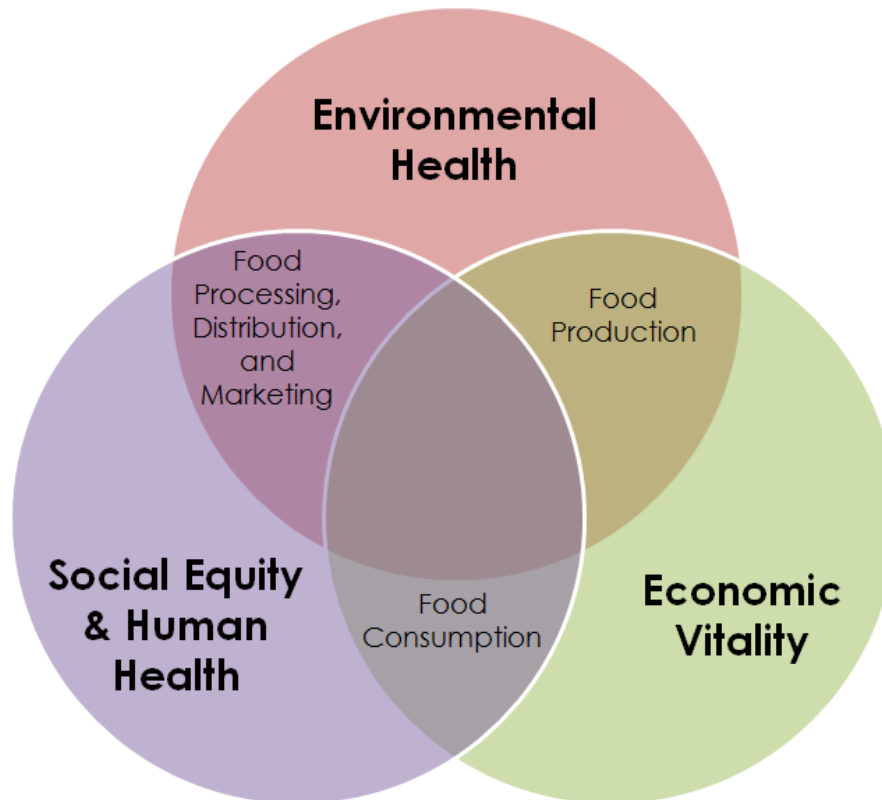


RESEARCH PROGRAM ON
Climate Change,
Agriculture and
Food Security



An alternative

Sustainable food systems for all



Sustainable agriculture in the SDGs

SDG2:

“end hunger, achieve food security and improved nutrition and promote sustainable agriculture.”

Targets:

- 2.1 : By 2030, **end hunger** and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round
- 2.2: By 2030, **end all forms of malnutrition**, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age
- 2.3: By 2030, **double the agricultural productivity and incomes of small-scale food producers**, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and **equal access to land**, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment
- 2.4: By 2030, **ensure sustainable food production systems** and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change
- 2.5: By 2020, **maintain the genetic diversity** of seeds, cultivated plants and farmed and domesticated animals and their related wild species

Sustainable agriculture in the SDGs

SDG2:

“end hunger, achieve food security and improved nutrition and promote sustainable agriculture.”

