



**General Assembly Consultative Workshops:
Development, transfer and dissemination of clean and
environmentally sound technologies**

**Science and technology needs and options for
poverty eradication and socio-economic
development: focus on agriculture**

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Millennium Development Goals

27 February 2013 –

While countries have made remarkable progress in the achievement of some of the eight anti-poverty targets known as the Millennium Development Goals, there are still areas where **too little has occurred** since nations first committed to work on these issues in 2000.

“Previous assessments of MDG progress have shown that **national ownership and local champions are indispensable for MDG success,**” Miss Clark said, adding that the post-2015 development agenda will need to incorporate the lessons from the MDGs.

Miss Clark noted that to accelerate progress in the last 1,000 days before the 2015 deadline, 45 countries are now using the MDG Acceleration Framework (MAF) developed by UNDP. The MAF works by **bringing a wide range of stakeholders together** to tackle the obstacles to progress. It draws on existing evidence, policies, and strategies to devise concrete and prioritized country action plans.

Millennium Development Goals: Goal 1

ERADICATE EXTREME POVERTY & HUNGER

Target 1A: Halve, between 1990 and 2015, the proportion of people whose income is less than \$1.25 a day

- The target half was met
- Projections indicate for **2015 almost one billion people will still live on less than \$1.25/day**

Target 1.B: Achieve full and productive employment and decent work for all, including women and young people

- Globally, 456 million workers lived below the \$1.25 a day poverty line in 2011
- **Insecure, poorly paid jobs— still estimated @ 58 % of all employment in developing regions in 2011 (women and youth more likely to hold such positions.**
- More than 80 per cent of working women in sub-Saharan Africa, Oceania, and Southern Asia held vulnerable jobs in 2011

Target 1.C: Halve, between 1990 and 2015 proportion of people who suffer from hunger

- **About 850 million people, or nearly 15 percent of the global population undernourished.**
- Despite some progress, one in five children under age five in the developing world is underweight.
- Children in rural areas are nearly twice as likely to be underweight as those in urban areas.

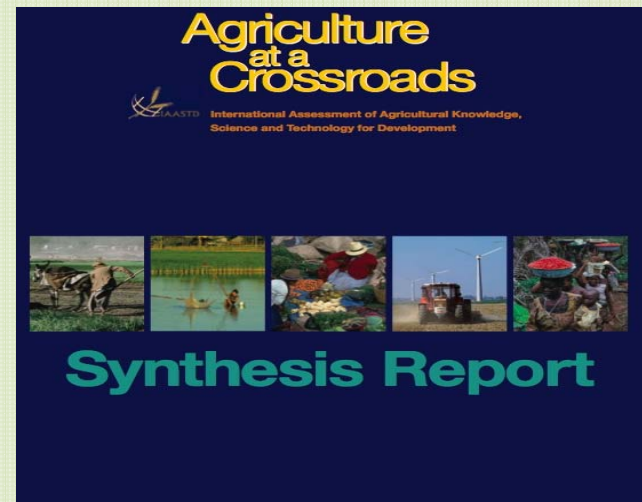
From Stockholm 72 to Rio 92 to Jo'burg 02 to Rio 12 (Rio+20) & Rome (CFS 39)

1992: Multilateral Environmental Agreements (MEA)

- (UNFCCC); (CBD); (UNCCD)

2002: • IAASTD

- 2011: IPBES



2012: Governance, Institutions and Green Economy

- (IAASTD implementation via CFS / national assessments –sust. ag and food systems as entry point for the Green Economy)

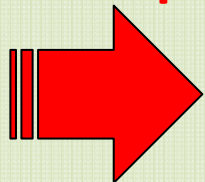
Rio 2012 (Rio+20): The (Ag & FS) Future We Want

