



# **Underutilized species: opportunities to grasp for livelihood improvement**

Paul Bordoni

Moringa - Accra, Ghana  
November '06



# A brief background

- About 7500 plant species are considered edible
- Nowadays 95% of the world's food energy needs are provided by just 30 plant species and 50% of requirements for protein and calories are met just by maize, wheat and rice
- Species belonging to other categories (fibers, medicinal, fodder, construction) are following a similar trend



# Consequences

- Global food security is increasingly based on a narrowing range of animal and plant species
- Intra and inter specific biodiversity has been drastically reduced
- A great number of once important species for human consumption and use faces genetic erosion and in some cases even extinction



# GFU's understanding of the term "Underutilized species"

- The term 'underutilized plant species' covers an enormous range of plants that have the potential to contribute to food and nutritional security, and poverty alleviation.



## Common features of underutilized species and differences with commodity crops

- Local importance in consumption and production systems
- Represented mostly by wild species, ecotypes, landraces
- Highly adapted to agro-ecological niches/marginal areas
- Little attention by National Policies, R&D
- Poor documentation (distribution, biology, cultivation, uses etc.)
- Non existent/poorly organized marketing & "filiere"
- Cultivated and utilized relying on Indigenous Knowledge
- Scarcely represented in ex situ germplasm collections
- Maintained mainly through in situ /on-farm conservation
- Characterized by non existent/fragile seed supply systems
- Characterized by multiple uses



# AFRICA



## NUTRITIONAL FACTS

- In SSA about 42 % of the children are at VAD (Vitamin A Deficiency) risk
- The phenomenon interest in particular the cities due to an urbanization process
- Affluence diseases such as obesity, cardiovascular problems, diabetes type II and cancer are being more and more observed



# AFRICA

## ECONOMIC FACTS

- Africa has more countries with food security problems than any other region
- 340 million people live on less than \$1 a day
- Of the 44 countries with poor or critical food security, 30 are in Africa



# AFRICA

**Physical and Mental Health**

**Poverty Alleviation**

**Provide essential micronutrients in the diet**

**Provide increased income and job opportunities**

**Increased Vegetable Production and Consumption**





# Case study – AFRICA

(Proj. leader Dr. M.L.Chadha - AVRDC)



Global  
Facilitation  
Unit  
for Underutilized  
Species

- African eggplant, an Indigenous vegetable is expanding in production because of its economic and nutritional importance
- This is the story of a farmer that became an entrepreneur increasing his standard of living and the one of others generating employment



# Case study – AFRICA

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Global  
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- **Development of Agribusiness**
  - Elisamia Abraham Pallagyo - From solely farmer to a businessman
- **Focused on different varieties of African Eggplant**
- **Involved local women for harvesting**
  - Potential of earning up to US\$3/day
- **Also purchased standing crops to sell to wholesalers**
  - Hired people to help in the grading, sorting and packing process



# Case study – AFRICA

(Proj. leader Dr. M.L.Chadha - AVRDC)



Global  
Facilitation  
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Species

- **Self-Production and Additional Buying/Selling Agri-business of African Eggplant by Pallagyo provided:**
  - Multiple people with work opportunities
  - Better standards of living
- **Continuous improvement in financial gains (over 4 years)**
  - From local transport to purchase of a bicycle (US\$ 28)
  - From bicycle to motorbike (US\$700)
  - From motorbike to pick-up truck (US\$2,900)





Slide courtesy Dr. M.L.Chadha - AVRDC





Slide courtesy Dr. M.L.Chadha - AVRDC





Slide courtesy Dr. M.L.Chadha - AVRDC



# Case study – AFRICA

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- **Able to collectively bring all his harvest to different markets in the country including the modern Supermarkets**
  - His earning and standard of living has changed many folds
  - Has a good house, a pick-up and earning regularly, giving education to his children



CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH  
SCIENCE COUNCIL

CGIAR System Research Priorities 2005-2015

## **SYSTEM PRIORITY 1**

**SUSTAINING BIODIVERSITY FOR  
CURRENT AND FUTURE GENERATIONS**

**Priority 1B: Promoting conservation  
and characterization of underutilized plant  
genetic resources to increase the income  
of the poor**

**More references in the document..**



SCIENCE COUNCIL SECRETARIAT  
JUNE 2005





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The Convention  
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All SBSTTA 10 recommendations

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## Recommendation X/9

Options for a cross-cutting initiative on biodiversity for food and nutrition

### UNEP/CBD/SBSTTA/10/13 Meeting (2004)

(Subsidiary Body on Scientific, Technical and Technological Advice)

#### ELEMENTS FOR AN INTERNATIONAL INITIATIVE ON BIODIVERSITY FOR FOOD AND NUTRITION

*[...] promote activities that contribute to improving food security and human nutrition through enhanced sustainable use of biodiversity including, inter alia:*

- (i) Conservation and sustainable use of crop and livestock genetic diversity, **including wild relatives** of domesticated animals and plants;
- (ii) Conservation and sustainable use of **neglected and underutilized species;**



# Reasons for today's increased attention



- Alternative source of income
- Collapse of commodity prices
- Greater appreciation of biodiversity in enhancing livelihood
- Participation of communities in setting research agendas
- Stronger NARS, willing to invest beyond commodities
- Search for cultural identities in a globalized/more mobile world
- Multi-ethnicity in cities and demands for traditional food
- Better understanding of “Green Revolution” limits
- Greater attention on gender sensitive research





# The GFU was created

- Working since June 2002
- Physically we are based at IPGRI HQ in Rome but GFU is an independent organization currently funded by the German government (BMZ)
- Staff is currently composed of Dr Irmgard Hoeschle-Zeledon, coordinator of the Project and myself



## ***Overall Goal:***

Underutilized species are contributing increasingly to food security and poverty alleviation of the rural and urban poor

## ***Objective of the Unit:***

An increasing number of donors, research institutions, extension services, policy and decision makers include underutilized species in their development programs



## *How do we do this*

- Policy analysis and advice to decision makers
- Documentation, information, communication
- Public awareness

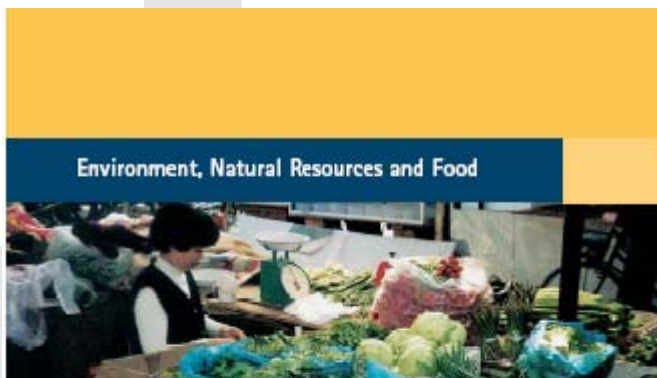


## *Enabling environment through*

- Strategies
- Policy analysis
- Case studies
- db on who is doing what
  - projects, experts and institutions
- db on donors and funding opportunities



# Leipzig International Workshop on Underutilized Plant Species



## Underutilized Plant Species and Poverty Alleviation

International Workshop, 6–8 May 2003



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November '06





# Expert Workshop on Marketing Strategies and Capacity Strengthening to Realize the Economic Potential of Underutilized Species



Workshop Documentation

Edited by Ulrike Breitschuh  
by order of  
Global Facilitation Unit for Underutilized Species  
Via del Tre Denari, 472a  
00057 Maccarese, Italy

Worms, March 2004

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# Approaches and Decision Steps for the Promotion and Development of Underutilized Plant Species



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Unit  
for Underutilized  
Species

This leaflet aims to provide a number of key decision steps for stakeholders involved in planning and implementation of projects and other activities with regard to the promotion and development of underutilized plant species. It seeks to assist in the identification of appropriate working approaches and in establishing sound objectives, intervention areas, activities and strategic partnerships with local relevance. The decision steps presented here are the result of an International Workshop on Underutilized Plant Species, which was held in Leipzig, Germany, in May 2003.