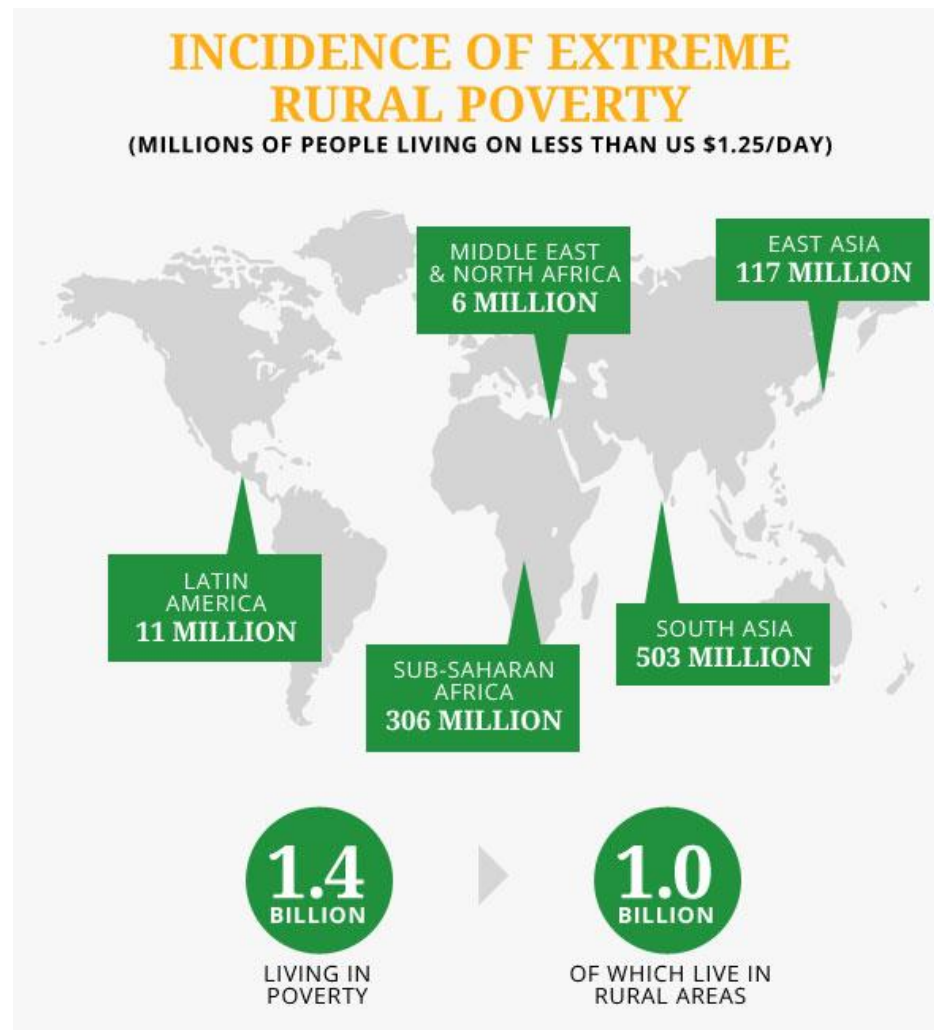
Means of implementation:

- **2.a Increase investment**, including through enhanced international cooperation, in **rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks** in order to enhance agricultural productive capacity in developing countries, in particular least developed countries
- **2.b Correct and prevent trade restrictions and distortions in world agricultural markets**, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round
- **2.c Adopt measures to ensure the proper functioning of food commodity markets** and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility

Agriculture as a component of other SDGs:

Goal 1: Poverty Alleviation

Rural people represent the largest segment of the world's extreme poor by far – more than 70% of the total. Growth in agriculture is at least twice as effective in reducing poverty than from any other sector.



http://www.farmingfirst.org/sdg-toolkit#section_2

Agriculture as a component of other SDGs:

Goal 4: Education

Agricultural extension enables farmers to access to the skills, tools, inputs and knowledge they need to thrive.

Investment in agricultural extension services yields **80% annual rates of return** and can help farmers to **double** their crop yields.



ANNUAL RATES
OF RETURN



CROP YIELD
INCREASE

http://www.farmingfirst.org/sdg-toolkit#section_2

Agriculture as a component of other SDGs:

Goal 5: Gender equality

Women farmers produce 20-30% less than their male counterparts, mostly due to differences in their access and use of resources. Women produce over half the food worldwide, so bridging this gap could reduce global hunger by as much as 17%.