- **111. We reaffirm the necessity to promote, enhance and support more sustainable agriculture, including crops, livestock, forestry, fisheries and aquaculture, that improves food security, eradicates hunger** and is economically viable, while conserving land, water, plant and animal genetic resources, biodiversity and ecosystems and enhancing resilience to climate change and natural disasters. We also recognize the need to maintain natural ecological processes that support food production systems.
- **115. We reaffirm the important work and inclusive nature of the Committee on World Food Security, including through its role in facilitating country-initiated assessments on sustainable food production and food security,** and we encourage countries to give due consideration to implementing the Committee on World Food Security Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. We take note of the ongoing discussions on responsible agricultural investment in the framework of the Committee on World Food Security, as well as the principles for responsible agricultural investment.



Agriculture and food system at a “Crossroads”

1. We nourish only 6 out of 7 billion people with the present food system....in addition, we count 1.5 billion obese and 300 million diabetes 2 cases: **socio-economic problem**
2. The industrial food system uses some 10 Kcal to produce one: **energy problem/planetary boundaries**
3. The industrial and conventional food system (incl. the traditional systems) are a major part of the **CC problem**
4. Soil degradation, water shortages & biodiversity loss underlie food and nutrition security: **natural resource problem**
5. Industrial agriculture instead of providing quality jobs has emptied the rural areas, as well as the multidisciplinary research labs: **social problems**



