



# **Biodiversity: a strategic value for resilient food systems**

**Willy Douma, Hivos, the Netherlands**

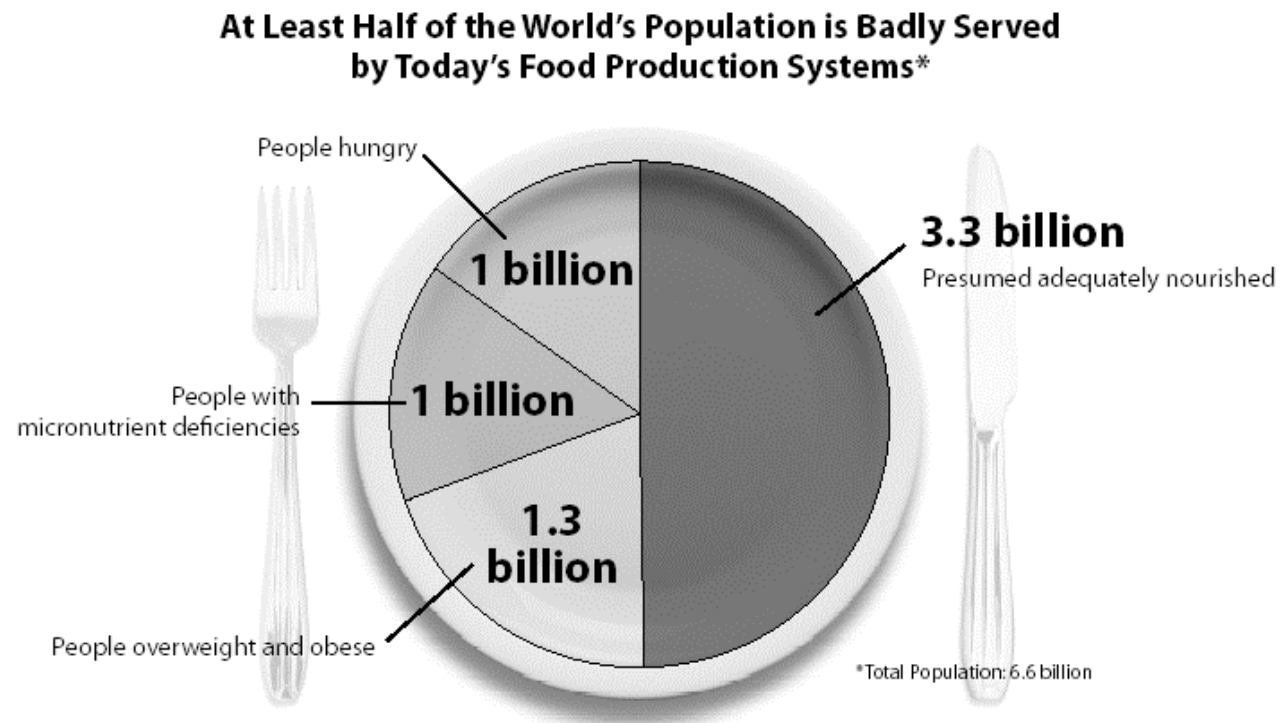
London Symposium April 2010

Linking biodiversity conservation and poverty reduction: what, why and how?

# Context - genetic diversity

# **Context – species diversity in and around farms**

# Context – poverty (1)



# Context – poverty (2)

## Poverty situation in rural agricultural areas

- Area:  
60% of the world's arable land is occupied by small farmers.
- Number of people:  
85% of 525 million farms in the world are below 2 ha.

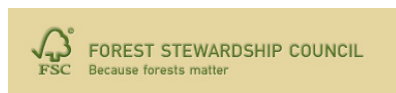
# Context – rural agricultural areas

- Competition Food, Feed and Fuels
- Need for adaptation to Climate change

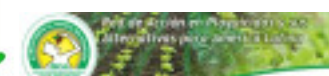
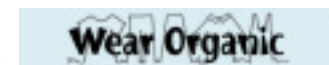
# Context – agricultural development

- World development report 2008
- African Governments – 10% of budget to agriculture
- International Assessment of Agricultural Science and Technology for Development, initiated by the Worldbank, 400 leading scientist, 2008