Given equal access to resources as men, women would achieve the same yield levels, boosting total agricultural output in developing countries by

2¹/₂ - 4%

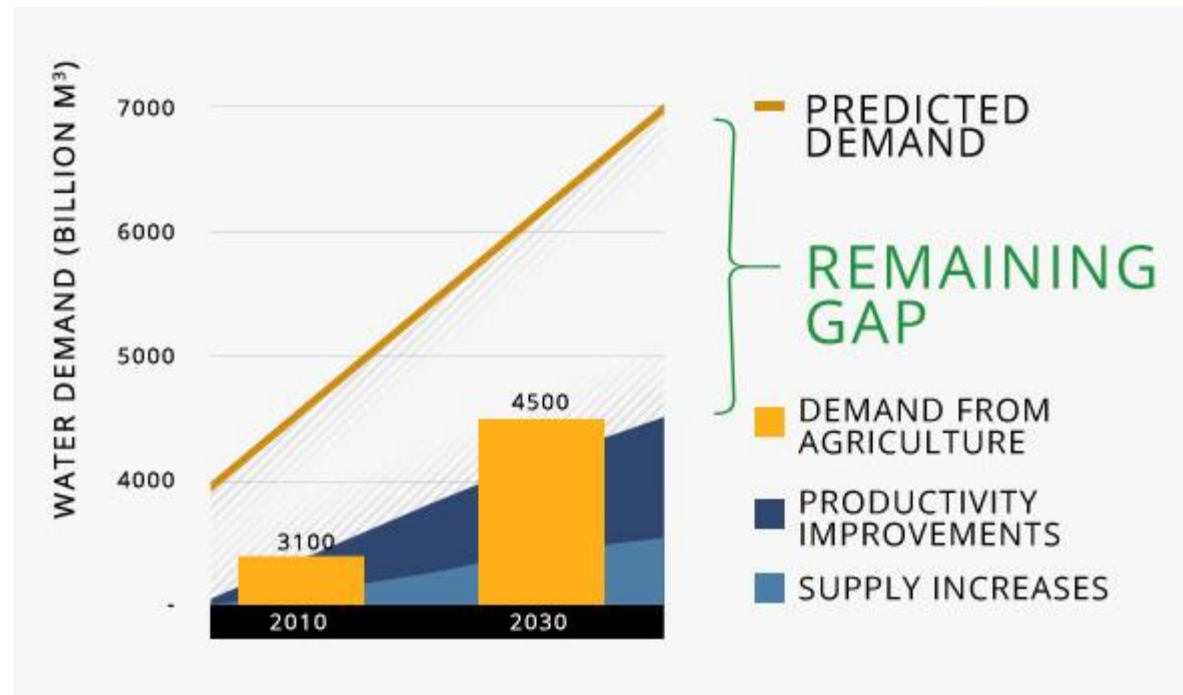
This additional yield could reduce the number of undernourished people in the world by
100-150m
OR 12-17%

http://www.farmingfirst.org/sdg-toolkit#section_2

Agriculture as a component of other SDGs:

Goal 6: Water use

By 2030, global water demand will increase more than 50%, with agriculture alone requiring more than what can be sustained to feed the world even before domestic and industrial needs are met.