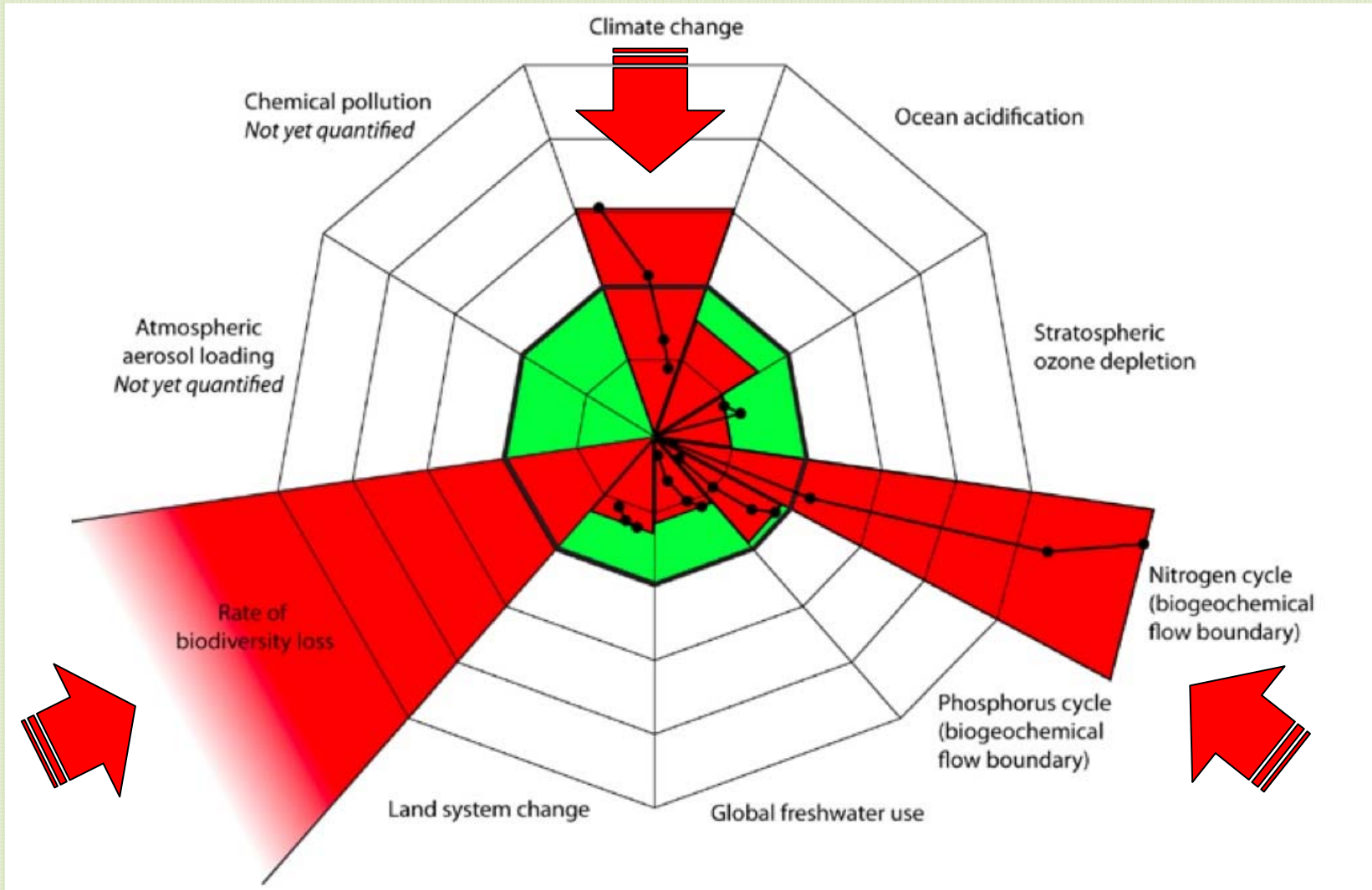
Business as usual is not an option

.....and the logical conclusion is that we need:

- 1.a **fundamental shift in** AKST and the connected
 - agri-food system policies • institutions • capacity development • investments
2. **a paradigm change:** Sustainable production systems (organic, agroecological, CA*) and consumption patterns
3. an agriculture that is **multifunctional and addresses the resilience** needs of the **small-scale and family** farmers (*social & economic: equity issue, farmer status, land ownership, empowerment, women*), *quality job creation (Edu at all levels)*;
4. **to use a systemic and holistic** approach (*basic ecological principles*); which **treats the causes not the symptoms**; is part of the solution to hunger, poverty, health, natural resources conservation, CC...

