Sustainable Agriculture within a Green Economy
Side Event to PrepCom2, New York, 8 March 2011

Greening the Economy with Agriculture

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GREENING THE ECONOMY WITH AGRICULTURE (GEA)

refers to increasing food security (in terms of availability, access, stability and utilization) while using less natural resources, through improved efficiencies throughout the food value chain. This can be achieved by applying an ecosystem approach to agriculture, forestry and fisheries ...

It is a multi-dimensional concept encompassing four sustainability pillars

ENVIRONMENTAL INTEGRITY	ECONOMIC RESILIENCE	SOCIAL WELLBEING	GOOD GOVERNANCE


ENVIRONMENTAL INTEGRITY

A MAJOR USER OF NATURAL RESOURCES

- ✓ Agriculture and forestry manage some 60% of terrestrial resources:
  - ➢ Arable land expansion by 21% in developing countries by 2030
- ✓ Fisheries are widespread across all seas and oceans:
  - ➢ About 75% of fisheries are over-exploited or fully exploited
- ✓ Agriculture now uses some 70% of global water withdrawals:
  - ➢ Irrigation will increase 40-47% by 2030 in developing countries
- ✓ Agriculture and forestry now emit about 30% of global GHG:
  - ➢ By 2080, climate impact on agriculture will result in 600 million more people at risk of hunger

The impact of agriculture, forestry and fisheries is huge on natural resources and ecosystem services!

CLIMATE-SMART SYSTEMS?

IPCC/AR4 recommendations for agriculture include:

- ✓ Crop rotations and farming system design
- ✓ Nutrient and manure management
- ✓ Livestock management, pasture and fodder supply improvement
- ✓ Maintaining fertile soils and restoration of degraded lands

Sustainable agriculture offers such a multi-targeted and multi-functional strategy, with the potential for being almost C neutral

MANAGEMENT PRACTICES THAT COUNT

✓ Polycultures, agroforestry and integrated crop-livestock-fish systems do optimize nutrient and energy cycles (ecosystem services)

✓ Organic agriculture has demonstrated that productivity levels can be maintained without recurring to costly fossil-fuel based inputs

✓ Ecosystem-based cultivations enhance soil's carbon sequestration (200-500 Kg C/ha on arable lands), stability to environmental stress (e.g. rainfall variability), moisture retention and drainage (less irrigation needs), while decreasing erosion and pollution

Sustainable agriculture and bioenergy can play an enormous role in the food, energy and climate crises