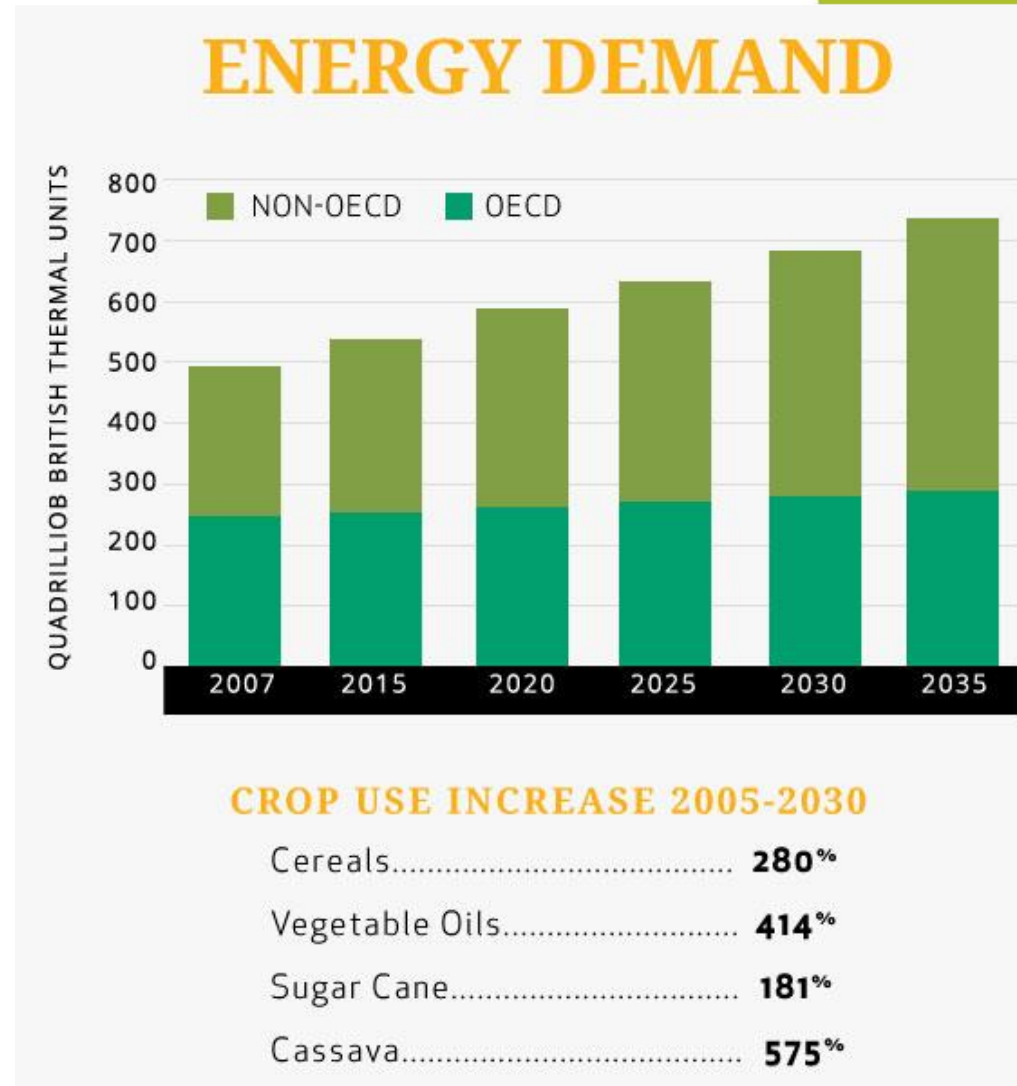


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Agriculture as a component of other SDGs:

Goal 7: Energy use

By 2030, energy demand is expected to increase as much as 50%, driven mostly by developing world demand. More crops are likely to be diverted for use as biofuels, doubling or even tripling as a proportion of total use.



Agriculture as a component of other SDGs:

Goal 8:

Economic growth and employment

Agriculture is an engine of pro-poor economic growth in rural areas.

Entrepreneurship across the rural and food sectors can generate employment and growth. Find out for whom...



OF FARMERS ARE SMALLHOLDERS, WHO HAVE LESS THAN TWO HECTARES OF LAND.



OF THE AGRICULTURAL LABOUR FORCE IN DEVELOPING COUNTRIES ARE WOMEN.



OF THE YOUTH AGED 15-24 IN SUB-SAHARAN AFRICA AND SOUTH ASIA LIVE IN RURAL AREAS, AND THEY ARE TWICE AS LIKELY AS ADULTS TO BE UNEMPLOYED.