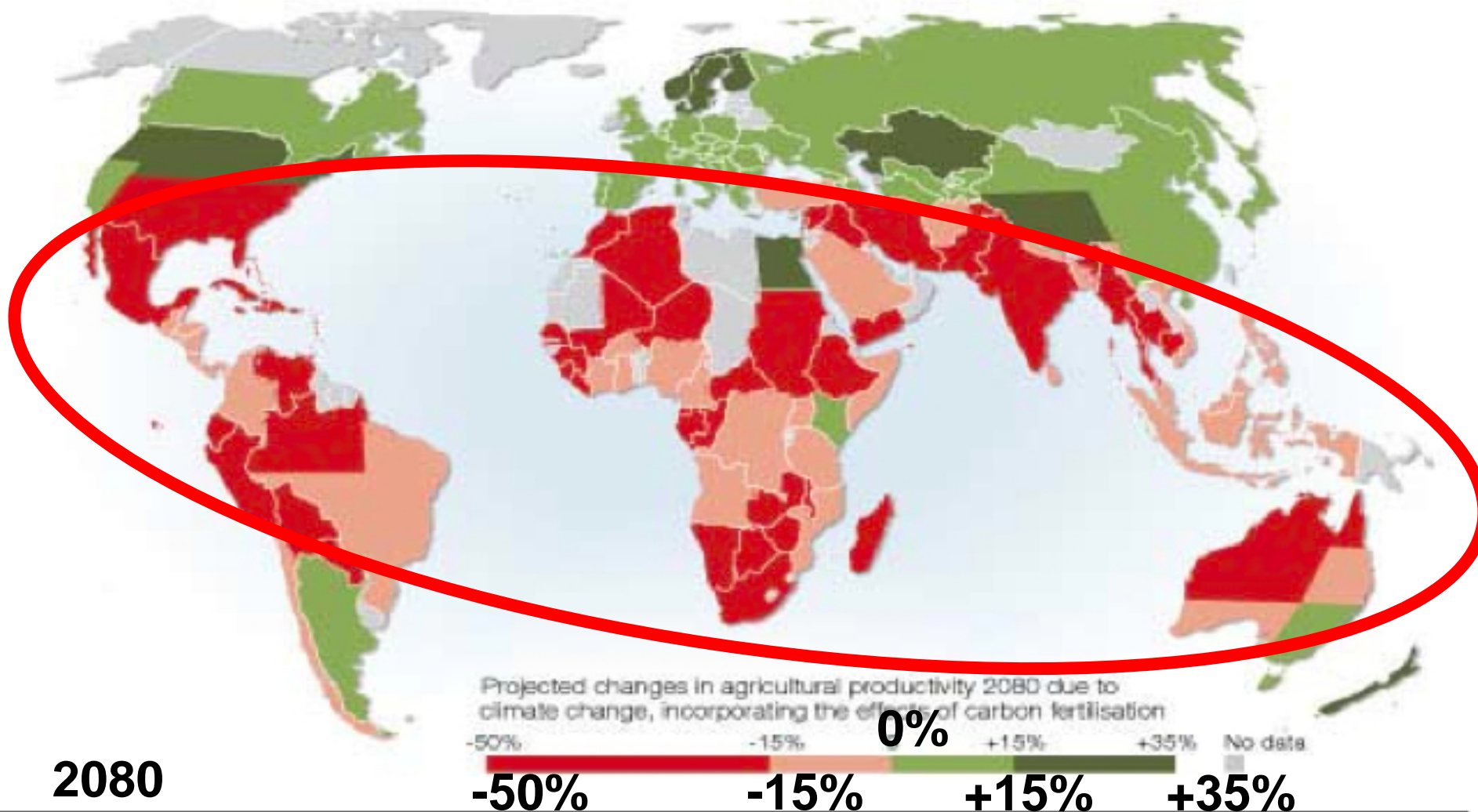
Why change course now: Overstepping the planetary boundaries

(Rockström et al 2009)



Consequences: temperature and water stress

Figure 8 Projected losses in food production due to climate change by 2080.



Source: *The environmental food crisis - the environment's role in averting future food crises. A UNEP rapid response assessment. United Nations Environment Programme, February 2009, www.grida.no, page 46, quoting: Cline, W. R. (2007). Global warming and agriculture: Impact estimates by country.*

Why change the course of agriculture now?

Waste of natural resources, Green Revolution bases is also socially unsustainable

