Agricultural biodiversity for Healthy Diets from Sustainable Food Systems

Photo credit: LI-BIRD/A.Subedi
Challenge: Nutritional Trilemma

Overweight or obese people increase since ‘80s

Today

2.1 billion people

1980

0.875 billion people

805 million people are food insecure

GLOBAL MALNUTRITION

2 billion people suffer from micronutrient deficiencies

2. FAO: The State of Food and Agriculture 2014
3. Global Hunger Index 2014
Challenge: Shrinking biodiversity

- Globally identified plant species: 250,000
- Number of crops used for food by humans throughout history: 7,000
- Rice, maize, and wheat currently provide >50% of the world's calories from plants: 3
- 12 crops that together with 5 animal species provide 75% of the world's food today: 12

(Data source: FAO, 1997)
Challenge: Dominance of major crops

Wheat, maize, rice, soybean cultivated on 50% of global agricultural area
Challenge: Sustainable Food production

- Climate change
- Land degradation
- Demographic changes
- Food Quality

(Data source: IPCC, 2014)
Agricultural and tree biodiversity is part of the solution

1. Is the foundation of agriculture
2. Fights pests & diseases
3. Mitigates climate risk
Agricultural and tree biodiversity is part of the solution.

1. Improves nutrition
2. Boosts ecosystems
3. Provides livelihood opportunities
Bioversity International’s approach

**IMPACT**
Improved nutrition, incomes and other livelihood benefits

**CONSUME**
- Healthy diets from sustainable food systems

**PRODUCE**
- Productive and resilient farms, forests and landscapes

**PLANT**

**SAFEGUARD**
- Effective genetic resources conservation and use
Healthy diets from sustainable food systems

We engage in action oriented research to better understand how agricultural and tree biodiversity can contribute to diet diversity and be better used within food production systems through:

• Rural to urban agri-food value chains
• Local agri-food systems
Putting diverse nutritious foods back in the market and on the plate

Through:

• diverse production, value-chains and markets
• enabling policies and integration into programs
• consumer demand through BCC
African leafy vegetables in Kenya

Nutritious traditional African leafy vegetables disappearing from farmers’ field and people’s menus

8 year initiative in Kenya with partners:

- 12 nutritious species introduced into formal market
- 450 farmers (mainly women) trained on cultivation
- Increased income, increased dietary diversity & economic empowerment of women
Minor millets in India

Nutritious & drought resistant millets once part of traditional diets

Working with partners for 15 years to promote millet use resulting in:

- 2013 India’s food security act adds millets into public distribution system
- Millets on menu in restaurants, sold on streets
- Inclusion of millets in school lunches in 12 districts in Central & Southern India
Tackling vitamin A deficiency with banana diversity

>1000 varieties of bananas around world with different levels of nutrients, including vitamin A

In Eastern Africa, where we are working, banana is staple food - yet high levels of Vitamin A deficiency

We are identifying banana varieties rich in vitamin A precursors, adapted to local growing conditions, and accepted by local communities.
Raising awareness of local nutritious foods in Zambia

- Nutritious recipes displayed and documented
- Nutrition clubs participated (mostly women) trained on cultivation
- Increased awareness, local pride and motivation to produce and consume local, nutrient-rich foods

Photos: Foods on display at the Food Fair in Barotse. Credit: Bioversity International/E. Hermanowicz
Concluding remarks

- **Biodiversity** is essential for sustainable food systems and healthy, nutrient rich diets
- **Biodiversity** is key to achievement of the SDGs and reshaping our global food system - ‘Business as usual’ no longer an option
- **Biodiversity** is a ‘win-win’ scenario – improves resilience, adaptation, livelihoods (women), reduces food loss and waste…..
- **Biodiversity** stewardship and sustainable use requires that Governments create an enabling environment
Thank you

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