http://www.farmingfirst.org/sdg-toolkit#section_2

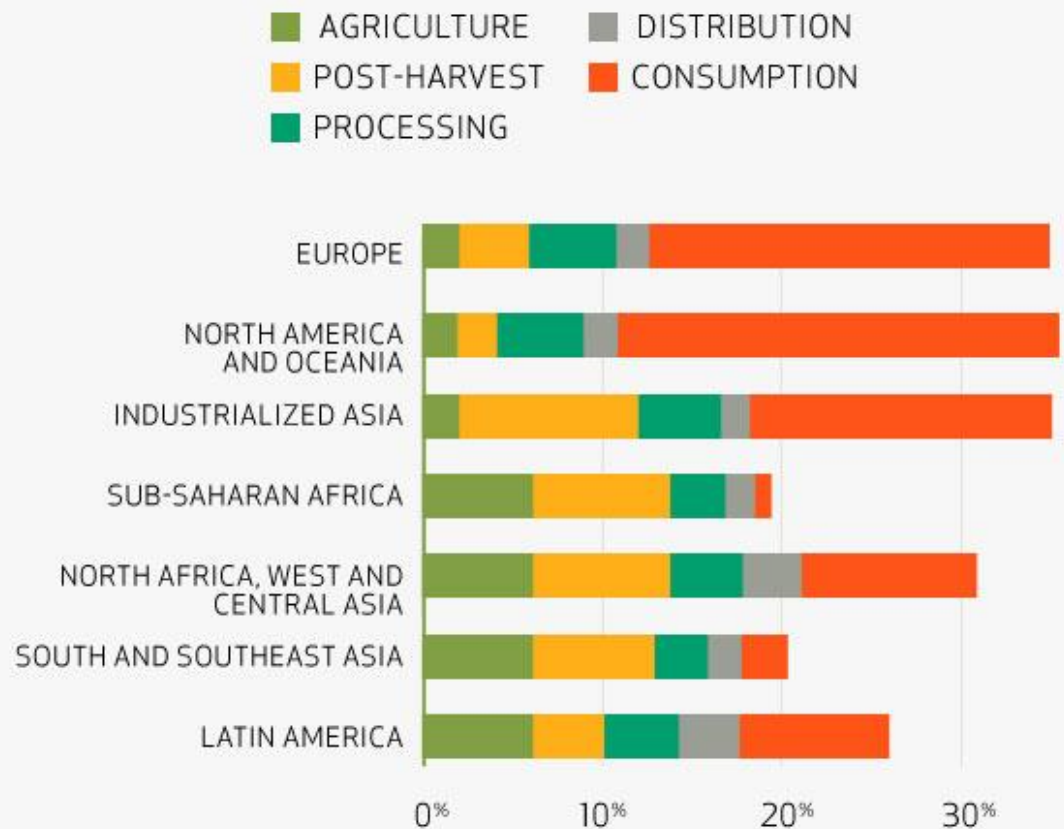
Agriculture as a component of other SDGs:

Goal 12:

Sustainable consumption and production

Average per capita consumption is expected to grow through 2030, despite population increases. At the same time, around one third of food produced is wasted.

FOOD WASTE BY REGION



Agriculture as a component of other SDGs:

Goal 13: Climate change

By 2030, agriculture's carbon mitigation potential could reach as much as 7.5% of total global emissions, depending on the price of carbon and adoption of agricultural productivity measures.

AGRICULTURAL MITIGATION POTENTIAL

The price of carbon determines the global economic potential for agricultural mitigation—the higher the price, the higher the potential:

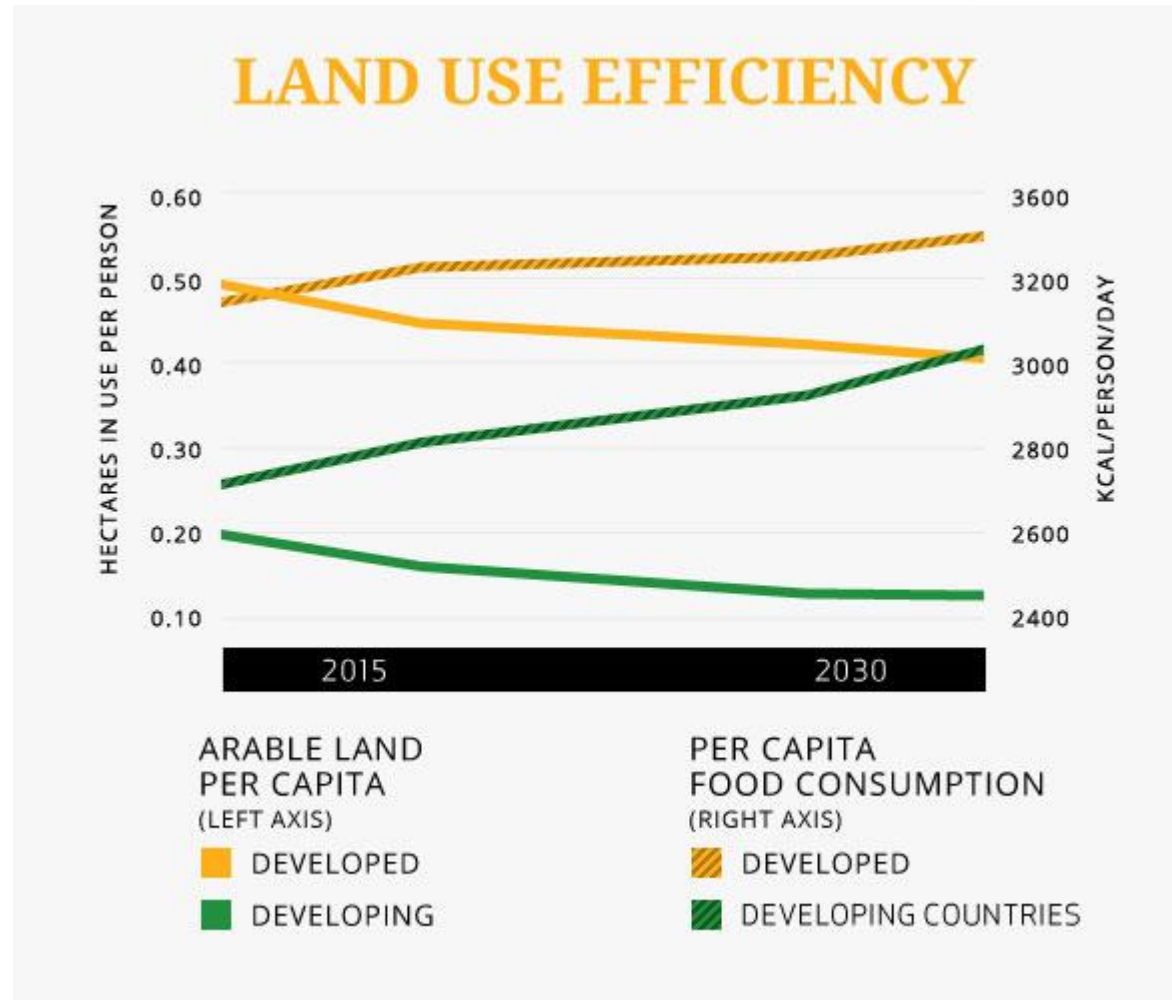
Price per Tonne of CO ₂	UP TO \$20 USD	UP TO \$50 USD	UP TO \$100 USD
CO ₂ saved per year	1500–1600 (MILLION TONNES)	2500–2700 (MILLION TONNES)	4000–4300 (MILLION TONNES)
Percent of Global Emissions	3.0%	4.5%	7.5%

http://www.farmingfirst.org/sdg-toolkit#section_2

Agriculture as a component of other SDGs:

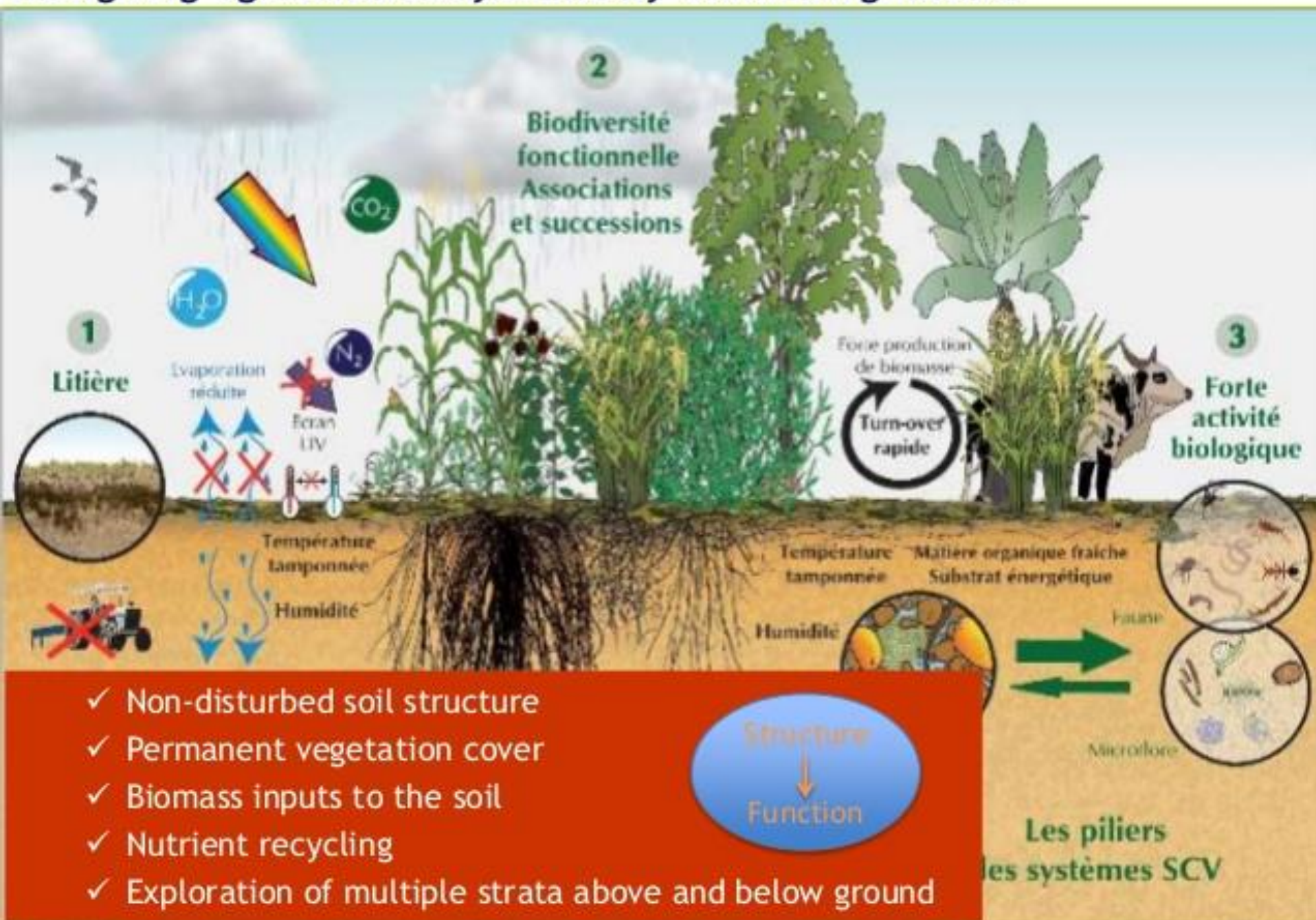
Goal 15: Ecosystem management

Improving the efficiency of farmland can help meet the world's growing consumption demand while minimising the loss of natural habitats and forests for additional cultivation.