ECONOMIC RESILIENCE

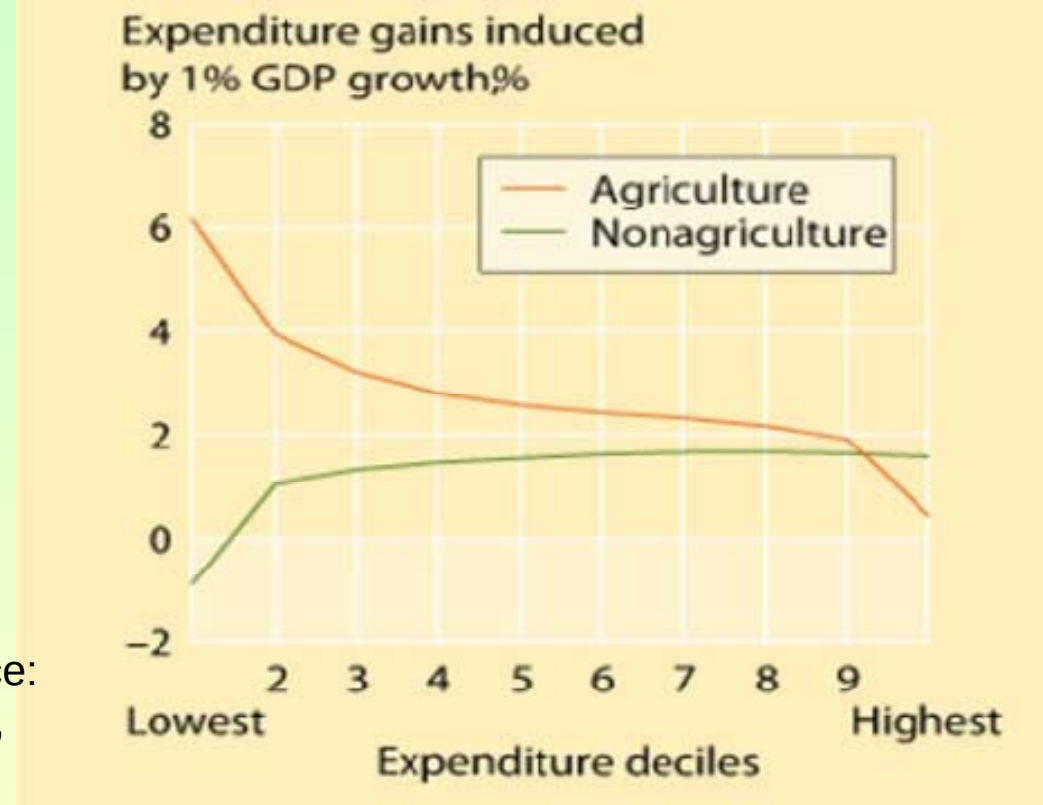
A MAJOR PROVIDER OF LIVELIHOODS

- ✓ Agriculture, forestry and fisheries currently provides 1 billion jobs
  - ✓ or 3.5% of global GDP
  - ✓ 20-50% of national GDP in developing countries
  - ✓ work force: from 6% in EU to 56% in Africa

- ✓ 75% of 1.2 billion poor live in rural areas of developing countries
  - ✓ 60-90% of rural households derive income from agriculture
  - ✓ 350 million poor depend entirely on forests for daily subsistence

Directly and indirectly, the food and agriculture sector provides livelihoods for 2.6 billion people (~ 40% of global population)

WELFARE GAINS FROM AGRICULTURAL GROWTH



Source: WDR, 2008

The poorer the people are, the higher is the return on investment: investing in agriculture is good for the poor