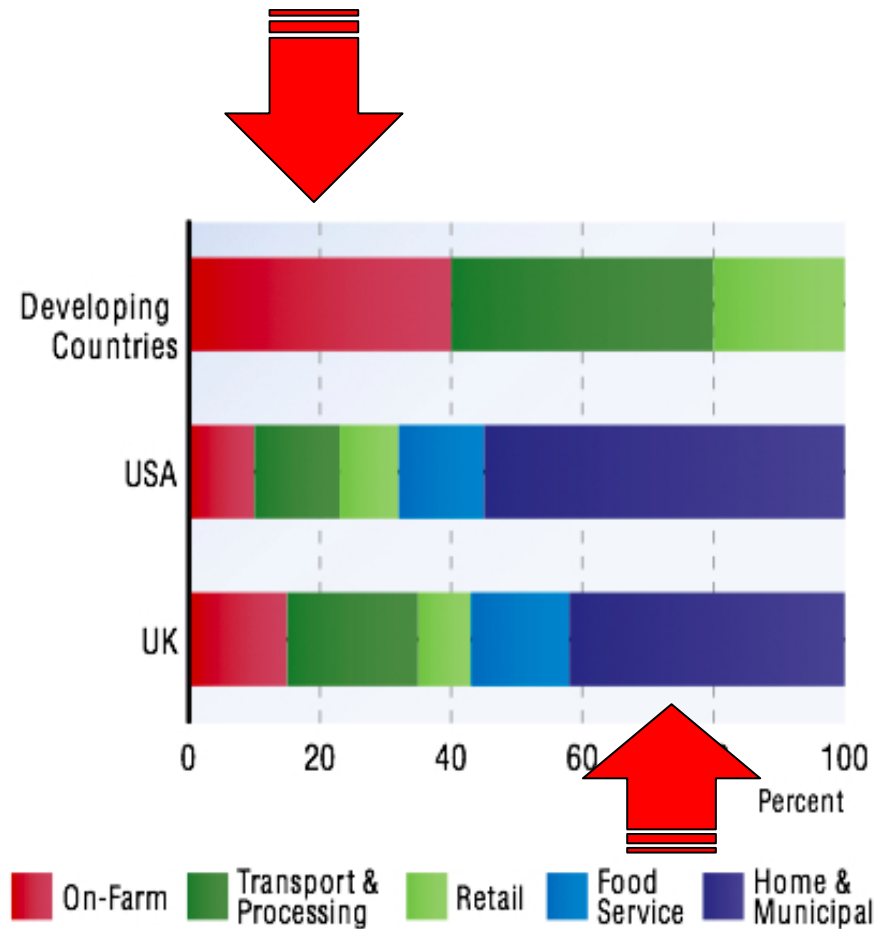
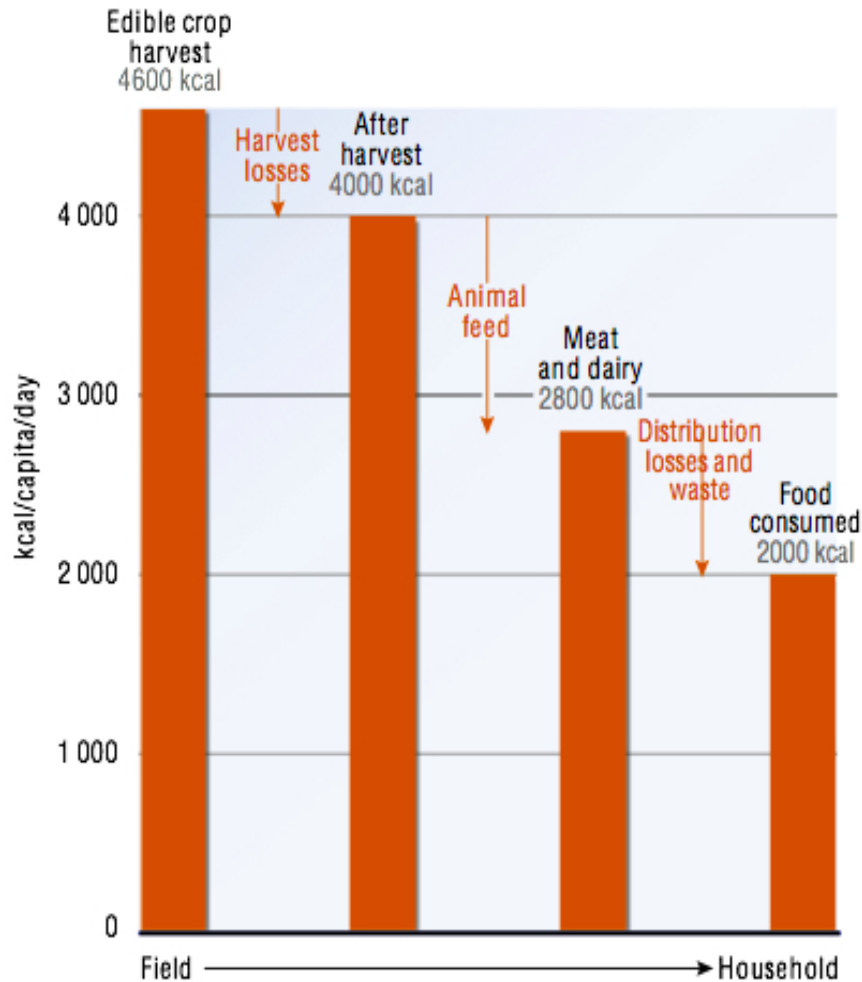