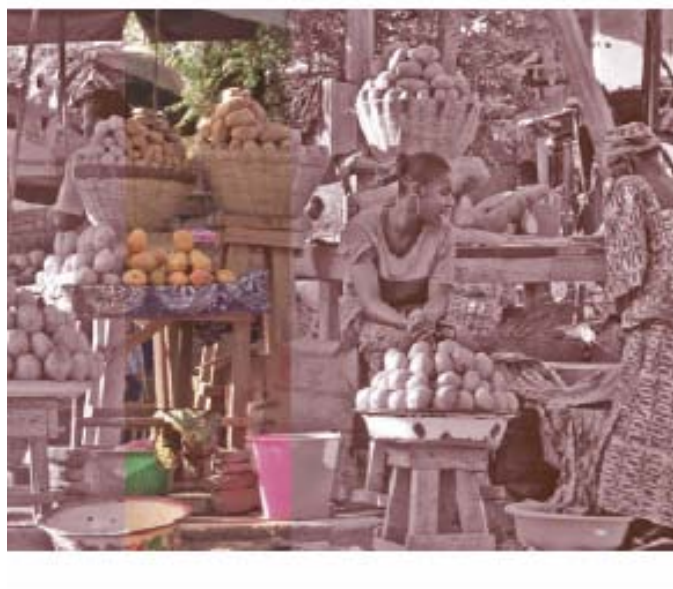


# Consultation on the MDGs and Biodiversity



UN Millennium Development Goals  
Five years later  
**Agricultural Biodiversity  
and Elimination of Hunger  
and Poverty**

The Chennai  
Platform for Action

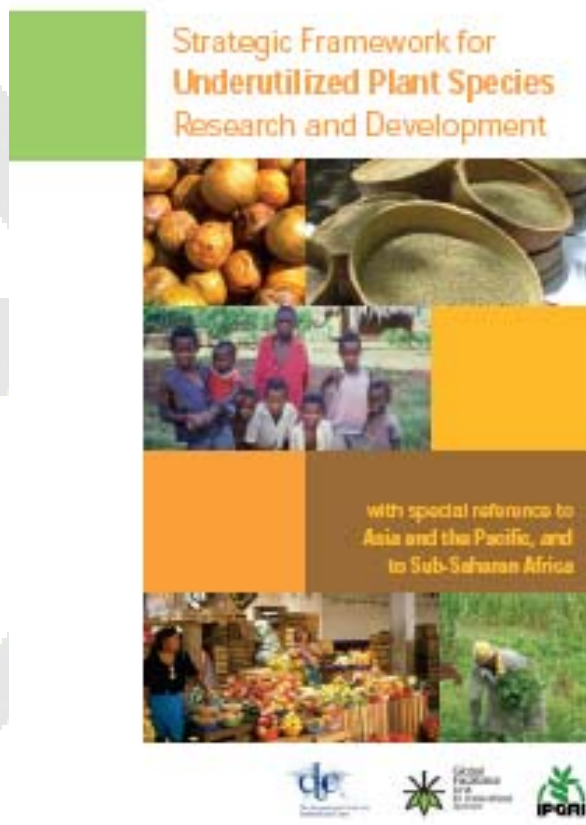


- Underutilized species covered in many parts of the document - distributed at the UN Summit in NY in September
- Translated in 6 languages





Strategy for R&D of  
underutilized species  
(Oct 2006)



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*Thank you for your attention!!!*

[www.underutilized-species.org](http://www.underutilized-species.org)