# Hivos-Oxfam Novib Biodiversity Fund



**Forest Peoples Programme**  
supporting forest peoples' rights



Hivos-Oxfam Novib Biodiversity Fund | 28 April 2010



# Enhancing genetic diversity

SEARICE, Philippines

# **SEARICE – results in LAO PDR**

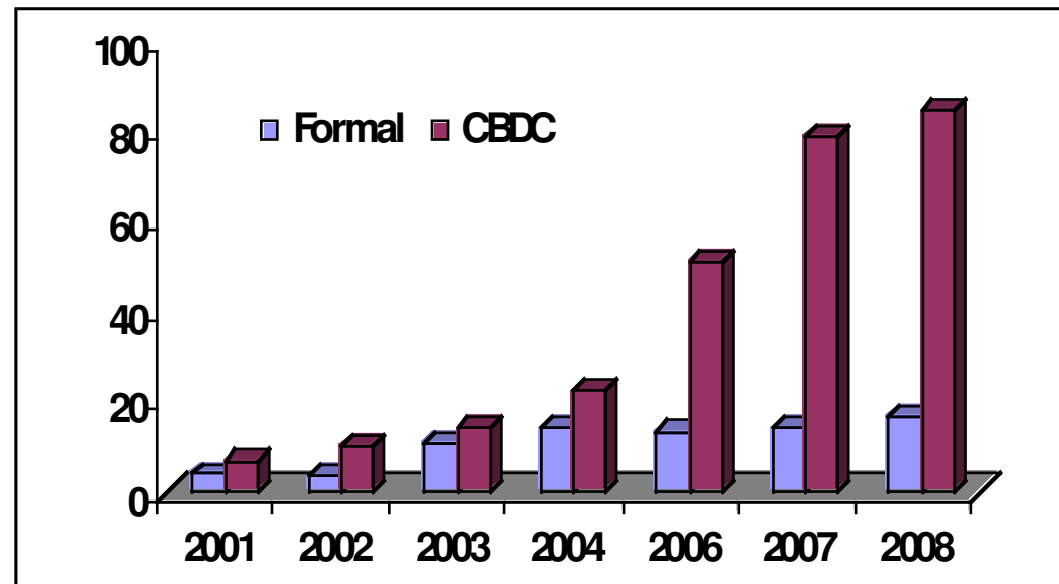
## **higher diversity less poverty**

- 10-20% increase in yields with farmer developed varieties
- One province- 3 months hunger gap closed for indigenous communities
- 90% community seed requirement secured in prime irrigated areas, where farmers used to buy

# Searice results

## 1. evidence collected - farmers as breeders

Formal breeders  
VS  
farmer plant breeders  
(CBDC/SEARICE)



Nr of varieties developed per year

# Other results SEARICE

- better access to seeds, less risks and often higher production – link poverty and climate change
- Governments acknowledge importance of farmer varieties – e.g. Bhutan 5 year plan
- Highlighted Farmers Rights in national rules and regulations
- Civil society organisations play an important role

# SEARICE – challenges

- Time
- Investments of business, research and government into farmers' preferences
- Change in government regulations to enable farmers to sell their varieties
- upscaling

# **Species diversity in and around farms**

**IFOAM (International Federation of Organic Agricultural Movements)**

**FiBL (Swiss research institute organic agriculture)**

# Increasing biodiversity due to agricultural systems

(studies FIBL ([www.fibl.org](http://www.fibl.org)) 90% in temperate zones)

- 30% higher species diversity and 50% abundance of beneficial animals in organic fields
- Improved biological properties of soils, ranging from 40% - 120% more abundance of earth worms
- Increased diversity and abundance of bees

# Agro-Biodiversity and productivity?

- Organic conversion in tropical Africa is associated with yield **increases** rather than with yield reduction (Gibbon and Bolwig, 2007).
- Average yield **increase by 116 %** in 114 projects in Africa (2 million hectares, 1.9 million farmers) (Pretty et al., 2008, UNEP/UNCTAD).
- Yield **increase of plus 80 %** in 133 plant and livestock foods in field and farm comparison studies in developing countries (Badgley et al., 2008).



# Markets as a pull for biodiversity based system

- Voluntary standard systems like organic agriculture and rainforest alliance have defined standards that stimulate biodiversity conserving production processes
- Demand for organic products, rainforest alliance products increased



# Sustainable agriculture - challenges

- Anecdotal evidence of link to biodiversity and poverty
- markets require development
- upscaling current experiences

# Summarizing remarks

## > **Genetic diversity**

Farmer varieties need acknowledgement and enabling environment (IPRs and Farmers Rights)

## > **Biodiversity conserving production**

Small holder farmers have potential to increase production even in rapidly changing context (climate change; Food, feed and fuel crisis)

## > **Markets can work for biodiversity conserving production processes**

## **and CIVIL SOCIETY ORGANISATIONS**

have an important role to play in

- development of inclusive development and marketing models
- influencing the agendas of policy makers and private sector

# Thank you for your attention!

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