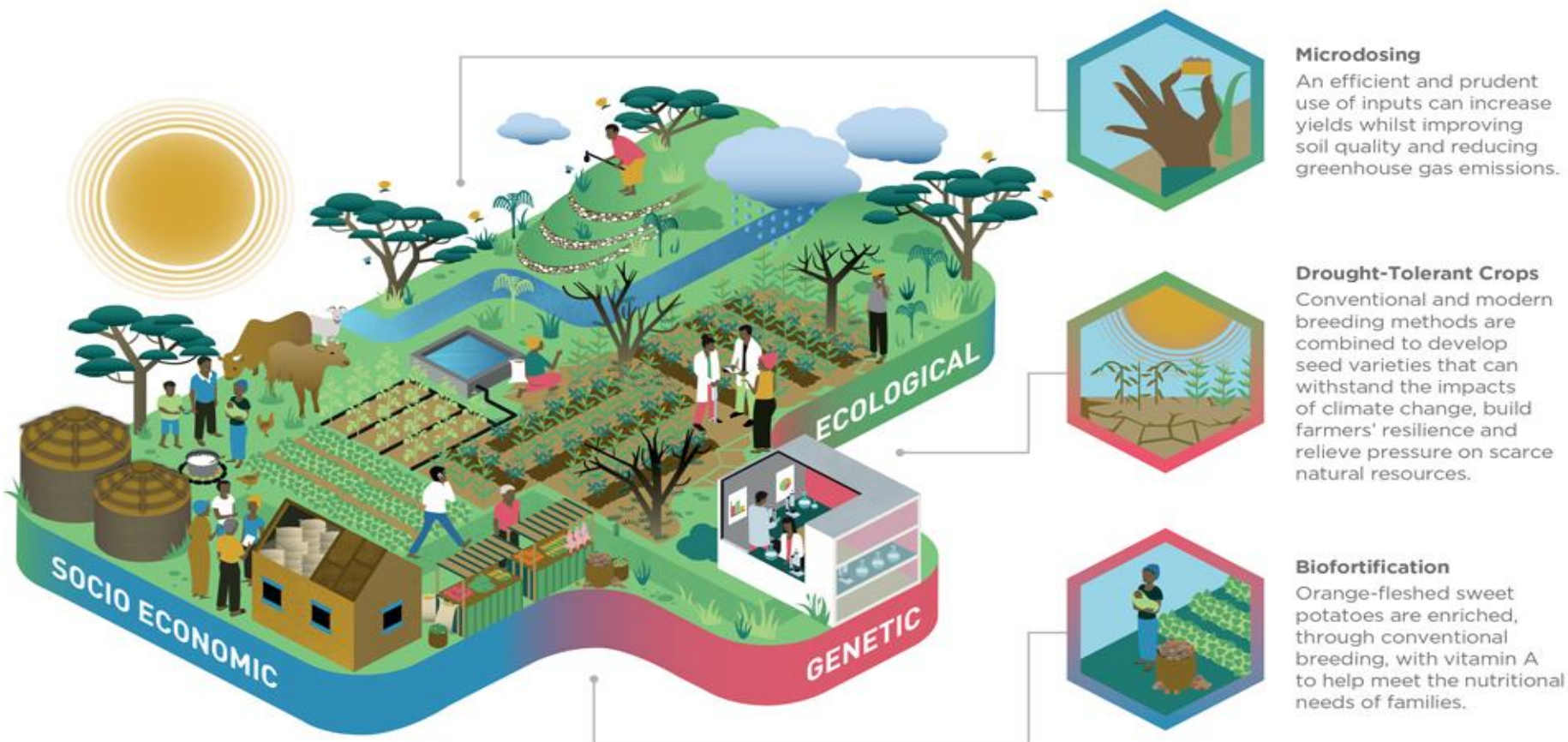
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Designing agricultural systems by mimicking nature



WHAT DOES **SUSTAINABLE INTENSIFICATION** IN AFRICAN AGRICULTURE LOOK LIKE?

Sustainable Intensification integrates innovations and practices from the fields of ecology, genetics and socio-economics to build environmentally sustainable, equitable, productive and resilient ecosystems that improve the well-being of farms, farmers and families.



To explore the full database of examples, case studies, policy papers and resources, visit:

WWW.AG4IMPACT.ORG/DATABASE

**AGRICULTURE
FOR IMPACT**
GROWING OPPORTUNITIES
FOR AFRICA'S DEVELOPMENT



SUSTAINABLY INCREASES

STRENGTHENS RESILIENCE

REDUCES AGRICULTURE'S CONTRIBUTION TO CLIMATE CHANGE



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Barbara Adolph,
15 February 2016

ENHANCES THE ACHIEVEMENT OF NATIONAL FOOD SECURITY



Rio+20
United Nations Conference
on Sustainable Development



United Nations
Convention to Combat
Desertification (UNCCD)



World Food Summit



Convention on
Biological Diversity



United Nations
Framework Convention
on Climate Change



MDGs

AND DEVELOPMENT GOALS

EXAMPLES



Making sense of concepts: Innovative ideas or business unusual re-packaged?

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