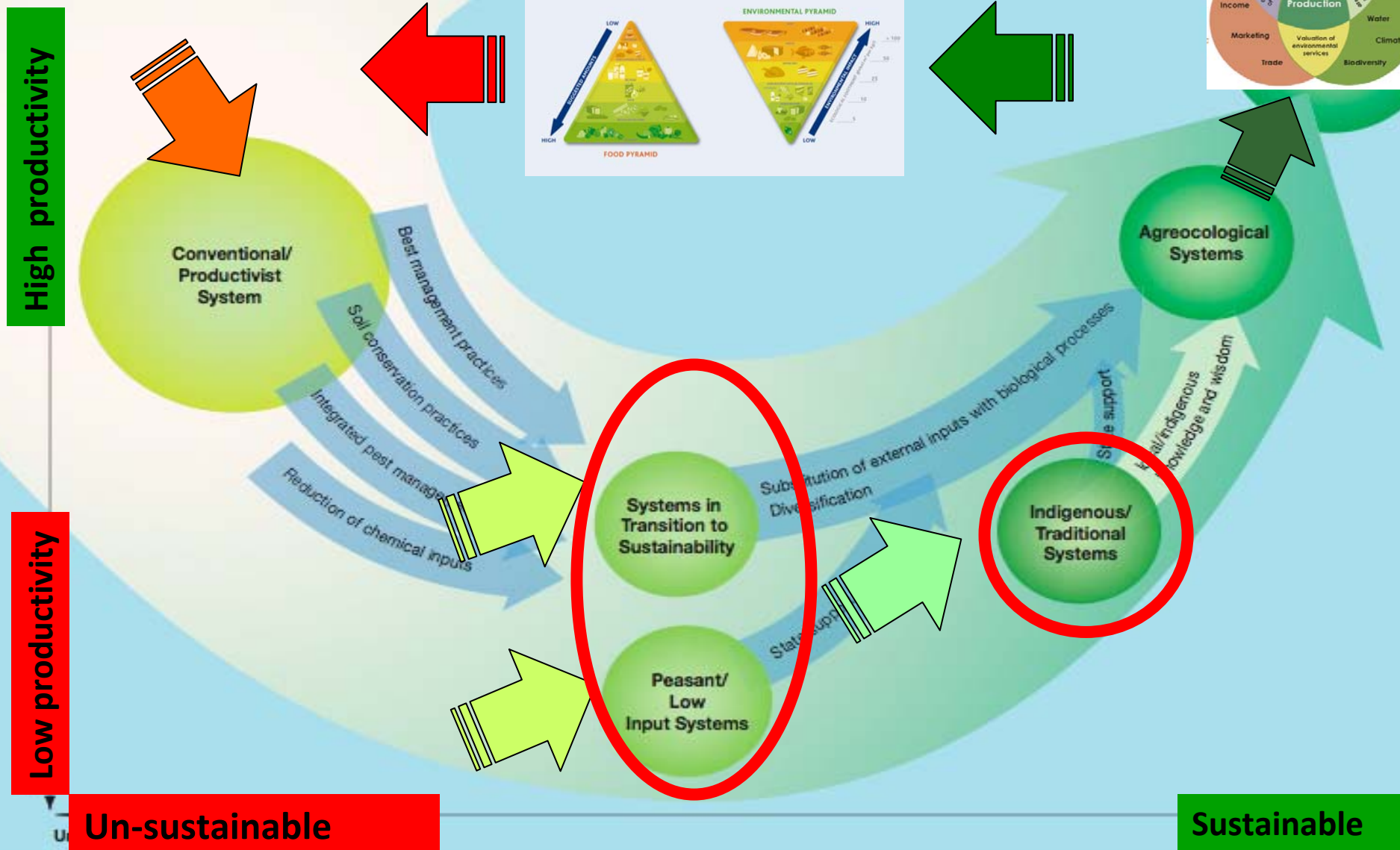
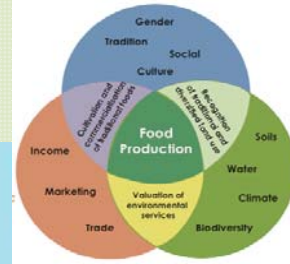