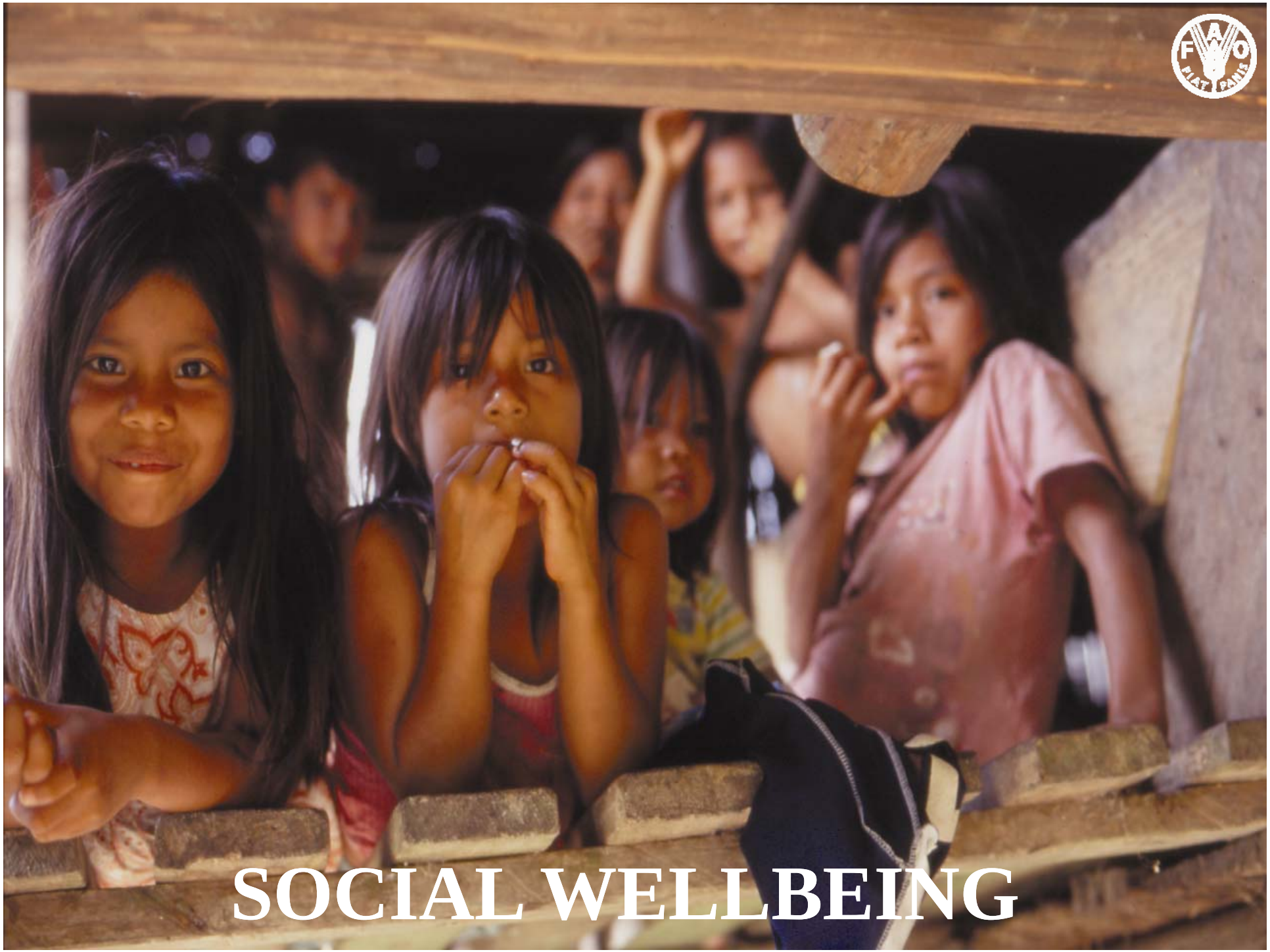
BEST RETURNS ON INVESTMENTS

✓ The decision of billions of agriculturalists, pastoralists, forest dwellers, fishers and food producers are key to greening the economy

✓ More and better public investments (e.g. market infrastructure, research and support services) are needed for GEA

- ✓ Average rate of return on investment in agricultural research and extension range from 35% (SSA) to 50% (Asia)
- ✓ Highest returns on growth and poverty are from investments in agri. research, rural roads, education (China, India and Uganda)

Investment in agriculture has a high poverty reduction effect, notably in comparison to investment in non-agricultural activities



SOCIAL WELLBEING

FOOD SECURITY

✓ After all, if there is no life without food, there can be no green economy without agriculture, forestry and fisheries

✓ Today, 1 billion people go hungry and another 1 billion are overweight adults, of which 300 million obese

✓ In 2050, global population will count 3 billion more people

✓ Natural resources demand for food production is growing also because of increased income levels in developing/emerging countries

Expanding production and consumption within ecological boundaries is a challenge

VIBRANT RURAL LANDSCAPES FOR GLOBAL STABILITY & ECOSYSTEMS HEALTH

- ✓ Encouraging people to stay on their land safeguards livelihoods:
  - ➢ When rural economies are revitalized, national economies grow
  - ➢ Rural development prevents migration and urbanization
- ✓ Decommodifying food systems brings back socio-cultural values:
  - ➢ Smallholder systems are conducive to low carbon development
  - ➢ Short supply chains create connections (farmers/consumers)

Rural pathways are key to food, livelihoods and ecosystems' quality

GOOD GOVERNANCE

SOCIO-POLITICAL CONTEXT

✓ Global food yields could be sustained through ecosystem-based management and more localized distribution systems

✓ The transformation of food and agriculture systems require:

- ➢ Incentives for ecological stewardship
- ➢ Decent rural jobs and fair trade
- ➢ Investments in food quality and health
- ➢ Facilitation of food sovereignty

Food governance is paramount but how best and at what cost?

Greening the Economy with Agriculture (GEA)

GEA INITIATIVE

- ✓ GEA will contribute to the definition and implementation of the green economy in the context of sustainable development, food security and poverty alleviation through:
  - ➢ Analysis of the interactions between the green economy and the food and agriculture sector, including opportunities and constraints
  - ➢ Promotion of a dialogue with FAO member countries on GEA strategies
  - ➢ Facilitation of the agricultural constituency (governments and major groups) participation in the global policy process of Rio+20

GEA STUDIES

1. **Principles** of Greening the Economy with Agriculture
2. **Availability**: Low Footprint and Productive Food and Agriculture Systems (eg.natural resources requirements, carrying capacity, terms of trade)
3. **Access**: Decent Rural Livelihoods, Green Jobs and Land Tenure (e.g. productive safety nets, entitlements/rights for indigenous and vulnerable)
4. **Stability**: Resilience to Shocks of Greener Food Systems (e.g. decoupling of economic and ecological support, finance gaps, investments)
5. **Utilization**: Quality and Health of Low Carbon Food Systems (e.g. consumption and distribution patterns, waste reduction, biosecurity)
6. **Policy coherence** for GEA (e.g. stimulus packages, subsidy reform, procurement, PES, bioenergy, integration with non-agricultural policies)
7. **Guidelines** for Sustainability Assessment of Food and Agriculture Systems (core sustainability issues and performance indicators)

GEA INITIATIVE

S1.
Principles

S2.
Availability

S3.
Access

S4.
Stability

S5.
Utilization

S6.
Policy coherence

S7.
Guidelines for SAFA

GEA Roadmap 2050

GEA PROCESS AND OUTCOMES

- ✓ Joint FAO/OECD Expert Meeting on GEA: Paris, 5-7 Sep. 2011
  - ✓ Studies: Principles, Availability, Access, Stability, Utilization and Policies
- ✓ FAO governing bodies discussion of GEA strategies, fall 2011
  - ✓ A negotiated GEA Roadmap towards 2050
- ✓ GEA-related events with Major Groups at UNCSD-related events
  - ✓ GEA policy briefs and brochures

Thanks

www.fao.org/rio20