Figure 9a-b: The makeup of total food waste¹¹

Source: Lundqvist et al., Godfray

The paradigm shift:

Investing in transformation of agriculture and food systems



High productivity

Low productivity

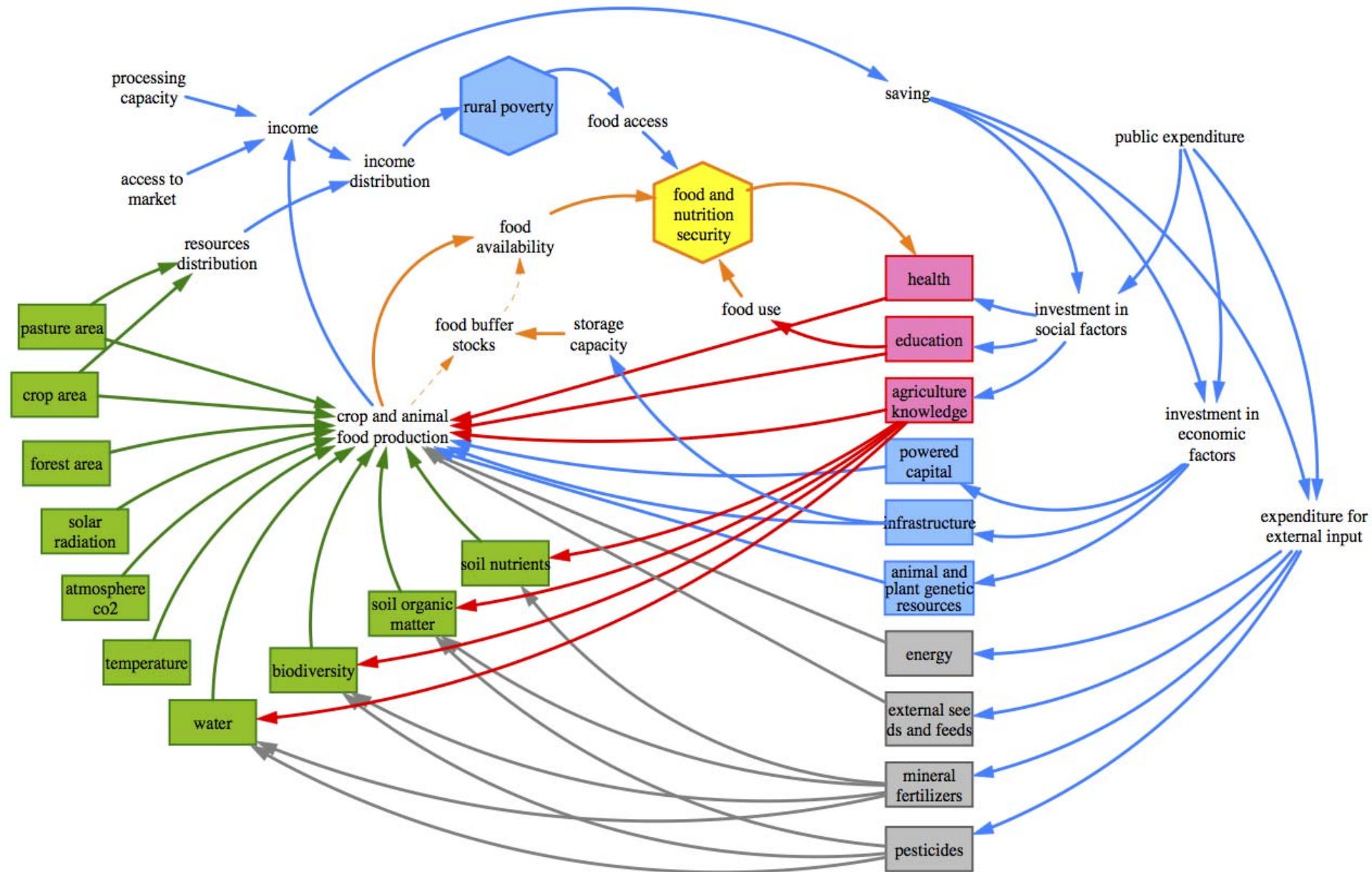
Un-sustainable

Sustainable

Agriculture the main solution: Multifunctionality paradigm for sustainable development



Paradigm change: everything is connected



Paradigm change: Possible? Affordable?

Global investments across sectors (2% of GDP, Stern report);
0.16% of GDP invested in agriculture for:

- Pre harvest losses (training activities and effective natural pest, disease and weed management)
- Ag management practices (cover transition costs from till to no till , organic, agroecological agriculture, training, access to small scale mechanization)
- R&D (research in soil science and agronomy, crop improvement (orphan crops), appropriate mechanization, and more)
- Food processing (better storage and processing in rural areas)

With special reference to small scale and family farms, women, indigenous people and investments in enabling conditions

Transformation through proven agroecological practices (push-pull 3 to 4X normal yield plus feed and free N)





Agroecological approach: SRI (Rice, Tef, Sorghum, etc.)



An agroecological approach includes agroforestry systems (evergreen agriculture)



Agroecological practices: Natural Pest control services, i.e., biological control & IPM (ROI 1:247)



Transformation: mechanization, education, emphasis on women



Green Agriculture will.....(UNEP GER Report – 2011)

Investing 0.16% of total GDP (\$141 Billion) / year

Year		2011	2050	
Scenario	Unit	Baseline	Green	BAU
Ag production	Bn US\$/Yr	1,921	2,852	2,559
Crops	Bn US\$/Yr	629	996	913
Employment	M People	1,075	1,703	1,656
Soil quality	Dmnl	0.92	1.03	0.73
Ag water use	KM3/Yr	3,389	3,207	4,878
Harvested land	Bn ha	1.20	1.26	1.31
Deforestation	M ha/Yr	16	7	15
Calories p/c/day for consumption	Kcal/C/D	2,081	2,524	2,476

+ enabling conditions investments

Integration: the leading principle

- (1) Integration of social, economic, and environmental dimensions of development**
- (2) Integration of knowledge and input from different sources and stakeholders**
- (3) Integration of planning instruments across sectors, time horizons, and spatial scales**

Integrating Planning Tools

Long
Term

National Vision

Mid
Term

National Development
Plan

Short
Term

Mid Term Strategic
Framework

Yearly Budgets

System
Dynamics

CGE-ME

Spreadsheet

You cannot solve the problem with the same kind of thinking that created the problem

Albert Einstein



Rio+20
What are the options
- when “Business as usual” is not an option?

Time to act

20 years after the Rio Earth Summit, the planet is in a deeper environmental, energy and financial crisis. The United Nations Conference on Sustainable Development (UNCSD) in Rio de Janeiro in 2012 might be just another high-level conference stating the need to eradicate hunger and poverty, stop climate change, the loss of biodiversity, soil erosion and other serious environmental problems – and then, after the conference, life goes on as before. But it can be different. It has a historical opportunity to make important decisions and agree on actions that actually do eradicate hunger and poverty, and save the environment. It's time to act!

IS NOW

Thank you

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